(4) Land Use Requirements

- BLM will consult with USFWS and NMFS under Section 7 of the ESA for all actions that may affect listed species or designated critical habitat, or confer if actions are likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat.
- All permitted activities would operate under the Stipulations, Required Operating Procedures, and Standard Lease Terms provided in Section E of this Chapter. These procedures were developed through the EIS process and are based on current knowledge of resources in the planning area and current permitting procedures. All oil and gas leases would be subject to the Oil and Gas Leasing Stipulations listed in Section E.

E. Required Operating Procedures, Stipulations, and Standard Lease Terms

1. Introduction

The Alaska Statewide Land Health Standards (AK LHS) were developed by the BLM Resource Advisory Council and signed by the State Director on March 2, 2004 (I.M. AK 2004-023). These offer guidance in achieving plan objectives, meeting the standards, and fulfilling the fundamentals of land health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees or lessees, public land users, and the interested public. Guidelines enable managers to adjust management on public lands to meet current and anticipated climatic and biological conditions, while considering cultural and local economic needs. The general guidelines under the AK LHS were used to develop the objectives in the following sections.

a) Required Operating Procedures

Required operating procedures (ROPs) are requirements, procedures, management practices, or design features developed through the BLM planning process and NEPA process, that are implemented and enforced at the operational level for all authorized activities. They will be common to all action Alternatives. ROPs will apply to all permitted activities as appropriate, including FLPMA leases and permits, Special Recreation Permits, oil and gas operations, coal exploration, mining Plans of Operation, and Right-of-Way authorizations. Obviously, not all ROPs will apply to all permitted activities. Vegetation management practices will be conducted consistent with these guidelines. ROPs have been developed to ensure that the AK LHS are met in carrying out permitted activities and management practices.

b) Oil and Gas Leasing Stipulations

Stipulations are specific to oil and gas exploration, development, and production. They are conditions or demands to be made under a lease only when the environmental and planning record demonstrates the necessity for the stipulations. Stipulations place specific limits on lease rights based on potential conflicts between lease development and various other resources, and constitute significant restrictions on the conduct of operations under a lease. For example, a stipulation that does not allow permanent facilities (e.g. production pad) within one-fourth mile of a bird nest could result in a well being located far enough from the (lessee's) optimum site that it prevents an oil reservoir from being fully developed. Such restrictions must be attached to the lease. Restrictions attached to a lease as stipulations are part of the lease terms and are accepted as such by the lessee when a lease offer is filed. All oil and gas activity permits subsequently issued to a lessee would comply with the lease stipulations appropriate to the activity under review. In all cases, use of the stipulations requires identification of specific resource values to be protected, and description of the specific geographic area covered.

The Authorized Officer (AO) may add additional or more-restrictive stipulations as determined necessary through further NEPA analysis and as developed through consultation with other Federal and State regulatory and resource agencies. Laws or regulations may require other Federal, State, and local government permits for an oil and gas project to proceed. Specific State permits are required when the State has authority, under Federal or State law or regulation, to enforce the provisions in question. Specific permits issued by Federal agencies other than BLM may include permit conditions that are more stringent than those included in this section.

Land use plans and/or NEPA documents establish the guidelines by which future exceptions, modifications, and waivers to stipulations may be granted. Surface stipulations are excepted, modified, or waived by the Authorized Officer. An exception exempts the holder of the land use authorization document from the stipulation on a one-time basis. A modification changes the language or provisions of a surface stipulation, either temporarily or for the term of the lease. A waiver permanently exempts the surface stipulation.

The environmental analysis document prepared for oil and gas development (e.g., Applications for Permit to Drill [APDs] or sundry notices) would address proposals to exempt, modify, or waive a surface stipulation. To exempt, modify, or waive a stipulation, the environmental analysis document would need to show that: 1) the circumstances or relative resource values in the area had changed following issuance of the lease; or 2) less restrictive requirements could be developed to protect the resource of concern; or 3) operations could be conducted without causing unacceptable impacts; or 4) the resource value of concern does not occur within the lease area.

c) Standard Lease Terms

The Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, October 1992 or later addition (BLM 1992). Form 3100-11 is standard nationwide and is applied to every lease issued by the BLM. The Standard Lease Terms provide the lessee the right to use the leased land as needed to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands. Operations must be conducted in a manner that minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Federal environmental protection laws such as the Clean Water Act, Endangered Species Act, and Historic Preservation Act will be applied to all lands and operations and are included in the Standard Lease Terms. If threatened or endangered species; objects of historic, cultural, or scientific value; or substantial unanticipated environmental effects are encountered during construction, all work affecting the resource will stop, and the land management agency will be contacted.

Standard Lease Terms provide for reasonable measures to minimize adverse impacts to surface resources. It is important to recognize that the Authorized Officer has the authority to modify the site location and design of facilities, specify interim/final reclamation measures, control the rate of development and timing of activities as well as require other mitigation under Sections 2 and 6 of the Standard Lease Terms (BLM Form 3100-11) and under 43 CFR 3101.1-2. However, Standard Lease Terms may not require the lessee to relocate drilling rigs or supporting facilities by more than 200 meters, require that operations be sited off the leasehold, or prohibit new surface-disturbing operations for more than 60 days each year (43 CFR part 3101.l-2).

2. Required Operating Procedures

Table 2.13. Required Operating Procedures Common to Alternatives A-D

Objective	Required Operating Procedure
	SOILS
Soils - 1 Minimize soil erosion by stabilizing disturbed areas as soon as possible. Where permitted operations result in surface disturbance, return land to its pre-disturbance condition to the extent possible.	**ROP Soils-1a** All organic material will be saved in a separate area from overburden for future use. **ROP Soils-1b** All overburden will be stockpiled and saved for respreading over tailings. **ROP Soils-1c** All overburden piles will be shaped and stabilized to prevent erosion. **ROP Soils-1d** Final shape of respread tailing and overburden will approximate the shape of the surrounding terrain. **ROP Soils-1e** Disturbed stream banks will be recontoured, revegetated, or other protective measures will be taken to prevent soil erosion into adjacent waters. **ROP Soils-1f** Roads, well pads, and other disturbed areas shall be recontoured and revegetated as per an approved reclamation plan or Plan of Operations. Revegetation will occur through seeding of native seed or by providing for soil conditions that allow the site to re-vegetate naturally, whichever provides the most effective means of reestablishing ground cover and minimizing erosion. The final land surface will be scarified to provide seed traps and erosion control.
Soils - 2 Engineer, construct, and maintain roads and trails in a manner that minimizes the effect on landscape hydrology; concentration of overland water flow, subsurface water flows; minimizes erosion, and minimizes sediment transport.	**ROP Soils-2a** Roadways will be ditched on uphill side and culverts or low water crossings installed at suitable intervals. Spacing of drainage devices and water bars will be dependent on road gradient and soil erodibility. **ROP Soils-2b** Road shall be designed for minimal disruption of natural drainage patterns. **ROP Soils-2c** Roads should avoid areas with unstable or fragile soils. **ROP Soils-2d** Water bars will be placed across reclaimed roads. Spacing will be dependent on road gradient and soil erodibility as shown in the following table.

Table 2.13.1 Recommended Water Bar Spacing

Water Bar Spacing (in feet)			
Gradients (%)	Erosion Class		
	High	Moderate	Low
3-5	200	300	400
6-10	150	200	300
11-15	100	150	200
16-20	75	100	150
21-35	50	75	100
36+	50	50	50

Objective	Required Operating Procedure
	VEGETATION
Vegetation - 1 Treatments to alter the vegetative composition of a site, such as prescribed burning, seeding, or planting will be based on the potential of the site and will: retain or promote infiltration, permeability, and soil moisture storage; contribute to nutrient cycling and energy flow; protect water quality; help prevent the introduction and spread of noxious weeds; contribute to the diversity of plant communities, and plant community composition and structure; and support the conservation of threatened and endangered species, other special status species, and species of local importance.	**ROP Veg-1a** Vegetation treatments will be designed to achieve desired conditions clearly described in individual burn, project, or activity plans. Desired conditions will be based on the ecological capability of a given site and will be expressed as cover types or seral stages within cover types, based on management objectives. **ROP Veg-1b** Vegetation treatments will be designed to prevent introduction of noxious weeds. Project, burn, or activity plans will contain a segment on known occurrence of noxious weeds within planned treatment area and strategy for post-burn monitoring or treatment. **ROP Veg-1c** Any plant seed used on BLM-administered lands will be handled in accordance with The BLM Manual Section 1745 (1992), and the 1999 Executive Order No. 13112 on Invasive Species. Seed used on public shall not contain noxious weed seed, and must meet certified seed quality. Prior to BLM accepting seed from any source, all seed must be tested for noxious weed seed at official state seed analysis labs. **ROP Veg-1d** Seeding and planting non-native vegetation may be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the objective; or where non-native species are essential to the functional integrity of the site, with specific approval from the Authorized Officer. **ROP Veg-1e** In order to eliminate, minimize, or limit the spread of noxious weeds, only certified feed and mulch (hay cubes, hay pellets, straw, etc,) will be permitted on BLM lands. **ROP Veg-1f** Operators must prevent and control noxious weed infestations. Noxious weeds in Alaska are listed under Alaska Statute 11 AAC 34.020 or other statewide lists that may be developed in the future.
Vegetation - 2 Minimize disturbance to vegetative resources from permitted activities.	**ROP Veg-2a** Whenever possible, existing roads and trails will be utilized. **ROP Veg-2b** Bull-dozing of tundra mat and vegetation is prohibited, unless there is no feasible Alternative (lode mining), as approved by the Authorized Officer. If trenching is required, use equipment that minimizes trench width. Clearing of drifted snow is allowed to the extent that the tundra mat is not disturbed **ROP Veg-2c** Location of winter trails should be designed to minimize breakage or compaction of vegetation. **ROP Veg-2d** 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. **ROP Veg-2e** Whenever possible 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. The exact dates will be determined by the Authorized Officer. Whenever possible, overland moves that are a part of permitted operations will occur when frost and snow cover is sufficient to minimize soil disturbance and compaction. **ROP Veg-2f** When ground operations are required in snow-free months, select routes that utilize naturally hardened sites and avoid the need for trail braiding. The permittee will work with the Authorized Officer on specifying vehicle types and methods to minimize vegetation and soil disturbance, such as use of air or

Objective	Required Operating Procedure
	water craft, utilizing existing roads or trails, or use of low ground pressure vehicles. **ROP Veg-2g** Permanent oil and gas facilities will be designed and located to minimize the development footprint. **ROP Veg-2h** Off-highway Vehicle use associated with permitted activities will comply with OHV designations in the area. The use of OHVs associated with permitted activities will be allowed under appropriate stipulations as approved by the Authorized Officer. **ROP Veg-2i** Permitted livestock grazing will be conducted in a manner that maintains long term productivity of vegetation. Animals will not be picketed in riparian areas. In areas of low grass production, operators will pack in weed-free hay or concentrated feed. **ROP Veg-2j** Require Special Recreation Permit holders, reindeer herders, dog mushers, and other BLM permit holders to use certified weed-free products on BLM lands.
WATER, RIPARIAN, AND WETLANDS	
Water - 1 Manage human use to achieve and maintain water quality standards and avoid waste management problems and water quality impacts.	**ROP Water-1a** Projects will be designed to protect water quality and comply with Federal and State water quality standards. **ROP Water-1b** Human use will be managed to achieve and maintain water quality standards and to avoid management problems and water quality impacts. Specific management practices will include public education and construction of toilet facilities where appropriate.
Water - 2 Land management practices will be directed to avoid or minimize adverse impacts upon the hydrological, habitat, subsistence, and recreational values of public wetlands.	**ROP Water-2a** Activities in wetlands will comply with Federal and State permit requirements for alteration of wetlands. **ROP Water-2b** Utilize winter access whenever possible and avoid road or trail construction in wetlands. **ROP Water-2c** In snow-free months, if wetlands cannot be avoided, low ground pressure vehicles should be used wherever possible.
Water - 3 Minimize disturbance to riparian areas and facilitate rehabilitation of riparian areas.	**ROP Water-3a** Streams must be diverted around mining operations using an appropriately sized bypass channel. **ROP Water-3b** All process waters and any ground waters seeping into the operating area must be diverted into the settling pond system for treatment prior to re-entering the natural water system. **ROP Water-3c** Settling ponds will be cleaned out and maintained at appropriate intervals to comply with water quality standards. Fine sediment captured in the settling ponds will be protected from washout and left in a stable condition at the end of each mining season to prevent unnecessary and undue degradation to the environment during periods of non-operation. **ROP Water-3d** Riparian areas between the mined ore deposit and the watercourse will be maintained in order to serve as a buffer strip between mining operations and watercourses: to protect integrity of stream banks, provide water temperature control, and for filtration of sediment from surface run-off. All roads, bunkhouses, offices, equipment storage, and maintenance facilities should be sited in upland areas. Overburden should be placed on the uplands or on the upland side of the mine pit. This is not intended to preclude activities which by nature must occur within riparian areas, such as placer mining. **ROP Water-3e** Streams that have been altered by channeling, diversion, or damming shall be restored to

Objective	Required Operating Procedure
	a condition that will allow for proper functioning of the riparian zone and stream channels. Active streams will be returned to the natural water course or a new channel shall be created at its lowest energy state (valley bottom) that approximates the old natural channel in shape, gradient, and meander frequency using a stable channel design. The new channel will be designed consistent with the capabilities of the reclaimed site. **ROP Water-3f** Riparian vegetation, if removed during operations, will be re-established.
Water - 4 To the extent feasible and prudent, channeling, diversion, or damming that will alter the natural hydrological conditions and have a significant adverse impact upon riparian habitat will be avoided.	**ROP Water-4a** All permitted operations will be conducted in such a manner as not to block any stream, or drainage system and to comply with State (Alaska Dept. of Environmental Conservation) and Federal (Environmental Protection Agency) water quality standards. This is not intended to preclude activities which by nature must occur within riparian areas, such as hydropower dams or placer mining. **ROP Water-4b** New road construction within floodplains will be avoided. Where necessary, roads will cross riparian areas perpendicular to the main channel.
Water - 5 Provide for maintenance of proper functioning condition in riparian areas and protection of water quality by minimizing impacts of other permitted activities and vegetation treatments.	**ROP Water-5a** Structural and vegetative treatment in riparian and wetland areas will be compatible with the capability of the site, including the system's hydrologic regime, and will contribute to maintenance or restoration of proper functioning condition. **ROP Water 5b** Refueling of equipment will not be conducted in riparian areas or within 500 feet of the active floodplain of any fish-bearing waterbody or within 100 feet from non-fish bearing waterbodies. The Authorized Officer may allow storage and operations at areas closer than the stated distance if properly designed to account for local hydrologic conditions. **ROP Water 5c** Crossing of waterway courses will be made using a low-angle (perpendicular) approach. Snow and ice bridges will be removed, breached, or slotted before spring break-up. Ramps and bridges will be substantially free of soil and debris. **ROP Water 5d** New structures will be located away from riparian or wetland areas if they conflict with achieving or maintaining riparian or wetland function. Existing structures will be used in a way that does not conflict with riparian or wetland functions or be relocated or modified when incompatible.
SPECIAL STATUS SPECIES	
Special Status Species - 1 Fish, wildlife, sensitive plants, and habitat will be managed to ensure compliance with the Endangered Species Act (ESA) and to ensure progress towards recovery of listed threatened or endangered species.	**ROP SS-1a** The planning area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status. BLM may recommend modifications to proposals to further its policy of avoiding BLM-approved activity that will contribute to a need to list such a species. BLM may either require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed, 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 ESA as amended, 16 U.S.C. 1531 et seq., including completion of any required procedure for conference or consultation. **ROP SS-1b** A 200-meter (656 feet) buffer will be maintained around flightless molting and molting groups from June 1 to October 30 and nest sites from May 20 to August 1 of spectacled and Steller's eiders. A 200 meter buffer within the mean high tide line will be maintained from April 1 to May 30 (spring) and from

Objective	Required Operating Procedure
	July 1 to November 30 (fall) for migrating flocks, staging flocks and habitats of these species. Special permits are required for 1) vehicle and foot traffic, except on existing roads; 2) construction of permanent facilities, placement of fill, or alteration of habitat; and 3) introduction of high noise levels from May 20 through August 1 (March 1 to May 20 for migratory, staging flocks and habitats) including, but not limited to, blasting, compressor stations, heavy equipment operation, and low flying aircraft overflights. **ROP SS-1c** Within the breeding range of Kittlitz's murrelet, habitat in the project area should be assessed to determine if murrelets are likely to use the area for nesting. If nests are found, minimize ground-level disturbance and activity within identified areas of suitable habitat from June to August. **ROP SS-1d** Where practical, use will be redirected, as necessary, to protect Federal and State listed and candidate Threatened and Endangered species habitat, to enhance indigenous animal population, and to otherwise maintain public land health through avoidance of sensitive habitat. **ROP SS-1e** Where populations or individual sensitive status plant species are located, take measures to protect these populations or individuals through site-specific buffers or management prescriptions.
Special Status Species - 2 Minimize the take of species listed under the ESA and minimize the disturbance of other species of interest from direct or indirect interaction with large mining facilities or oil and gas development.	**ROP SS-2a** 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 within the breeding range of these species. **Spectacled and/or Steller's Eiders** (a) Surveys shall be conducted by the lessee for at least three years before authorization of construction, for spectacled and Steller's eiders. 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 extent 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. **Kittlitz's Murrelet** The candidate species Kittlitz's Murrelet is potentially present in the Bay planning area, but it is considered to be rare. It might be found during the nesting season on the talus slopes of the higher mountains adjacent to the Carter Spit area and adjacent spits and coastal wetlands in the Goodnews Block. Habitat in the project area should be assessed to determine if murrelets are likely to use the area for nesting. If

Objective	Required Operating Procedure
	nests are found, minimize ground-level disturbance and activity within identified areas of suitable habitat during May 10 to September 15.
Special Status Species - 3 Use ecological mapping as a tool to assess wildlife habitat before development of permanent facilities associated with oil and gas, coal, coal-bed methane or other large mineral developments, to conserve important habitat types, including wetlands, during development.	**ROP SS-3a** 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 Authorized Officer, before approval of exact facility location and facility construction.
FISH AND WILDLIFE	
Fish and Wildlife - 1 Avoid human-caused increases in populations of predators of ground nesting birds.	**ROP FW-1a** The best available technology shall be used to prevent permanent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes in areas where ground nesting populations are sensitive to increased predation.
Fish and Wildlife - 2 Maintain and protect fish and wildlife habitat on public lands and provide for the habitat needs of fish and wildlife resources necessary to maintain or enhance such populations.	**ROP FW-2a** The Department of Natural Resources should be consulted in addition to the ADF&G for many of these operations (e.g., OHMP for anadromous stream crossings and diversions, MLW for navigable waterways, dam construction). **ROP FW-2b** No road crossings shall be permitted in crucial spawning habitat, unless no feasible Alternative exists and it can be demonstrated that no adverse effects will occur. Stream crossings (culverts, bridges, and fords) shall be designed to: (a) Pass a peak flow that at least corresponds to the 50-year return interval. When determining the size of culvert needed to pass a peak flow corresponding to the 50-year return interval, operators shall select a size that is adequate to preclude ponding of water higher than the top of the culvert. (b) Allow migration of adult and juvenile fish upstream and downstream during conditions when fish movement in that stream normally occurs. An exception to the requirements in subsection (2)(a) of this rule is allowed to reduce the height of fills where roads cross wide flood plains. Such an exception shall be allowed if: • The stream crossing site includes a wide flood plain; • The stream crossing structure matches the size of the active channel and is covered by the minimum fill necessary to protect the structure; • Except for culvert cover, soil fill is not placed in the flood plain; and • The downstream edge of all fill is armored with rock of sufficient size and depth to protect the fill from eroding when a flood flow occurs. Bridge and culvert construction shall be conducted in accordance with specifications provided by BLM engineering, hydrology, and fisheries staff and the Alaska Department of Fish and Game so that constriction and subsequent scour of the channel is minimized during the projected life of the road. **ROP FW-2c** Travel up and down streambeds is prohibited.

Objective	Required Operating Procedure
	ROP FW-2d This guidance lays out six basic strategies to choose from for providing fish passage, which should be considered in the following order of preference: 1. Remove/abandon stream crossing (re-route the road; find an alternative route) 2. Channel-spanning structures (long and short-span bridges; open-bottom arches) 3. Fords (low-traffic crossings only) 4. Streambed simulation (sunken and embedded culverts) 5. Bare culvert placed at a zero grade (culvert at ≤0.5% gradient and sunken for backwatering) 6. Hydraulic design (weir and baffle culvert designs) **ROP FW-2e** In general, fords should only be considered on small streams for low traffic roads that have infrequent use. A reasonable measure of infrequent use is a level of traffic that does not cause a noticeable increase in turbidity (i.e. visible with the eye) that persists downstream of the crossing. **ROP FW-2f** Stream and wetland crossings shall be designed and constructed to ensure free passage of fish, maintain natural stream bedload movement and sediment transport, and minimal adverse effects to natural stream flow. **ROP FW-2g** All water intakes will be screened and designed to prevent fish intake. **ROP FW-2h** Exploratory drilling (oil and gas or coal) is prohibited in fish-bearing 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. **ROP FW-2i** Water withdrawal from lakes may be authorized on a site-specific basis depending on size, water volume, depth, and fish population and species diversification.
Fish and Wildlife - 3 Avoid heavy concentration of activities in sensitive fish, wildlife, and plant habitats.	**ROP FW-3a** Whenever possible, operations that require vegetation removal will avoid the migratory bird-nesting period of April 15 to August 15. If no feasible alternatives exist, assessment will be conducted to determine bird species present, significance of potential impacts, and possible mitigation measures. **ROP FW-3b** ROP FW-3c Within the Mulchatna, Northern Alaska Peninsula and Nushagak caribou herd calving aggregations and areas during peak calving periods (May 15 to June 15), post calving aggregations (June 15 to July 15) and insect relief aggregations (June 15 to August 31), the following uses would not be permitted unless a field evaluation has been conducted by qualified personnel: 1) caribou disturbing activities, including but not limited to, foot and vehicle travel; 2) surface disturbing activities, construction of facilities, habitat modification; 3) introduction of high noise levels, including but not limited, to blasting, heavy equipment operation, blasting, compressor and generator operation; 4) FLPMA leases, permits, or other authorizations that exceed 14 days of activity: 5) aircraft operations associated with permitted activities will avoid areas near observed caribou calving, post calving and insect relief aggregations and maintain a minimum distance of one mile or 2000 feet AGL unless doing so would endanger human life or violate safe flying practices. **ROP FW-3c** Within defined Mulchatna, Northern Alaska Peninsula, and Nushagak insect relief areas, aircraft shall maintain an altitude of at least 2,000 feet AGL (except for takeoffs and landings), June 15-August 15, unless doing so would endanger human life or violate safe flying practices.

Objective	Required Operating Procedure
Fish and Wildlife - 4 Minimize disruption of wildlife movement and subsistence use.	**ROP FW-4a** Bridges and culverts shall be large enough to accommodate or positioned to avoid altering the direction and velocity of stream flow or interfering with migrating, rearing, or spawning activities of fish and wildlife. Bridges and culverts should span the entire non-vegetated stream channel. **ROP FW-4b** Pipelines and roads shall be designed to allow the free movement of wildlife and the safe, unimpeded passage of the public while participating in traditional subsistence activities. Listed below are the currently accepted design practices: 1) Above ground pipelines shall be elevated a minimum of seven feet as measured from the ground to the bottom of the pipeline at vertical support members; 2) 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 Authorized Officer after consultation with Federal, State, and Borough regulatory and resource agencies as appropriate, based on agency legal authority and jurisdictional responsibility; and 3) To minimize disruption of caribou movement, a minimum distance of 500 feet between above-ground 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 or processing facility.
Fish and Wildlife - 5 Minimize the potential for disease transmission from livestock to wildlife.	**ROP FW-5a** For the prevention of spreading diseases and parasites in at-risk wildlife populations (e.g., caribou, sheep, and goats), the use of domestic goats, alpacas, llamas, and other similar species used as pack animals will not be permitted. **ROP FW-5b** Within one-quarter mile of lakes, ponds, or marshes with trumpeter swan nests, the following uses will not be permitted from May 1 to August 31: a) ground disturbance or surface use exceeding 14 days; b) FLPMA leases or permits where surface use exceeds 14 days; c) overland access to permitted activities. The Authorized Officer may grant an exception to this ROP for mining operations where no feasible alternative exists and where mitigation measures can be identified to minimize impacts. **ROP FW-5c** Within one-quarter mile of bald eagle nests, the following uses will not be permitted from April 1 to August 31: a) surface disturbing activities; b) FLPMA leases or permits. Aircraft associated with permitted activities will maintain an altitude of 1,500 feet within one-half mile of documented eagle nests. The Authorized Officer may grant an exception to this ROP for mining operations where no feasible alternative exists and where mitigation measures can be identified to minimize impacts. Appropriate buffers around other raptor nests will be determined based on site-specific analysis.
Fish and Wildlife - 6 Minimize the potential for electrocution of raptors.	**ROP FW-6a** Unless otherwise agreed to in writing by the Authorized Officer, power lines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power Lines: the State of the Art in 1996" (APLIC 1996). The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. BLM reserves the right to require modifications or additions to all power line structures, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Objective	Required Operating Procedure
	SUBSISTENCE
Subsistence - 1 Prevent unreasonable conflicts between subsistence use and permitted activities on BLM managed lands.	**ROP Sub-1a** In order to eliminate, minimize, or limit the effects of permitted activities on subsistence use, BLM may recommend modifications to proposed activity to further its policy of effective subsistence management. **ROP Sub-1b** Permittees may be required to provide information to potentially affected subsistence communities regarding the timing, siting, and scope of the proposed activity. **ROP Sub-1c** Permittees may be required to consult with potentially affected subsistence communities to receive input regarding way to minimize impacts to subsistence, and the permittee will be required to provide documentation of their consultation efforts to the BLM. ***Also see FW-4b.***
	CULTURAL AND PALEONTOLOGICAL
Cultural- 1 Management practices will consider protection and conservation of known cultural resources, including historical sites and prehistoric sites.	**ROP C-1a** Cultural resource protection for oil and gas activities is covered under Section 6 (Conduct of Operations) of the standard lease terms (see section D). **ROP C-1b** For permitted activities, cultural resource protection and conservation will be consistent with 1) Sections 106, 110, and 101d of the Historic Preservation Act, 2) procedures under BLM's 1997 Programmatic Agreement for Section 106 compliance, and 3) the BLM's 1998 implementing Protocol in Alaska between BLM and the Alaska State Historic Preservation Officer. **ROP C-1c** If necessary, mitigation measures shall be implemented according to a mitigation plan approved by the Authorized Officer. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of the damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic.
Paleontological - 2 Avoid damage to significant paleontological resources where possible, and mitigate unavoidable damage.	**ROP P-2a** For all actions, evaluate the impacts of proposed actions to known resources and avoid damage to already-identified significant paleontological resources by avoidance. **ROP P-2b** If avoidance is not possible, then perform scientific examination of the to-be-impacted significant resources followed by appropriate mitigation. That may include the professional collection and analysis of significant specimens by scientists.
	VISUAL RESOURCE MANAGEMENT
Visual Resource Management - 1 Manage permitted activities to meet Visual Resource Management Class Objectives described below. **Class I:** Natural ecological changes and very limited management activity are allowed. The level of change to the characteristic	**ROP VRM-1a** To the extent practicable, all permanent facilities will be located away from roadsides, rivers, or trails, thereby using distance to reduce the facility's visual impact. **ROP VRM-1b** Access roads and permanent facilities will be designed to meet the visual resource objective using such methods as minimizing vegetation clearing, and using landforms to screen roads and facilities. **ROP VRM-1c** Permanent facilities will be designed to be screened behind trees or landforms if feasible so they will blend with the natural surroundings. **ROP VRM-1d** The modification or disturbance of landforms and vegetative cover will be minimized. **ROP VRM-1e** Permanent facilities will be designed so their shapes, sizes, and colors harmonize with the scale and character of the surrounding landscape.

Objective	Required Operating Procedure
landscape should be very low and must not attract attention. **Class II:** The level of change to the characteristic landscape should be low. Management activities may be seen, but should not dominate the view of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. **Class III:** The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. **Class IV:** The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.	**ROP VRM-1f** In open, exposed landscapes, development will be located in the opposite direction from the primary scenic views, if feasible.
FIRE MANAGEMENT	
Fire Management - 1 Reduce impacts to water quality, riparian habitat, vegetation, soils, and fish habitat from fire suppression activities.	**ROP FM-1a** Permittees and casual users will be held financially responsible for any actions or activity that results in a wildland fire. Costs associated with wildland fires include but are not limited to damage to natural or cultural resources and costs associated with any suppression action taken on the fire. **ROP FM-1b** The Federal government shall not be held responsible for protection of permittees structures or their personal property. It is the responsibility of permittees and lessees to mitigate and minimize risk to their personal property and structures from wildland fire, if allowed by their permit.

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	ROP FM-1c Gas powered equipment shall be equipped with manufacturer approved and functional spark arrestors. **ROP FM-1d** To avoid the potential impacts to aquatic life the use of fire retardant is prohibited except when necessary to protect: • Human life, • Permanent year-around residences, • National Historic land marks, • Structures on or eligible for the National Register of Historic Places • Government Facilities, and • Other designated sites or structures or if necessary to protect high value resources on adjacent lands under other than BLM administration or ownership. Even if one of the above listed resources is being threatened, water should be used instead of fire retardant whenever possible or appropriate. The use of fire suppressant foams is prohibited. **ROP FM-1e** Use of tracked or off-road vehicles in fire suppression or management activities will be conducted in a manner that does not cause erosion, damage to riparian areas, degradation of water quality or fish habitat, or contribution to stream channel sedimentation. **ROP FM-1f** Use of heavy equipment and other motorized vehicles off road requires approval of Authorized Officer or designee. **ROP FM-1g** Rehabilitate fires as needed, guided by the fire specific rehabilitation plan provided by the resource area to the suppression agency. **ROP FM-1h** Helicopters used for any activity during snow free conditions, which requires landing in wildland fuels, should have the exhaust/cooling system located high on the fuselage. Helicopters, which have exhaust/cooling systems that are located low on the fuselage and expels the exhaust straight back or downward, should only be landed in areas with no fuel such as areas of bare soil, gravel bars, or other areas of low combustibility.
	FORESTRY
Forest - 1 Forest resources will be managed to ensure biodiversity, long-term productivity, and a wide spectrum of multiple uses, including scenic values, recreation, fish and wildlife habitat, watershed protection, and where feasible, harvest of forest products.	**ROP Forest-1a** Timber sales will rely to the extent possible, on natural regeneration through proper site preparation. **ROP Forest-1b** Timber sales will include buffers to prevent disturbance of fish habitat and possible sedimentation into streams. Buffer widths will be dependant on harvest method, season of harvest, equipment used, slope, vegetation, and soil type. Winter operations will be encouraged in order to minimize impacts to riparian areas.

Objective	Required Operating Procedure
	MINERAL MATERIALS
Mineral Materials - 1 Minimize the impact of mineral materials mining activities on air, land, water, fish, and wildlife resources.	**ROP MM-1a** When responding to a request for a material sale or identifying a source for materials on public lands, the highest priority shall be given to using existing upland material sources that meet suitability and economic needs. Using material from wetlands, lakes, and active or inactive floodplains should be avoided unless no feasible public upland alternative exists. Sales or permits for gravel extraction will not be permitted in known fish spawning or rearing areas. **ROP MM-1b** Avoid habitats limiting local fish or wildlife populations (i.e. Fish spawning and over wintering, calving areas, raptor nesting sites). Sites directly affecting these habitats should not be considered unless alternative sites are not available. **ROP MM-1c** Avoid key geomorphic features such as the beach barrier dune, river cut banks and associated riparian zones, root zones of spits, tombolos and barrier islands, springs, active channels of small, single channel rivers, wetlands and other Federal, State and private lands with specific use and regulation. **ROP MM-1d** When possible, avoid vegetated habitats. If mining in vegetated areas, all overburden, vegetative slash, and debris shall be saved for use during site reclamation to facilitate vegetative recovery. This material should be piled or broadcast so that it will not be washed away. **ROP MM-1e** When scraping gravel in active or inactive floodplains, maintain buffers that will constrain active channels to their original locations and configurations.
	MINING LAW ADMINISTRATION
Mining Law Administration - 1 All mining operations and access to these sites shall be conducted and reclaimed in a manner that prevents undue and unnecessary degradation of the environment and its natural resources.	**ROP MLA-1a** Existing access routes will be used as available and used in accordance with season of use for which the access was developed. New access or upgrading existing access shall be planned in consultation with the Authorized Officer for minimum widths needed for passage and shall follow natural contours where practicable to minimize cut and fill. **ROP MLA-1b** All tailings, dumps, mining improvements, deleterious materials and substances, solid waste including scrap steel derelict mining machinery and parts shall be disposed of so as to prevent undue and unnecessary degradation in accordance with applicable Federal and State Laws and in consultation with the Authorized Officer. **ROP MLA-1c** Hazardous substances and used petroleum products shall be converted by onsite use or contained and backhauled for disposal at a proper facility for that material. Storage of fuels and petroleum products shall be in accordance with State of Alaska Department of Environmental Conservation. **ROP MLA-1d** Sanitation efforts including gray water and kitchen wastes shall be directed in accordance with the State of Alaska Department of Environmental Conservation General Mine Permit or plan specifically developed in consultation with that Agency. **ROP MLA-1e** Water quality of both surface and underground waters shall be regulated by terms and conditions of The U.S. Environmental Protection Agency's National Pollution Discharge Elimination Permit (NPDES).

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Mining Law Administration - 2 Occupancy of unpatented mining claims on the public land by those involved in prospecting or exploration, mining or processing operations are limited by level of that activity deemed reasonably incident to mining and approved by the Authorized Officer.	**ROP MLA-2a** Activities (prospecting, mining or processing operations) on the mining claim in order to be reasonably incident includes those actions or expenditure of labor and resources by a person of ordinary prudence to prospect, explore define, develop, mine, or beneficiates a valuable mineral deposit using methods, structures and equipment appropriate to the geological terrain, mineral deposit and stage of development. **ROP MLA-2b** These on the ground activities must be "substantially regular" meaning that save for seasonal shutdown, climatic extremes or equipment maintenance, repair or replacement, or the isolated nature of the site, the work directly benefits the mineral property.
HAZARDOUS MATERIALS AND WASTE MANAGEMENT	
Hazardous Materials and Waste Management - 1 Protect the health and safety of permittees, lessees, and the general public by avoiding the disposal of solid waste and garbage near areas of human activity.	**ROP Hazmat-1a** Areas of operation shall be left clean of all debris. **ROP Hazmat-1b** Hazardous and other regulated wastes shall be properly managed by the generator as required by all applicable Federal and State laws and regulations.
Hazardous Materials and Waste Management - 2 Minimize impacts on the environment from non-hazardous waste generation.	**ROP Hazmat-2a** All feasible precautions shall be taken to avoid attracting wildlife to food and garbage. **ROP Hazmat-2b** Current requirements prohibit the burial of garbage. All putrescible waste shall be incinerated, backhauled, or composted in a manner approved by the Authorized Officer. All unburnable solid waste 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. **ROP Hazmat-2c** No disposal of domestic wastewater is allowed into bodies of fresh, estuarine, and marine water, including wetlands, unless authorized by the National Pollution Discharge Elimination System (NPDES) or State permit. **ROP Hazmat-2d** Wastewater must be managed in accordance with Title 18 Alaska Administrative Code, Chapter 72, (18 AAC 72) Wastewater Disposal. Wastewater is defined as Human Waste (sewage), and Gray Water (water which has been used for personal hygiene, washing clothing or equipment, or sanitizing cooking and eating materials). If the standards for Pit Privies found at 18 AAC 72.030 cannot be met, all wastewater must be collected and transported to a state approved disposal facility. Upon closure of the campsite the Pit Privy must be completely back-filled with the surface area covered and re-graded to approximate original appearance. **ROP Hazmat-2e** Pit privies will be located a minimum of at least 100 feet from the high-water mark of streams, rivers, or lakes. Pit privies will be sprinkled with lime and then backfilled with a minimum of two feet of over-material when the pit has reached capacity or the operation is terminated. All Pit privies must comply with ADEC Standards. **ROP Hazmat-2f** For oil and gas operations, all pumpable solid, liquid, and sludge waste shall be disposed by injection in accordance with EPA, ADEC, and the Alaska Oil and Gas Conservation Commission

Objective	Required Operating Procedure
	regulations and procedures. The Authorized Officer may permit alternate disposal if the lessee demonstrates that subsurface disposal is not feasible or prudent and the alternative method will not result in adverse environmental effects. **ROP Hazmat-2g** For oil and gas operations, produced water shall be disposed of into injection wells as approved by the AOGCC under EPA regulations and the UICC program. The Authorized Officer 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.
Hazardous Materials and Waste Management - 3 Minimize the impacts to fish, wildlife, and the environment, from hazardous materials, oil spills, and other chemical spills.	**ROP Hazmat-3a** For oil and gas operations and mining Plans of Operation, 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. 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 and State contacts. **ROP Hazmat-3b** Plans of Operations will include a disclosure of the components in any hydraulic fracturing materials to be used, the volume and depths at which such materials are expected to be used, and the volume capacity of the vessels to be used to store such materials. **ROP Hazmat-3c** For oil and gas operations and mining Plans of Operation, the operator will maintain Material Safety Data Sheet (MSDS) information on all chemical and hazardous substances brought on site by the operator in accordance with 29 CFR § 1910.1200. **ROP Hazmat-3d** Before initiating any operation, including but not limited to, field research/surveys, seismic operations, construction of any facility or mine, lessees/permittees shall develop a comprehensive spill prevention and response contingency plan per 40 CFR 112 if the total cumulative capacity to store, in 55-gallon or larger containers, exceeds 1,320 gallons of oil or hazardous substances. **ROP Hazmat-3e** For oil and gas operations, mining operations, and other leases and permits, 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. All personnel shall be trained to properly respond to spills. **ROP Hazmat-3f** Fuel and other petroleum products shall be stored at a location approved by the Authorized Officer and within an impermeable lined and diked area capable of containing 110 percent of the stored volume or within approved alternate storage containers. **ROP Hazmat-3g** Liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period. **ROP Hazmat-3h** Fuel and other petroleum products and hazardous materials shall be stored in containers designed to hold that product. All fuel containers, including barrels and propane tanks, shall be marked with the responsible party's name, product type, and year filled and purchased. **ROP Hazmat-3i** Hazardous materials/toxic substances, as defined by EPA (i.e., used oils/petroleum products, batteries), will be handled and disposed of in accordance with EPA and ADEC guidelines. **ROP Hazmat-3j** The Responsible Party shall immediately clean-up all oil or hazardous substance spills,

Objective	Required Operating Procedure
	taking precedence over all other matters, except the health and safety of personnel. Clean-up shall be conducted in accordance with 18 AAC 75. **ROP Hazmat-3k** Notice of any reportable spill (as required by 40 CFR 300.125 and 18 AAC 75.300) shall be given to the Authorized Officer as soon as possible, but no later than 24 hours after occurrence and such other Federal and State officials as are required by law to be given such notice including ADEC at (907) 478-9300. **ROP Hazmat-3l** Surface discharge of reserve-pit fluids and produced water is prohibited unless authorized by applicable NPDES, ADEC, and Borough permits and is approved by the Authorized Officer.
RECREATION/VISITOR SERVICES	
Recreation/Visitor Services - 1 Provide quality recreation/visitor services which also meet the objectives of other relevant areas of concern, such as wildlife, fisheries, and subsistence values.	**ROP Rec-1a** A Special Recreation Permit (SRP) will be required for all recreational commercial use, competitive use, vending, group activities, and organized group activity. This will include river guides, hunting guides, fishing guides and tour operators. **ROP Rec-1b** The SRP will be valid only for Federal lands under the jurisdiction of the BLM as specified in the permit. It is the responsibility of the permittee to obtain permission to use any non-Federal lands. Permission must be obtained in writing and submitted to the BLM before a permit is issued. (e.g. Letter of non-objection from respective Native Corporations and 906K concurrence letter for State Selected lands.) **ROP Rec-1c** A permit will be required for all commercial filming activities on public lands. Commercial filming is defined as the use of motion picture, videotaping, sound recording, or other moving image or audio recording equipment on public lands that involves the advertisement of a product or service, the creation of a product for sale, or the use of actors, models, sets, or props, but not including activities associated with broadcasts for news programs. Creation of a product for sale includes a film, videotape, television broadcast, or documentary of participants in commercial sporting or recreation event created for the purpose of generating income. **ROP Rec-1d** For permit compliance and wildlife management, Latitude and Longitude or Township, Range, and Section coordinates must be taken from all base camps, spike camps, and/or aircraft landing areas and submitted to the BLM by the permittee. **ROP Rec-1e** A Post Use Report given to each authorized SRP must be completed and submitted to the BLM thirty (30) days after the last trip/event of the year. **ROP Rec-1f** Permittee holders accept responsibility for the existing condition of any campsite and aircraft landing area used and will be liable for all site damages, which occur as a result of the activity. Three days after use, the sites will be restored including the removal of any markers, fire rings, personal property and firewood. If the permittee fails to restore the site in the specified manner, they will be held liable for the cost of restoration and they will be placed on probation with additional field compliance checks. **ROP Rec-1g** All refuse will be hauled out by the permittee and disposed of in a proper landfill, dumpster, or trashcan. This includes any partially burned items such as cans, glass, plastics and other non-combustible/non-degradable materials. Disposal of gray water and human waste will be done away from any water, at least 100 feet beyond the ordinary high water mark of any water body. Do not bury refuse. When possible, the use of portable toilet systems (e.g. porta-potties and ammo cans) is encouraged. **ROP Rec-1h** All campsites will be kept in a neat and sanitary condition at all times. Only the use of dead

Objective	Required Operating Procedure
	and down trees for campfires is permitted. This permit does not authorize the cutting of live trees, except in life-threatening situations. Permittee shall make their employees and clients aware of responsible low-impact practices and techniques outlined within the Leave No Trace Alaska Wildlands Skills & Ethics booklet given to each permittee. **ROP Rec-1i** All campsites shall be located out of sight of raptor nest sites, including peregrine falcons, bald eagles and red-tail hawks. There are several signs which advertise raptor occupancy. In cliff areas along river shorelines, rocks stained with feces (whitewash) are the primary feature. **ROP Rec-1j** Permits do not authorize construction of new aircraft landing areas, because actual construction of new landing areas by extensive clearing would require conformance with Federal Aviation Administration guidelines and a long-term authorization. Minor improvements, such as moving rocks or logs, to allow an area to be used for aircraft landing must be conducted under the limitations of 43 CFR 8365.1-5 to limit impacts to vegetation and soils. These limitations state no person shall: Willfully deface, remove or destroy any personal property, or structure, or any scientific, cultural, archaeological or historic resource, natural object or area; willfully deface, remove or destroy plants or their parts, soil, rocks or minerals or cave resources. This permit does not authorize exclusive use of landing areas on Public Lands. **ROP Rec-1k** To avoid conflicts with bears, the use of sealed bear proof containers will be required for food and unburned waste until such waste can be removed from all base and spike camps. Meat and animal parts will be removed from all camps as soon as possible to avoid attracting bears. **ROP Rec-1l** Report to the Alaska Department of Fish and Game, the taking of bears or other wildlife in defense of life or property. **ROP Rec-1m** All BLM commercial recreation permittees must have a State of Alaska business license and business insurance to conduct operations on BLM-managed lands in Alaska. Commercial hunting guides must have a current Alaska Guide License. Current copies of licenses and insurance shall be submitted to the BLM before authorization can be approved. **ROP Rec-1n** The permittee shall comply with all Federal, State, Borough and local laws, ordinances, regulations, orders, postings, or written requirements applicable to the area or operations covered by the SRP. The permittee shall ensure that all persons operating under the authorization have obtained all required Federal, State, and local licenses or registrations (e.g. hunting and fishing licenses). The permittee shall make every reasonable effort to ensure compliance with these requirements by all agents of the permittee and by all clients, customers, participants, or spectators under the permittee's supervision. **ROP Rec-1o** An SRP authorizes special uses of the Federal Public Lands and related waters and, should circumstances warrant, the permit may be modified by the BLM at any time, including the amount of use. The Authorized Officer may suspend an SRP if necessary to protect public resources, health, safety, the environment, or noncompliance with permit stipulations. **ROP Rec-1p** Unless expressly stated, the SRP does not create an exclusive right of use of an area by the permittee. The permittee shall not interfere with other valid uses of the Federal land by other users. The United States reserves the right to use any part of the area for any purpose. **ROP Rec-1q** A permittee or permittee's representative may not assign, contract, or sublease any portion

Objective	Required Operating Procedure
	of the permit authorization or interest therein, directly or indirectly, voluntarily or involuntarily. However, the Authorized Officer may approve contracting of equipment or services in advance, if necessary to supplement a permittee's operations. Such contracting should not constitute more than half the required equipment or services for any one trip and the permittee must retain operational control of the permitted activity. If equipment or services are contracted, the permittee shall continue to be responsible for compliance with all stipulations and conditions of the permit. Permits may not be reassigned or transferred by the permittee without authorization from the BLM. **ROP Rec-1r** The permit, or copies thereof, shall be kept with the authorized individual and presented to any BLM representative upon request as proof of authorization. If required, the permittee must display a copy of the permit or other identification tag on equipment used during the period of authorized use. **ROP Rec-1s** Camping associated with commercial, competitive, vending, special use areas, and organized group activities and event use would be prohibited without written authorization from the BLM. To help satisfy recreational demand in an equitable and enjoyable manner while minimizing adverse impacts and user conflicts, short term camping not associated with the above activities shall be limited to 14 days within a 28-day period. After a camp has been occupied for 14 days, the camp must be moved at least 28 miles. Other existing occupancy and use limits on all public lands are established under 43 CFR 8365.1-2. **ROP Rec-1t** Recreational vehicle use within all areas of the Bay planning area shall be designated as limited, allowing travel on existing roads and trails only. The number of vehicles and designated roads and trails shall be restricted if visitor conflicts become known and/or if resource damage is observed. Open cross-country travel is permitted for snow-machines when adequate snow cover is present. Motorized vehicles exceeding 2,000 (Gross Vehicle Weight Rating) are prohibited without written authorization from the BLM. Pioneering new trails with any motorized vehicle is prohibited. **ROP Rec-1u** Field compliance shall be performed by uniformed Recreation and Ranger Staff on authorized permits. Multi-year permits shall be validated annually. All permittees must achieve at least a satisfactory annual performance rating, otherwise probationary actions or suspension of a permit shall occur.
LANDS AND REALTY	
Lands and Realty - 1 Use and develop BLM-administered public lands in a responsible manner which benefits the public while preventing unnecessary degradation to the land.	**ROP LR-1a** The Holder shall not allow any use of the right-of-way by another entity without the prior written authorization of the Authorized Officer. Prior to authorizing additional uses within the right-of-way, the Authorized Officer will consult the Holder, and determine whether the use will interfere with the purposes for which this right-of-way was issued. **ROP LR-1b** Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the Holder or any person working on his behalf on public or Federal land will be immediately reported to the Authorized Officer. The Holder will suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder will be responsible for the cost of evaluation. Any decision as to proper mitigation measures will be made by the Authorized Officer, after consulting with the Holder.

Objective	Required Operating Procedure
	ROP LR-1c Use of pesticides will comply with the applicable Federal and State laws. Pesticides will be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the Holder will obtain from the Authorized Officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the Authorized Officer. The plan should be submitted no later than December 1st of any calendar year to cover the proposed activities for the next fiscal year. Emergency use of pesticides will be approved in writing by the Authorized Officer prior to such use. **ROP LR-1d** No burning of trash, litter, trees, brush or other vegetative material generated by clearing the right-of-way will be allowed. **ROP LR-1e** The Holder will comply with applicable State standards for public health and safety, environmental protection and siting, construction, operation and maintenance, if these State standards are more stringent than Federal standards for similar projects. **ROP LR-1f** The Holder will comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated regarding toxic substances or hazardous materials. In any event, the Holder will comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 will be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances will be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government. **ROP LR-1g** The Holder of this right-of-way or the Holder's successor in interest will comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of Interior issued pursuant thereto. **ROP LR-1h** All heavy equipment moves will be conducted under the requirements of State and Federal laws and regulations pertaining, but not limited to: waste management, fuel storage and handling, anadromous fish streams and fish and game utilization. In addition, the Permittee and his assistant will comply with all conditions attached to the permit. **ROP LR-1i** Minimum snow depth requirements are 18 inches with a frost depth of six inches. Temperature must be below 25° F. **ROP LR-1j** No blading of soils or vegetation is permitted during an overland move of equipment. Blading of snow drifts is permitted only when blades remain a minimum of 18 inches above the ground surface. **ROP LR-1k** Snow ramps may be constructed at stream crossings. No blading of cut banks will be permitted during an overland move of equipment. Any ramps which may cause stream blockages during breakup will be removed after crossings are completed. **ROP LR-1l** Heavy equipment moves will be conducted, as closely as possible, on existing trails. In areas

Objective	Required Operating Procedure
	where the trail is heavily overgrown and significant vegetation disturbance would be caused by following the trail, the Permittee may travel immediately adjacent to the trail, preferably on the up slope side. **ROP LR-1m** All motorized equipment shall travel under its own power or be towed on an appropriate size sled. Any inoperative equipment will be repaired on-site and not towed unless a break down occurs while crossing a river, lake or pond. **ROP LR-1n** New segments of trails will be routed to avoid heavy stands of tall shrub or timber vegetation. **ROP LR-1o** No fuel barrels, waste oil, garbage or equipment are to be abandoned along any trails. **ROP LR-1p** The permittee will notify the BLM when starting a project such as an overland move and when the project is completed. **ROP LR-1q** Fuel will be stored in a containment dike that will hold 110% of the fuel being stored on the ground. **ROP LR-1r** Wastewater disposal must comply with Title 18 Alaska Administrative Code, Chapter 72 (18 AAC 72, excerpts attached); fuel discharge or releasing must comply with Title 18 Alaska Administrative Code, Chapter 75 (18 AAC 75, excerpts attached). **ROP LR-1s** Helicopter operations should avoid areas of observed concentrations of caribou (for example wintering concentrations or large migrating groups) by maintaining a minimum distance of one mile or 2000 feet AGL, unless doing so would endanger human life or violate safe flying practices. **ROP LR-1t** To accommodate the breeding and nesting activities of migratory birds and to allow for brood fledging and subsistence harvest activities in the spring, activities should be restricted between the dates of May 1 and July 31 in wetlands and lake areas. Closures are required for the migratory bird nesting period of April 10-July 15 for forest and woodland habitat types in Bristol Bay, May 1-July 15 for open or shrub habitat types, May 10-September 15 for seabird colonies and April 15-August 15 for raptors. These closures would be dependent upon the actual location of the species in question.

3. Oil and Gas Leasing Stipulations

Table 2.14. Oil and Gas Leasing Stipulations

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
Protect fish-bearing rivers, streams and lakes from blowouts, and minimize alteration of aquatic and riparian habitat.	**Stip-1:** 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. Floodplain maps are generated by the Bureau of Reclamation but have not been developed for most of Alaska; onsite determination by a qualified hydrologist is necessary.	Fish bearing rivers, streams, and lakes	**Exception:** Authorized Officer may grant exception if lessee can demonstrate that impacts would be minimal or there is no feasible or prudent alternative **Modification:** None **Waiver:** None
Protect fish-bearing water bodies, water quality and aquatic habitats.	**Stip-2:** The design and location of permanent oil and gas facilities within 500 feet of fish-bearing or 100 feet of non-fish-bearing water bodies will only be approved on a case-by-case basis if the lessee can demonstrate that impacts to fish, water quality, aquatic and riparian habitats are minimal.	Areas open to oil and gas leasing	**Exception:** Authorized Officer may grant exception if the lessee can demonstrate that impacts to fish, water quality, and aquatic and riparian habitats are minimal. **Modification:** None **Waiver:** None
Protect threatened, endangered, or other special status species and their habitats.	**Stip-3:** The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened or endangered 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	All BLM-managed lands	**Exception:** None. **Modification:** None. **Waiver:** None.

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
	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 TES species or result in the destruction or adverse modification of a designated or proposed critical habitat.		
Ensure that the final disposition of the land meets the current and future needs of the public.	**Stip 4:** 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 Authorized Officer. The Authorized Officer may determine that it is in the best interest of the public to retain some or all facilities.	Areas open to oil and gas leasing	**Exception:** The Authorized Officer determines that it is in the best interest of the public to retain some or all facilities. **Modification:** None. **Waiver:** None
Minimize surface impacts from exploratory drilling.	**Stip 5:** Exploratory drilling shall be limited to temporary facilities such as gravel pads, gravel and/or ice roads and temporary platforms, etc.	Areas open to oil and gas leasing	**Exception:** The lessee demonstrates that construction of permanent facilities such as gravel airstrips, storage pads, and connecting roads is environmentally preferable or that exploring from temporary facilities is not practical or economically feasible. **Modification:** None. **Waiver:** None
Minimize disturbance to calving caribou.	**Stip-6:** No exploration or development activities from May 15 to June 15. Production activities may occur (with the exception of workover rigs). This stipulation would not apply under Alternative B.	Mulchatna Caribou Herd (MCH), Nushagak, Northern Peninsula, and other caribou calving concentration areas. Some of these caribou herds are very traditional in use of calving areas. The MCH has shifted to other calving areas in some years.	**Exception:** Authorized Officer may grant exception for exploration if review indicates that calving caribou no longer occupy site-specific area. **Modification:** The season of no exploration, no development, or workover rigs may be extended based on actual occupancy of the area.

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
			The period of exploration and development activity may be modified to include all or part of the May 15-June 15 period based on actual real time field verification and assessment of caribou calving use of the proposed activity area. Monitoring would be based on actual on-site field verification prior to activity startup and concurrent radio telemetry data indicating the aggregation of calving caribou is not using the proposed area of activity during that operational period. **Waiver:** None
Minimize disturbance to caribou during aggregation periods (insect relief and post calving and migration periods).	**Stip-7:** No exploration activities from May 20 to August 15 and periods characterized by large numbers of migrating caribou in localized site-specific areas. Construction of development and production phase facilities and activities may occur (no workover rigs). This stipulation would not apply under Alternative B. To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.	Mulchatna Caribou Herd (MCH) crucial insect relief areas, migration and post calving aggregations. MCH and other caribou herds in the Bay Planning area periodically may shift use areas. Long term fidelity to seasonal use areas is cyclic or may be unpredictable and inconsistent but occurs in multiple year periods. Field verification and assessment/monitoring are necessary for exploration actions and development activity.	**Exception:** Authorized Officer may grant exception if review indicates that caribou do not occupy site-specific area in a given year. Exceptions may be granted for work-over rigs on a case-by-case basis depending on duration of activity and actual caribou occupancy of area. **Modification:** Season may be shortened or extended based on actual occupancy of the area. In years where caribou activity is absent, modification to the stipulation to allow exploration and development may be allowed. **Waiver:** None. Exceptions may be granted for work-over rigs on a case-by-case basis depending on duration of activity and actual caribou occupancy of area.

Objective	Stipulation	Areas Where Stipulations Apply	Exception, Modification, Waiver
Minimize soil erosion.	**Stip-8:** Surface disturbing proposals involving construction and heavy equipment operation on slopes greater than 25 percent would include an approved erosion control strategy, topsoil segregation/restoration plan, be properly surveyed and designed by a certified engineer and approved by the BLM prior to construction and maintenance. Restore wildlife cover, forage, spatial and water conditions existing before disturbance.	All slopes greater than 25% within the planning area.	**Exception:** If after an environmental analysis the Authorized Officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives, occupancy area may be authorized. **Modification:** May be granted if a more detailed analysis (Order I soil survey) finds that surface disturbance could occur without accelerated erosion. **Waivers:** None.
Minimize impact on the human environment.	**Stip-9:** The operator will construct drill pads at least 500 feet and compressor stations at least 1,500 feet from occupied structures. Visual, auditory and other intrusions upon adjacent property owner values will be reduced to the degree possible. Subject to best technological means, reduce by cryptic painting, noise abatement devices and property owner consultation buffers can be modified by on site analysis and Authorized Officer approval. (Other private property value and owner concerns may arise, whether it is a structure, occupied or not).	Areas open to oil and gas leasing	**Exception:** The Authorized Officer may grant an exception if the operator obtains the consent of the owner of the structure and agrees to perform appropriate mitigation as per consent of the adjacent property owner. **Modification:** None. **Waivers:** None.
Minimize impact on sensitive and recovering anadromous and fresh water habitat on three streams.	**Stip-10:** To protect sensitive and recovering anadromous and freshwater fish habitat, provide a 300 ft. buffer from mining operations on BLM-administered lands on either side of the East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River.	Areas Open to Oil and Gas Leasing: East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River only.	**Exceptions:** None **Modification:** None **Waivers:** None.

4. Standard Lease Terms for Oil and Gas (BLM Form 3100-11)

Section 1. Rentals

Rentals shall be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:
(a) Noncompetitive lease, $1.50 for the first 5 years; thereafter $2.00;
(b) Competitive lease, $1.50, for the first 5 years; thereafter $2.00;
(c) Other, see attachment,
or as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due at the rate specified in (a), (b), or (c) for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

Section 2. Royalties
Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations on production removed or sold. Royalty rates are:
(a) Noncompetitive lease, 12 ½ percent;
(b) Competitive lease, 12 ½ percent;
(c) Other, see attachment; or
as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties shall be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production shall be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee shall not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor shall lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year shall be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge shall be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee shall be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

Section 3. Bonds
A bond shall be filed and maintained for lease operations as required under regulations.

Section 4. Diligence, rate of development, unitization, and drainage
Lessee shall exercise reasonable diligence in developing and producing, and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if seemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Section 5. Documents, evidence, and inspection
Lessee shall file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any Authorized Officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for six years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Section 6. Conduct of operations
Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

Section 7. Mining operations
To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Section 8. Extraction of helium

Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee shall include in any contract of sale of gas the provisions
of this section.

Section 9. Damages to property
Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Section 10. Protection of diverse interests and equal opportunity
Lessee shall: pay when due all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices; and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee shall comply with section 28 of the Mineral Leasing Act of 1920.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee, nor lessee's subcontractors shall maintain segregated facilities.

Section 11. Transfer of lease interests and relinquishment of lease
As required by regulations, lessee shall file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Section 12. Delivery of premises
At such time as all or portions of this lease are returned to lessor, lessee shall place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells.

Section 13. Proceedings in case of default
If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time. Lessee shall be subject to applicable provisions and penalties of FOGRMA (30 U.S.C. 1701).

Section 14. Heirs and successors-in-interest
Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

F. Comparison of Alternatives

Table 2.15. Alternative Summary Table

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Fish and Wildlife Habitat		Proposed permitted or authorized uses analyzed through the NEPA process on a case-by-case basis. Mitigation measures developed to minimize impacts from proposed activities would be included in the permit that authorized use.	Same as Alternative A. Stipulations, Required Operating Procedures, and project-specific requirements would apply.	Same as Alternative B. Stipulations, Required Operating Procedures, and project-specific requirements would apply. In addition, a Fish and Wildlife Habitat Management Plan would be developed for the Carter Spit ACEC and the Bristol Bay ACEC. For Fluid Leasable Minerals, Goodnews, Koggiling, Yellow Creek, Kvichak, Iliamna West, Alagnak, and Klutuk Blocks would be open to leasing subject to seasonal restrictions or other constraints. A 300-foot minimum setback on BLM unencumbered lands on segments of the East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River would be required. This setback would protect riparian areas and soils adjacent to sensitive habitat for salmon and freshwater fish.	Same as Alternative B. Stipulations, Required Operating Procedures, and project-specific requirements would apply. In addition, a Fish and Wildlife Habitat Management Plan would be developed for the Carter Spit ACEC. For Fluid Leasable Minerals, Goodnews, Koggiling, Yellow Creek, Kvichak, Iliamna West, Alagnak, and Klutuk Blocks would be open to leasing subject to seasonal restrictions or other constraints. A 300-foot minimum setback on BLM unencumbered lands on segments of the East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River would be required. This setback would protect riparian areas and soils adjacent to sensitive habitat for salmon and freshwater fish.

	Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Fire Management and Ecology	This Alternative would allow Wildland fire use for resource benefit and to meet land use and resource management objectives.	Same as Alternative A.	Same as Alternative A. Fire strategies would be developed for Carter Spit and Bristol Bay ACECs.	Same as Alternative A. Fire strategies would be developed for Carter Spit ACEC.
Cultural and Paleontological Resource Management	This Alternative would identify, protect, and preserve significant cultural and paleontological resources; and manage cultural and paleontological resources for a variety of scientific, conservation, public education, interpretation, traditional, and experimental use.	Same as Alternative A.	Same as Alternative A. Develop cultural and paleontological resource strategies and priorities for Carter Spit and Bristol Bay ACECs.	Same as Alternative A. Develop cultural and paleontological resource strategies and priorities for Carter Spit ACEC.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Visual Resource Management	**VRM Classifications**	No VRM Classes would be established within the Bay planning area.	All lands within the Bay planning area would be managed as VRM Class IV.	BLM lands in the full visible foreground based on GIS analysis up to 5 miles from established winter trail/road systems would be managed at VRM Class III including: **Goodnews Bay block**: • Goodnews to Quinhagak coastal and Arolik River routes • Goodnews Bay to Dillingham **Nushagak/Kvichak/Alagnak Drainages** • Dillingham to Aleknagik • Dillingham to Koliganek • Ekwok to Naknek • New Stuyahok to Levelock • Naknek to King Salmon BLM lands in the full visible foreground up to 5 miles from main river travel routes would be managed at VRM Class III including the navigable portions of: **Goodnews Bay block:** • North Fork Goodnews River • Middle Fork Goodnews River • South Fork Goodnews River • East Fork Arolik River Nushagak/Kvichak/Alagnak Drainage • Nushagak River • Kvichak River • Lower Mulchatna River • Alagnak Wild River BLM lands in the full visible foreground up to five miles from the boundaries of Togiak NWR, Becharof NWR, Katmai NPP, and Lake Clark NPP would be managed at VRM Level III. All other BLM lands would be managed as VRM Class IV.	BLM lands in the full visible foreground based on GIS analysis up to 1/2 mile from established winter trail/road systems would be managed at VRM Class III including: **Goodnews Bay block:** • Goodnews to Quinhagak coastal and Arolik River routes • Goodnews Bay to Dillingham **Nushagak/Kvichak/Alagnak Drainages** • Dillingham to Aleknagik • Dillingham to Koliganek • Ekwok to Naknek • New Stuyahok to Levelock • Naknek to King Salmon BLM lands in the full visible foreground up to 1/2 mile from main river travel routes would be managed at VRM Class III including the navigable portions of: **Goodnews Bay block:** • North Fork Goodnews River • Middle Fork Goodnews River • South Fork Goodnews River • East Fork Arolik River Nushagak/Kvichak/Alagnak Drainage • Nushagak River • Kvichak River • Lower Mulchatna River • Alagnak Wild River BLM lands in the full visible foreground up to one mile from the boundaries of Togiak NWR, Becharof NWR, Katmai NPP, and Lake Clark NPP would be managed at VRM Class III. All other BLM lands would be managed as VRM Class IV.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
	VRM Classifica-tions in Special Mgmnt Areas		Proposed Carter Spit and Bristol Bay ACECs would be managed at VRM Class III	Proposed Carter Spit and Bristol Bay ACECs would be managed at VRM Class III. Proposed National WSR Alagnak River and Kvichak River (Wild, Recreational) would be managed at VRM Class III. Proposed National WSR Goodnews River and Middle Fork Goodnews River (Wild) would be managed at VRM Class II.	Proposed Carter Spit ACEC would be managed at VRM Class III.
Livestock and Reindeer Grazing		Alternative A would continue current management. Livestock grazing would be managed on a case-by-case basis as permits were received. Livestock permitted would be limited to reindeer.	Same as Alternative A. Permits subject to Required Operating Procedures.	Same as Alternative A. Permits subject to Required Operating Procedures	Same as Alternative A. Permits subject to Required Operating Procedures
	Grazing Manageme nt in Special Manageme nt Areas	Grazing would be permitted in the Bay planning area.	Grazing would be permitted in the Bay planning area.	No grazing or domestic pack animals would be allowed in Carter Spit ACEC, Bristol Bay ACEC, or designated WSRs.	No grazing or domestic pack animals would be allowed in Carter Spit ACEC.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Fluid Leasable Minerals	**Areas Open to Fluid Mineral Leasing Subject to Standard Lease Terms**	No BLM-administered lands would be open for fluid mineral leasing.	2,499,941 acres (99%), 1,327,671 acres of which are State or Native selected. Existing withdrawals (excluding those lands under ANCSA 17(d)(1), of approximately 3,999 unencumbered acres would remain withdrawn from fluid mineral leasing.	1,432,752 acres (57%), all of which are State-selected or Native-selected. Existing withdrawals (excluding those lands under withdrawals other than ANCSA 17(d)(1) of approximately 3,999 unencumbered acres would remain withdrawn from fluid mineral leasing.	1,447,877 acres (58%), 1,176,629 of which are State-selected or Native-selected.
		Notwithstanding the provisions listed within this management action, BLM may lease lands in cases where oil and gas is being drained from the Federal subsurface estate by wells drilled on adjacent lands.			
		Oil and Gas Stipulations and Required Operating Procedures described in Section E apply to all BLM-managed lands in the Bay planning area open to oil and gas leasing.			

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
	Areas Closed to Fluid Mineral Leasing	All BLM lands would be closed to fluid mineral leasing.	Existing withdrawals other than ANCSA 17(d)(1) of approximately 3,999 unencumbered acres would remain withdrawn from fluid mineral leasing.	Approximately 19,124 acres (>1%) which are unencumbered BLM lands. Existing withdrawals of approximately 3,999 unencumbered acres would remain withdrawn from fluid mineral leasing Proposed Wild River segments of the Alagnak, Goodnews and Goodnews Middle Fork rivers (15,125 acres). ANCSA 17(d)(1) withdrawals would be retained for these river segments as an interim measure to provide an opportunity for Congressional action.	Existing withdrawals other than ANSCA 17(d)(1), of approximately 3,999 unencumbered acres would remain withdrawn from fluid mineral leasing.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
	Areas Open to Fluid Mineral Leasing Subject to Seasonal or Other Minor Constraints	No Federal leases would occur on BLM-managed lands within the Bay planning area.	No acres are subject to seasonal or other minor constraints. Stipulations #6 and #7, Section E, do not apply under this Alternative.	1,052,065 acres (42%), none of which are State-selected or Native-selected. Carter Spit ACEC (62,862 acres). Bristol Bay ACEC (989,202 acres). To protect caribou and their habitat, oil and gas exploration and development activities would be limited on identified aggregation areas (insect relief, post calving, and migration) between May 20 and August 15. To minimize disturbance to calving caribou, oil and gas exploration and development activities will be restricted from May 1 to June 15.	1,052,065 acres (42%), none of which are State-selected or Native-selected. Carter Spit ACEC (62,862 acres. BLM unencumbered lands on the Bristol Bay Plain (989,202 acres). To protect caribou and their habitat, oil and gas exploration and development activities would be limited on identified aggregation areas (insect relief, post calving, and migration) between May 20 and August 15. To minimize disturbance to calving caribou, oil and gas exploration and development activities will be restricted from May 1 to June 15.
	Areas Open to Fluid Mineral Leasing Subject to No Surface Occupancy Constraint	No Federal leases would occur on BLM-managed lands within the planning area.	0 acres. Stipulations #6 and #7, Section E, do not apply under this Alternative.	2,355 acres (>.1 %). A 300-foot minimum setback on BLM unencumbered lands on segments of the East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River. This setback would protect riparian areas and soils adjacent to sensitive habitat for salmon and freshwater fish.	2,355 acres (>.1 %). A 300-foot minimum setback on BLM unencumbered lands on segments of the East and South Fork Arolik River, Faro Creek, and South Fork Goodnews River. This setback would protect riparian areas and soils adjacent to sensitive habitat for salmon and freshwater fish.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Locatable Minerals		152,746 acres would be identified as open for locatable mineral entry. Within the Bay planning area, approximately 3,999 acres would remain withdrawn from mineral entry due to withdrawals other than ANSCA 17(d)(1).	ANCSA 17(d)(1) withdrawals would be revoked. Approximately 1,176,269 acres of unencumbered lands would be available for locatable mineral entry. Selected lands would be made available if the selection is revoked or relinquished. Within the Bay planning area, approximately 3,999 acres would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).	Same as Alternative B, except the following lands would be closed to locatable mineral entry: Exceptions (Selected): Proposed wild river segments of the Alagnak, Goodnews mainstem, and Goodnews Middle Fork (15,125 acres). Exceptions (Unencumbered): Proposed Carter Spit ACEC (62,863 acres) and Bristol Bay ACEC (989,202 acres) would be closed to mineral entry. ANCSA 17(d)(1) withdrawals for these river segments would be retained as an interim measure to provide an opportunity for Congressional action. Within the Bay planning area, approximately 3,999 acres would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).	Same as Alternative B, except the following lands would be closed to locatable mineral entry: Exceptions (Unencumbered): Proposed Carter Spit ACEC (62,863 acres) would be open but would be subject to more stringent Required Operating Procedures. Within the Bay planning area, approximately 3,999 acres would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).
		Approved Plans of Operation would contain stipulations based on site-specific resource concerns.	Same as Alternative A, with the addition that an approved Plan of Operations will contain guidelines as listed in the Required Operating Procedures in Section E.		

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Salable Minerals		Approximately 1,176,269 acres of unencumbered lands would be available for sale of mineral materials. Selected lands would be made available if the selection were revoked or relinquished. Within the Bay planning area, approximately 3,999 acres of unencumbered lands would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).	Same as Alternative A Within the Bay planning area, approximately 3,999 acres of unencumbered lands would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).	The following lands would be closed to sale: Exception (unencumbered): • Proposed Carter Spit ACEC (62,862 acres) • Proposed Bristol Bay ACEC (989,202 acres) Exceptions (Selected): • Proposed Wild river segments of the Alagnak, Goodnews mainstem, and Goodnews Middle Fork (15,125 acres.) ANCSA 17 (d)(1) withdrawals would be retained for these river segments as an interim measure to provide an opportunity for Congressional action. Within the Bay planning area, approximately 3,999 acres of unencumbered lands would remain withdrawn from mineral entry due to withdrawals other than 17(d)(1).	The following lands would be closed to sale: Exception (unencumbered): • Proposed Carter Spit ACEC (62,862 acres) Within the Bay planning area, approximately 3,999 acres of unencumbered lands would remain withdrawn from mineral entry due to withdrawals other than ANCSA 17(d)(1).
		Approved Plans of Operation would contain stipulations based on site-specific resource concerns.	Same as Alternative A, with the addition that approved Plans of Operations would contain guidelines as listed in the Required Operating Procedures in Section E.		

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Designation of BLM-administered unencumbered lands for Off-Highway Vehicle Use		There would be no OHV designations on BLM-managed lands within the planning area.	All unencumbered BLM-managed lands within the planning area would be designated as "open" for OHV use.	All unencumbered BLM-managed lands would be designated as "limited" for OHV use. The "limited" designation is the same as the "Generally Allowed Uses on State Land," which among other things requires OHVs to stay on existing trails whenever possible (Appendix F).	All unencumbered BLM managed lands would be designated as "limited" to OHV use. The "limited" designation is the same as the "Generally Allowed Uses on State Land," which among other things requires OHVs to stay on existing trails whenever possible (as described in Appendix F). Limitations within the proposed Carter Spit ACEC would be defined through the development of activity plans to meet the objectives of the proposed Special Management Area.
		No route restrictions; cross-country travel allowed everywhere on BLM lands within the planning area.	Same as Alternative A.	OHV use would be limited to existing roads and trails. This limitation is the same as the *Generally Allowed Uses on State Land*, which requires OHVs to stay on existing trails whenever possible.	Same as Alternative C.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Designation of Interim BLM-administered encumbered lands for Off-Highway Vehicle Use		There would be no OHV designations on BLM-managed lands within the planning area.	All interim BLM-managed encumbered lands within the planning area would be designated as "open" for OHV use.	All interim BLM-managed encumbered lands would be designated as "limited" for OHV use. The "limited" designation is the same as the "Generally Allowed Uses on State Land," which among other things requires OHVs to stay on existing trails whenever possible (Appendix F).	All interim BLM-managed encumbered lands would be designated as "limited" to OHV use. The "limited" designation is the same as the "Generally Allowed Uses on State Land," which among other things requires OHVs to stay on existing trails whenever possible (as described in Appendix F). Limitations within the proposed Carter Spit ACEC would be defined through the development of activity plans to meet the objectives of the proposed Special Management Area.
Designation of BLM-administered Unencumbered Lands for Recreation Experience Opportunities		Manage as "Roaded Natural" under the Recreation Opportunity Spectrum.	Same as Alternative A.	Manage the entire recreation area setting as Semi-Primitive Motorized.	Same as Alternative C.

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
Lands and Realty	Disposal or Land Exchange	No lands would be identified for disposal or land exchange.	Parcels would be identified for land exchange: Chulitna River, T1N R32W Sec. 21, 23, 28. 2,559 acres. Chekok Creek, T2 and 3 S R30W. 14,676 acres. T11S R37W Sec. 2, 3, 4, 9, 10; Sec. 16, 21 portions. 3,532 acres. T9S R72W Sec.18. BLM land that is not State selected but may be topfiled but is not priority. 605 acres. Aleknagik Vicinity, T10S R53W Sec. 7, 18, if not conveyed out of federal ownership.	Same as Alternative A.	Same as Alternative B.
	Withdrawals	ANCSA 17(d)(1) withdrawals would be retained. Withdrawals other than ANCSA 17(d)(1) would be retained (3,999 acres).	Existing ANCSA 17(d)(1) withdrawals would be revoked. Withdrawals other than ANCSA 17(d)(1) would be retained (3,999 acres).	Same as Alternative B. Existing ANCSA 17(d)(1) withdrawals on proposed wild river segments of the Alagnak, Goodnews mainstem, and Goodnews Middle Fork would be retained until Congressional action is completed (97,344 acres). Withdrawals other than ANCSA 17(d)(1) would be retained (3,999 acres).	Same as Alternative B. Withdrawals other than ANCSA 17(d)(1) would be retained (3,999 acres).

		Alternative A - Current Management	Alternative B	Alternative C	Alternative D - Preferred
	Land Use Authori za-tions	Avoidance or exclusion areas would be identified on a case-by-case basis.	Same as Alternative A.	Same as Alternative A. The proposed Carter Spit ACEC would be identified as an avoidance area for Land Use Authorizations (62,862 acres). The proposed Bristol Bay ACEC would be identified as an avoidance area for Land Use Authorizations (989,202 acres).	Same as Alternative A. The proposed Carter Spit ACEC would be identified as an avoidance area for Land Use Authorizations (62,862 acres).

		Alternative A - Current Management	Alternative B - Resource Development	Alternative C - Resource Conservation	Alternative D - Preferred
	Recreation Management Areas	No Recreation Management Areas would be established.	All BLM lands in the Bay planning area would be managed as an Extensive Recreation Management Area (Appendix D).	Same as Alternative B	Same as Alternative B
Special Management Area Designations	Wild and Scenic Rivers	No National System designations would be recommended.	Same as Alternative A.	The following river segments would be recommended for WSR designation: * • Alagnak River (Wild/Recreational • Goodnews River mainstem (Wild) • Goodnews River Middle Fork (Wild) * All of the river segments included in this Alternative have been selected for conveyance by the State or ANCSA Corporations. These selected segments would not be recommended for WSR designation without the support of the selecting entity, or the relinquishment of the selection.	Same as Alternative A.

		Alternative A - Current Management	Alternative B - Resource Development	Alternative C - Resource Conservation	Alternative D - Preferred
	Area of Critical Environmental Concern	No Areas of Critical Environmental Concern would be recommended.		The following areas of unencumbered BLM land* would be proposed as Areas of Critical Environmental Concern: • Carter Spit ACEC (62,863 acres) • Bristol Bay ACEC (989,202 acres)	The following area of unencumbered BLM land* would be proposed as an Area of Critical Environmental Concern: • Carter Spit ACEC (62,863 acres)
		*Should the contiguous block of selected land adjacent to the proposed ACECs be returned to BLM administration, all or a portion of it would be included in the ACECs.			

Table 2.16. Summary and Comparison of Effects on Resources by Alternative

Alternative A	Alternative B	Alternative C	Alternative D
Effects to Air Quality			
Much of the Bay planning area is designated as unclassifiable, with regard to air resources (USEPA 2004a). Impacts to air quality would be low and air quality should remain in attainment throughout the planning area. Leasable mineral exploration and development would not occur; some locatable mineral exploration and development would be possible. Smoke from wildland fire would have short-term effects on air quality and visibility. Mining may have localized impacts on air quality due to dust and airborne deposition of heavy metals.	Much of the Bay planning area is designated as unclassifiable, with regard to air resources (USEPA 2004a). Alternative B may result in a greater magnitude of impacts due to potential locatable mineral development or OHV activity. Natural gas development would occur, potentially leading to air quality impacts from the emissions of hydrocarbons and windborne particulates. Flaring, a flow test, would contribute gaseous byproducts of combustion briefly during the test. Impacts from OHV activity will be localized and would be expected to dissipate quickly. Air quality should remain in attainment throughout the planning area. Smoke from wildland fire would have short-term effects on air quality and visibility.	The level of impact would be similar to Alternative B. Impacts to air quality would be low and air quality should remain in attainment throughout the planning area. Both locatable mineral development and natural gas development would occur and impacts from these activities would be the same, including wind-blown particulates, smoke and exhaust. Flaring, a flow test used in natural gas development, would contribute gaseous byproducts of combustion briefly during the test. Smoke from wildland fire would have short-term effects on air quality and visibility. There might be an increase in OHV activity; effects would be localized and temporary.	The level of impact would be similar to Alternative B. Impacts to air quality would be low and air quality should remain in attainment throughout the planning area. Both locatable mineral development and natural gas development would occur, and impacts from these activities would be the same, including wind-blown particulates, smoke and exhaust. Flaring, a flow test used in natural gas development, would contribute gaseous byproducts of combustion briefly during the test. Smoke from wildland fire would have short-term effects on air quality and visibility. There might be an increase in OHV activity; effects would be localized and temporary.
Cumulative Effects: Cumulative air quality impacts may result from the emissions of hydrocarbons or gaseous byproducts of combustion, which may add to the region's atmosphere increased concentrations of specific pollutants, or may contribute to chemical reactions that form ozone, which may degrade air quality. However, only one small natural gas project is proposed for BLM lands in the planning area over the life of the plan. Ambient air quality in western Alaska is relatively pristine, and it is expected that it will remain so for the foreseeable future. Projects for development of locatable minerals on BLM lands are expected to be small; however, other large mining projects are proposed in the area, and cumulatively could contribute to increased wind-borne particulates including heavy metals and other hazardous materials. Development of infrastructure, including regional roads and access would have impacts throughout the area of activity, including increased airborne particulates, especially during construction.			
Effects to Water Resources			
Impacts to water resources would remain low. No leasable mineral exploration or development would	Impacts to water resources would remain low, but might be slightly higher than in Alternative A.	Impacts would be similar to Alternative B. Impacts to water resources would remain low, but	Impacts would be similar to Alternative B. Impacts to water resources would remain low, but

Alternative A	Alternative B	Alternative C	Alternative D
occur. Approximately 6% of BLM-administered lands would be open to locatable mineral development. The most likely mineral development to occur would be placer mining. Disturbance to soil could result in soil erosion, sedimentation and turbidity of water bodies. Other effects could include ponding, diversion or blockage of stream flow, water contamination by human waste or a variety of toxic chemicals, and alteration of natural lake chemistry. OHV use for stream crossings may cause streambank erosion, sedimentation and turbidity.	Leasable mineral exploration would most likely occur in the Koggiling Block. Water resources would be drawn from nearby streams or lakes for the operation. Except for withdrawals other than 17(d)(1), BLM unencumbered lands are open for locatable mineral exploration and development. The most likely mineral development to occur would be placer mining in the Goodnews Block. Disturbance to soil could result in soil erosion, sedimentation and turbidity of water bodies. Other effects could include ponding, diversion or blockage of stream flow, water contamination by human waste or a variety of toxic chemicals, and alteration of natural lake chemistry. OHV use for stream crossings may cause streambank erosion, sedimentation and turbidity.	might be slightly higher than in Alternative A. Leasable mineral exploration would most likely occur in the Koggiling Block. Water resources would be drawn from nearby streams or lakes for the operation. Except for withdrawals other than 17(d)(1), BLM unencumbered lands are open for locatable mineral exploration and development. The most likely mineral development to occur would be placer mining in the Goodnews Block. Disturbance to soil could result in soil erosion, sedimentation and turbidity of water bodies. Other effects could include ponding, diversion or blockage of stream flow, water contamination by human waste or a variety of toxic chemicals, and alteration of natural lake chemistry. OHV use for stream crossings may cause streambank erosion, sedimentation and turbidity.	might be slightly higher than in Alternative A. Leasable mineral exploration would most likely occur in the Koggiling Block. Water resources would be drawn from nearby streams or lakes for the operation. Except for withdrawals other than 17(d)(1), BLM unencumbered lands are open for locatable mineral exploration and development. The most likely mineral development to occur would be placer mining in the Goodnews Block. Disturbance to soil could result in soil erosion, sedimentation and turbidity of water bodies. Other effects could include ponding, diversion or blockage of stream flow, water contamination by human waste or a variety of toxic chemicals, and alteration of natural lake chemistry. OHV use for stream crossings may cause streambank erosion, sedimentation and turbidity.
Cumulative Effects: Past and present actions affecting fresh water resources within and adjacent to the Bay planning area have included climate change, mining activities, transportation projects and transportation-related accidents, military activities, industrial and domestic activities and related disposal of hazardous materials, and construction of facilities. A recent climate trend toward warming and drying has affected water levels in rivers and lakes, causing them to lower. Cumulative effects from locatable mineral exploration and development can include substantial decrease in water supplies in local aquifers, alteration of drainage patterns, and degradation of water quality. Cumulative effects from oil and gas exploration and development could include those effects already listed and disturbance of stream banks or lake shorelines, temporary blockage of natural channels and disruption of drainage patterns, increased sedimentation and turbidity, the removal of water from lakes or streams for ice roads and pads, and removal of gravel from riverine pools and lakes.			
Effects to Soils			
Impacts to soils would be low. Leasable mineral exploration and development would not occur;	Alternative B may result in a greater magnitude of impacts than Alternative A due to potential	The level of impact would be similar to Alternative B. Alternative C may result in a	The level of impact would be similar to Alternative B. Alternative D may result in a

Alternative A	Alternative B	Alternative C	Alternative D
some locatable mineral exploration and development would be possible. Wildland fire and containment and cleanup operations could have adverse effects on soil, including loss of vegetative cover and removal of topsoil. Locatable mineral exploration and development would have localized effects including loss of vegetative cover, erosion, rutting, ponding, mechanical removal of soil, and compaction of soils from vehicles, heavy equipment, and development of social trails. Impacts from OHV activity would be localized but could include a proliferation of trails that could result in scarring of the terrain, soil compaction, erosion, and rutting.	leasable mineral (natural gas) exploration in one area only, and potential locatable mineral exploration and development in two areas. Impacts to soils would be low, would be localized, and would include loss of vegetative cover, removal of topsoil, melting of permafrost, erosion, rutting, and ponding. A weight limit for OHVs would be imposed. Impacts from OHV activity would be localized but could include a proliferation of trails that could result in scarring of the terrain, soil compaction, erosion, and rutting. Wildland fire and containment and cleanup operations could have adverse effects on soil, including loss of vegetative cover and removal of topsoil.	greater magnitude of impacts than Alternative A due to potential leasable mineral (natural gas) exploration in one area only, and potential locatable mineral exploration and development in two areas. Impacts to soils would be low, would be localized, and would include loss of vegetative cover, removal of topsoil, melting of permafrost, erosion, rutting, and ponding. Impacts from OHV activity would be localized, a weight limit imposed, and traffic would be restricted to existing trails, meaning fewer impacts to soils than in Alternatives A or B. Impacts from OHV use could include soil compaction, erosion, and rutting. Wildland fire and containment and cleanup operations could have adverse effects on soil, including loss of vegetative cover and removal of topsoil.	greater magnitude of impacts than Alternative A due to potential leasable mineral (natural gas) exploration in one area only, and potential locatable mineral exploration and development in two areas. Impacts to soils would be low, would be localized, and would include loss of vegetative cover, removal of topsoil, melting of permafrost, erosion, rutting, and ponding. Impacts from OHV activity would be localized, a weight limit imposed, and traffic would be restricted to existing trails, meaning fewer impacts on soils than in Alternatives A or B. Impacts from OHV use could include soil compaction, erosion, and rutting. Wildland fire and containment and cleanup operations could have adverse effects on soil, including loss of vegetative cover and removal of topsoil.
Cumulative Effects: Cumulative effects to soil would largely result from surface disturbing activities that degrade the vegetative cover, compact soils, and expose ice-rich permafrost soils to thermokarst erosion and subsidence where permafrost is present. Wetland soils, stream bank and lakeshore soils are particularly vulnerable to erosion and ice scouring. Spills of oil, gasoline, or diesel requiring cleanup could impact the soils by requiring their removal, which could have greater impact than the spill itself. Development of oil and gas well pads, access roads, and regional roads would impact soils by compaction, erosion, and rutting.			
Effects to Vegetation			
Mineral development may negatively impact vegetation by removing the vegetative mat, re-routing water flow, covering vegetation with gravel, and compacting soils. Long term surface disturbance increases the	Effects would be similar to Alternative A but would occur over a larger area as the level of mineral exploration and development would have the opportunity to increase. Both leasable and locatable mineral	Effects would be similar to Alternative A but would occur over a larger area as the level of mineral exploration and development would have the opportunity to increase. Both leasable and locatable mineral	Effects would be similar to Alternative A but would occur over a larger area as the level of mineral exploration and development would have the opportunity to increase. Both leasable and locatable mineral

Alternative A	Alternative B	Alternative C	Alternative D
potential for introduction of noxious and invasive plants. OHV use may destroy the vegetation at, compact soils, accelerate permafrost melt, and lead to soil erosion and ponded water, crushing plants and degrading their habitats. Should livestock grazing take place, it may negatively impact vegetation by trampling, cratering to soil, and over-grazing. These impacts would be localized and minor. Impacts from other activities would be negligible.	exploration and development would be expected to be localized to the Koggiling Block and the Goodnews Block during the life of this plan. Potential effects of oil development include compression of the vegetation mat, broken shrubs and crushed tussocks from seismic activity; mortality of plants due to oil, gasoline, or diesel spills; compression of the tundra mat and localized die-off of plants under access roads and pads; and destruction of vegetation at the location of facility development. OHV designations would not be restrictive, allowing for free movement of OHVs.	exploration and development would be expected to be localized to the Koggiling Block and the Goodnews Block during the life of this plan. Potential effects of oil development include compression of the vegetation mat, broken shrubs and crushed tussocks from seismic activity; mortality of plants due to oil, gasoline, or diesel spills; compression of the tundra mat and localized die-off of plants under access roads and pads; and destruction of vegetation at the location of facility development. OHV designations would not be restrictive, allowing for free movement of OHVs. Required Operating Procedures and Stipulations would apply.	exploration and development would be expected to be localized to the Koggiling Block and the Goodnews Block during the life of this plan. Potential effects of oil development include compression of the vegetation mat, broken shrubs and crushed tussocks from seismic activity; mortality of plants due to oil, gasoline, or diesel spills; compression of the tundra mat and localized die-off of plants under access roads and pads; and destruction of vegetation at the location of facility development. OHV designations would not be restrictive, allowing for free movement of OHVs. Required Operating Procedures and Stipulations would apply.
Cumulative Effects: Increased levels of mineral development on State and private lands, combined with similar activities on BLM-managed lands could result in cumulative surface disturbance with adverse effects on riparian and tundra vegetation over the long-term. Blowing dust and contaminants from projects on non-BLM-administered lands that are deposited on vegetation could have negative effects to the vegetation and to the animals and subsistence users dependent upon it. Dispersed recreation effects, OHV travel, remote landing sites for bush aircraft, and campsites could have minor adverse and cumulative impacts to riparian and tundra vegetation on BLM-managed lands. The potential for displacement of native vegetation by noxious and invasive weeds will increase as the level of surface disturbance to once-intact habitat rises.			
Effects to Fish			
Permitted activities, including exploration and development of locatable minerals, road construction, and use of OHV trails and stream crossings would impact fish and aquatic habitat. Currently BLM lands in the planning area are closed to leasable mineral exploration and development and all but 6% of BLM lands are closed to locatable	Under Alternative B, all BLM unencumbered lands would be available for leasable mineral exploration and development and locatable mineral exploration and development unless they were withdrawn under other than 17(b)(1) withdrawals. Potential impacts would be greater than those under Alternative A, and would include gas exploration	Under Alternative C, all BLM unencumbered lands would be available for leasable mineral exploration and development and locatable mineral exploration and development unless they were withdrawn under other than 17(b)(1) withdrawals. Potential impacts would be greater than those under Alternative A, and would include gas exploration	Under Alternative D, all BLM unencumbered lands would be available for leasable mineral exploration and development and locatable mineral exploration and development unless they were withdrawn under other than 17(b)(1) withdrawals. Potential impacts would be greater than those under Alternative A, and would include gas exploration

Alternative A	Alternative B	Alternative C	Alternative D
minerals. There is no restriction on OHV travel or weight limits, and it is from OHV activity that the most serious impacts would come. Wildland fires could affect fish populations by removing vegetative cover, changing nutrient input, increasing siltation, and altering water quality and water temperatures. Fire can have long-term beneficial effects as well as negative impacts.	activities in Koggiling Creek Block, placer mining activities in Goodnews Block, potential infrastructure development, and OHV travel. A beneficial effect would be the imposition of a 2,000 pound OHV weight limit. Wildland fires could affect fish populations by removing vegetative cover, changing nutrient input, increasing siltation, and altering water quality and water temperatures. Fire can have long-term beneficial effects as well as negative impacts.	activities in Koggiling Creek Block, placer mining activities in Goodnews Block, potential infrastructure development, and OHV travel. A beneficial effect would be the imposition of a "limited" OHV designation and a 2,000 pound OHV weight limit. Wildland fires could affect fish populations by removing vegetative cover, changing nutrient input, increasing siltation, and altering water quality and water temperatures. Fire can have long-term beneficial effects as well as negative impacts. Designation of two ACECs and three WSR segments would also have beneficial effects.	activities in Koggiling Creek Block, placer mining activities in Goodnews Block, potential infrastructure development, and OHV travel. A beneficial effect would be the imposition of a "limited" OHV designation and a 2,000 pound OHV weight limit. Wildland fires could affect fish populations by removing vegetative cover, changing nutrient input, increasing siltation, and altering water quality and water temperatures. Fire can have long-term beneficial effects as well as negative impacts. Designation of one ACEC would also have beneficial effects.
Cumulative Effects: Any changes of current water and land use practices, by private, State, and other Federal agencies in the planning area, would continue to affect fish habitat within the planning area, including on BLM-administered lands. Currently a number of locatable mineral projects are proposed for State lands at the headwaters of the Kvichak and Nushagak rivers. BLM-administered lands lie downstream of those projects in the two watersheds in question, and sediment and water quality issues that influence the quality of fish habitat downstream from the source could continue to be a concern. Should OHV use increase it could also be a concern for the same reason. Coordinating with regional planning actions and conducting interagency watershed planning efforts could help protect important fisheries values in the Bristol Bay and Goodnews Bay watersheds.			
Wildlife			
Low levels of mineral exploration, land use authorizations, and dispersed recreational and OHV use would have minor localized effects on wildlife. Impacts would include stress and disturbance of wildlife, and degradation of habitat. Impacts would not have population level effects.	Increased mineral exploration and development in the Goodnews Block and the Koggiling Block would increase the level of impacts to wildlife and their habitat in localized areas. Impacts from OHV use would be similar to Alternative A. ROPS and Stips would apply.	Leasable mineral exploration and development in the Koggiling block would increase impacts to wildlife and habitat in localized areas. Locatable mineral exploration and development would be more limited than in Alternative B. Impacts from OHV use would be less due to a "limited" designation for access and a 2,000 pound GWVR weight	Leasable and locatable mineral exploration and development in the Koggiling block and Goodnews Block would increase impacts to wildlife and habitat in localized areas. Locatable mineral exploration and development would be more limited than in Alternative B. Impacts from OHV use would be less due to a "limited" designation for access

Alternative A	Alternative B	Alternative C	Alternative D
		limit. Two ACECs would be designated to provide additional management emphasis in important wildlife habitats. ROPS and Stips would apply.	and a 2,000 pound GWVR weight limit. One ACEC would be designated to provide additional management emphasis in important wildlife habitats. ROPS and Stips would apply.
Cumulative Effects: The combination of ongoing and future oil and gas development occurring on both State and Federal lands as well as the possibility of solid mineral exploration and development in the planning area would have cumulative impacts on wildlife and wildlife habitat. With respect to the MCH. Depending on the location of development, these impacts may include short or long-term disturbance to caribou calving habitat, insect relief habitat, and migratory routes; disruption of caribou movements; stress and disturbance impacts to caribou during all seasons of the year; possible reductions in herd productivity. Any new development would result in additive impacts to the herd. If significant activity occurred within the calving grounds or important insect relief habitat, these impacts could be significant. Construction of additional roads would also affect caribou movements and would greatly increase access into caribou habitat. Privatization of State or Native corporation lands has the potential to negatively affect wildlife and wildlife habitat by opening up areas to private development. Impacts would include habitat fragmentation, increased access into wildlife habitats, increased disturbance impacts, increased potential for mortality from road kills, and possible alteration of behavior or movement patterns of wildlife.			
Effects to Cultural Resources			
Few impacts to cultural resources would be anticipated from authorized activities due to the remoteness of most BLM-managed lands and the nature of most permitted activities. Currently the primary permitted activity in the planning area is Special Recreation Permits for big game guides, with little potential for impacts. Significant conflicts with cultural resources have not occurred. OHVs would be the greatest source of impact from authorized uses.	There could be an increase in potential for impacts under Alternative B. Exploration for leasable minerals and development of locatable minerals in the form of placer mining would result in substantial surface disturbance in limited areas of Koggiling Block and Goodnews Block. Exploration for leasable minerals involves little potential for impacts (720 acres of ground disturbing construction). BLM would require inventory and appropriate mitigation in advance of ground-disturbing activities. The greatest impact from authorized activities exists in the "open" designation for OHVs on BLM lands.	Impacts to cultural resources would be much the same as in Alternative B, although they would be expected to be fewer. A "limited" designation for OHVs under this Alternative would also provide beneficial impacts for cultural resources since OHV will be confined to existing trails. Beneficial effects to cultural resources would be expected with the proposed Carter Spit ACEC, the proposed Bristol Bay ACEC, and the proposed Wild and Scenic Rivers.	Impacts to cultural resources would be much the same as in Alternative B, although they would be expected to be fewer. A "limited" designation for OHVs under this Alternative would also provide beneficial impacts for cultural resources since OHV will be confined to existing trails. Beneficial effects to cultural resources would be expected with the proposed Carter Spit ACEC.

Alternative A	Alternative B	Alternative C	Alternative D
Cumulative Effects: Cumulative impacts to cultural resources could occur through incremental degradation of the resource base from a variety of sources which reduce the information and interpretive potential of historic and prehistoric properties, or which affect traditional cultural values important to Alaska Natives.			
Effects to Paleontological Resources			
Federal undertakings and unauthorized uses may cause irreversible disturbance and damage to paleontological resources. Impacts from authorized use would be mitigated through project redesign and specimen recovery. Geologic formations with exposures containing vertebrate and non-vertebrate fossils would be impacted from natural agents, unauthorized public collection, and vandalism. Impacts would stem almost exclusively from unauthorized uses and natural causes. Lack of knowledge about paleontological resources in the planning area makes it difficult to estimate the extent and nature of impacts.	Impacts to paleontological resources from uses other than mineral development would be negligible. Anticipated development associated with leasable and locatable minerals in the Goodnews Block and the Koggiling Block could have adverse impacts on paleontological resources.	Impacts to paleontological resources would be the same as Alternative A.	Impacts to paleontological resources would be the same as Alternative B.
Cumulative Impacts: Cumulative impacts to paleontological resources could result from development on non-BLM managed lands and from natural agents and unauthorized uses throughout the area.			
Effects to Visual Resources			
Visual resources would be managed on a project-by-project basis as no visual management classes would be established. Surface altering activities and events such as fire, mineral development and OHV use, and authorizations that result in facility or infrastructure construction such as powerlines or roads can alter or	Alternative B anticipates the greatest amount of resource development and adopts the least-restrictive VRM classes. Effects to visual resources could occur over a larger area than under Alternative A due to increased mineral development. Impacts from activities associated with exploration for gas would primarily	Alternative C is similar to Alternative B, except that the proposed Bristol Bay ACEC and Carter Spit ACEC would be closed to locatable mineral exploration or development. OHVs would be restricted to existing trails.	Alternative D is similar to Alternative B, except that OHVs would be restricted to existing trails.

Alternative A	Alternative B	Alternative C	Alternative D
negatively impact visual resources. Few impacts are anticipated from authorized activities due to the remoteness of these BLM-managed lands and the nature of most permitted activities.	be associated with the construction of support facilities.		
Cumulative Effects: Continued development of OHV trails, roads, infrastructure, mining activities, overland explorations, and fire management may lead to changes to existing visual resources by altering basic visual elements of form, line, color and texture at the landscape level. These changes will influence the design of similar projects on adjacent BLM lands where repeating these basic elements is an objective of the visual resource management class.			
Effects to Leasable Minerals			
No BLM-administered lands would be open for fluid mineral leasing due to the retention of ANCSA 17(d)(1) withdrawals. Under this Alternative no oil and gas exploration and development would occur, rendering these resources unavailable for future generations.	Alternative B provides the greatest opportunity for leasable mineral development. Approximately 2,499,941 acres (99%), 1,327,671 acres of which are State-selected or Native-selected, would be available for mineral leasing subject to Standard Lease Terms. Approximately 3,999 unencumbered acres, withdrawn under withdrawals other than ANCSA 17(d)(1), would remain withdrawn from fluid mineral leasing.	Under Alternative C, approximately 1,432,752 acres (57%) of which 1,432,752 of which are State-selected or Native-selected, would be available for mineral leasing subject to Standard Lease Terms, Required Operating Procedures, and Stipulations. Areas closed would be the proposed Wild River segments of the Alagnak, Goodnews and Goodnews Middle Fork rivers (15,125 acres), where existing ANCSA 17(d)(1) withdrawals would be retained until Congress has had an opportunity to act. 1,768,450 acres (42%),none of which are State-selected or Native-selected, would be open to mineral leasing subject to seasonal or other minor constraints. These constraints would limit exploration and development during specific time periods and increase recovery	Under Alternative D, approximately 1,447,877 acres (58%), of which 1,176,629 acres are State-selected or Native-selected, would be available for mineral leasing subject to Standard Lease Terms, Required Operating Procedures, and Stipulations. Existing withdrawals other than ANCSA 17(d)(1), of approximately 3,999 unencumbered acres, would remain withdrawn from fluid mineral leasing. 1,768,450 acres (42%),none of which are State-selected or Native-selected, would be open to mineral leasing subject to seasonal or other minor constraints. These constraints would limit exploration and development during specific time periods and increase recovery costs. 2,355 acres (>1%) of BLM unencumbered lands on the Arolik River, Faro Creek, and South Fork Goodnews River would be subject

Alternative A	Alternative B	Alternative C	Alternative D
		costs. 2,355 acres (>1%) of BLM unencumbered lands on the Arolik River, Faro Creek, and South Fork Goodnews River would be subject to NSO. These areas are low potential for oil and gas, and low potential for leasable mineral development. Closing these areas to leasing would preclude oil and gas development and render these resources unrecoverable.	to NSO. These areas are low potential for oil and gas, and low potential for leasable mineral development. Closing these areas to leasing would preclude oil and gas development and render these resources unrecoverable.
Cumulative Effects: Cumulative impacts to leasable mineral development would include retention of withdrawals, imposition of minor or major constraints, and requirements of Required Operating Procedures and Stipulations. There could be a reduction in lease value resulting from the application of stipulations and regulations and increased operating costs. Restrictions on Federal leases could impact leasing and development of adjacent non-Federal leasable minerals. An area in the beginning stages economical development could become non-profitable by imposing restrictive guidelines, resulting in the displacement of mineral activities to adjacent landowners.			

Alternative A	Alternative B	Alternative C	Alternative D
Effects to Locatable Minerals			
ANCSA 17(d)(1) withdrawals and withdrawals other than ANCSA 17(d)(1) would remain in place. 152,746 acres (6%) would be identified as open for locatable mineral entry. These withdrawals would continue to discourage mining interests and prevent exploration and evaluation of mineral potential. Much of this land has been unavailable for mineral assessment for more than 30 years. In the meantime markets for new commodities have developed, ore deposit theory has advanced significantly, and new mining and milling processes which are less expensive, more efficient and environmentally friendly have been developed.	This Alternative would have the fewest impacts to locatable mineral development. ANCSA 17(d)(1) withdrawals would be revoked. Approximately 1,172,270 acres of unencumbered lands (99%) would be open to locatable mineral entry. 3,999 acres of withdrawals other than (d)(1) would remain withdrawn from mineral entry. Administration of Notices and Plans of Operations, compliance, and mine reclamation would continue.	Under this Alternative, 1,071,189 acres (91%) would remain closed to locatable mineral entry, due to withdrawals other than ANCSA 17(d)(1), retained (d)(1) withdrawals, and proposed ACECs. ANCSA 17(d)(1) withdrawals would be retained for the nominated Wild and Scenic River segments to provide opportunity for Congressional action. The proposed Carter Spit ACEC and Bristol Bay ACEC would be closed to mineral entry. Restrictions would discourage further expenditure of funds in the planning area. The BLM would continue to regulate surface disturbing activities on valid Federal claims through Notices and Plans of Operations, and Required Operating Procedures would be implemented.	Alternative D is the same as Alternative B. Under this Alternative, 3,999 acres (>1%) would remain closed to locatable mineral entry due to withdrawals other than ANCSA 17(d)(1). However, the proposed Carter Spit ACEC (62,863 acres) would be subject to more stringent Required Operating Procedures. Administration of Notices and Plans of Operations, compliance, and mine reclamation would continue. Required Operating Procedures would be implemented.
Cumulative Effects: Impacts that are individually minor may cumulatively reduce exploration and production of commodities from BLM-managed land. Factors that affect mineral extraction and prospecting, such as permitting and permitting delays, regulatory policy, public perception, travel management, transportation, mitigation measures, proximity to sensitive areas, low commodity prices, taxes, and housing and other necessities for workers are mostly issues over which BLM has no control. These factors result in additional costs or permitting delays that can individually or cumulatively add additional costs to projects. Lack of access could reduce the amount of mineral exploration and development that may occur. Mineral resources in other ownerships may ot be developed if the adjacent BLM lands are withdrawn from mineral entry because the deposit may not be economically feasible to develop if only a portion is available for development. Overall, Alternatives A and C would be the most restrictive to mineral development and could result in the most cumulative impacts.			
Effects to Mineral Materials			
Development of mineral materials sites would not be constrained except as restricted by the interim management guidelines for selected lands. No	Impacts would be the same as Alternative A except the ROPS would apply to mineral material sales.	Development of mineral materials sites on BLM-managed lands would be severely constrained under Alternative C. Unencumbered BLM lands in the	Impacts would be the same as Alternative B. Carter Spit ACEC would be closed to mineral materials development. (62,863 acres).

Alternative A	Alternative B	Alternative C	Alternative D
unencumbered Federal lands would be closed to mineral material sales and permits.		Bristol Bay ACEC and Carter Spit ACEC would be closed to mineral materials development (1,052,065 acres).	
Cumulative Effects: Under Alternative C the closure of two ACECs to sale/ permit of mineral materials would essentially close BLM managed land in the planning area to mineral materials development and production.			
Effects to Recreation Management			
No SRMAs would be designated under Alternative A. BLM land in the planning area would be managed as "Roaded Natural."	Same as Alternative A.	Same as Alternative A, except the entire recreation area setting would be managed as Semi-primitive Motorized.	Same as Alternative C.
Cumulative Effects: The planning area currently provides diverse recreation opportunities which are expected to continue over the life of the plan regardless of the Alternative selected.			
Effects to Travel Management/OHV			
There are no OHV designations in the planning area.	The planning area would be designated as "open" to OHV use. There would be a 2,000 pound GVWR weight limit. More lands would be open to mineral entry under this Alternative, potentially creating improved access. Given the level of mineral development anticipated, effects would be minor.	The planning area would be designated as "Limited" for OHV use. There would be a 2,000 pound GVWR weight limit. Proposed restrictions would impact users by strictly limiting OHV use where no limits have been in place before. In designated ACECs further limitations may be placed upon OHV use. Effects of this Alternative on OHV users is expected to be minimal, since users access BLM-administered lands primarily by boat and aircraft.	The planning area would be designated as "Limited" for OHV use. There would be a 2,000 pound GVWR weight limit. Proposed restrictions would impact users by strictly limiting OHV use where no limits have been in place before. In designated ACECs further limitations may be placed upon OHV use. Effects of this Alternative on OHV users is expected to be minimal, since users access BLM-administered lands primarily by boat and aircraft.
Cumulative Effects: BLM-administered lands are somewhat remote from the villages and hubs in the planning area. Most users access BLM lands by boat or by aircraft. Decisions made in this plan would not be expected to have impacts on OHV users.			
Effects to Lands and Realty			
Management of vegetation, fish, wildlife, Special Status Species, cultural and paleontological resources may result in restrictions or additional	Impacts in Alternative B would be similar to those in Alternative A. In addition, a 2,000 pound GVWR weight restriction would be implemented for OHVs.	Impacts in Alternative C would be similar to those in Alternative B. Additional restrictions would include no Land Use Authorizations in the proposed	Impacts in Alternative D would be similar to those in Alternative B. Additional restrictions would include no Land Use Authorizations in the proposed

Alternative A	Alternative B	Alternative C	Alternative D
mitigation, increasing the cost of projects.	Requirements to meet VRM management classes could increase project cost, although VRM classes are the least restrictive under this Alternative. More lands would be available for mineral development due to revocation of ANCSA 17(d)(1) withdrawals, potentially resulting in a greater demand for land use authorizations such as ROWs. However, given the level of development likely to occur, these additional impacts would be minor. ROPS and Stips would restrict land uses in certain areas.	Carter Spit ACEC and Bristol Bay ACEC. Under this Alternative, five parcels would be proposed for land exchange. They would need to be inventoried for the presence of hazardous materials. The presence of contaminants could lead to modification or abandonment of a land action, or to remediation in the form of cleanup and removal of the contaminants. ROPS and Stips would restrict land uses in certain areas.	Carter Spit ACEC. Under this Alternative, five parcels would be proposed for land exchange. They would need to be inventoried for the presence of hazardous materials. The presence of contaminants could lead to modification or abandonment of a land action, or to remediation in the form of cleanup and removal of the contaminants. ROPS and Stips would restrict land uses in certain areas.
Cumulative Effects: Effects from any exchange proposal in any Alternative for BLM-managed lands in the planning area are minor compared to conveyances to Native corporations and the State of Alaska. The recently signed Alaska Lands Transfer Acceleration Act (P.L. 108-452) will facilitate the conveyance process, with a target of completing conveyances by 2009. Once entitlements are met, land exchanges may be considered to consolidate land ownership patterns. The number of land use authorizations, particularly Rights-of-Way and permits, is a function of demand for these uses. Additional future development of adjacent Federal, State, and private lands would likely result in additional requests for and approval of land use authorizations for facilities such as roads, utilities, and communication sites.			
Effects to Areas of Critical Environmental Concern			
No ACECs exist in the planning area	No ACECs would be proposed	Two ACECs would be managed to protect relevant and important values (Appendix A). Impacts to these values are discussed under the various resource management programs such as Fish and Wildlife.	One ACEC would be managed to protect relevant and important values (Appendix A). Impacts to these values are discussed under the various resource management programs such as Fish and Wildlife.
Cumulative Effects: Cumulative impacts could have a wide range of effects on the different resources that are intended to benefit from the various ACECs proposed. These impacts largely stem from actions that are not guided by BLM management decisions. Values within certain ACECs could be diminished by cumulative impacts in the unlikely scenario in which numerous development projects occur within or adjacent to them.			
Effects to Social and Economic Conditions			
Income generated by BLM expenditures and permitted activities would have minimal effects on the regional economy.	Natural gas exploration in the Koggiling Block is not expected to take place within the life of the plan; however, should it go	Same as Alternative B.	Same as Alternative B.

Alternative A	Alternative B	Alternative C	Alternative D
	forward, it would be expected to have negligible and temporary effect on the economy. Up to three placer mining operations could be developed in the Goodnews Block. A small number of workers could be employed. Mineral developments could have a negative impact on the existing subsistence economy, the commercial fishing industry, and the sports hunting and fishing guiding industries.		
Cumulative Effects: Under Alternatives B, C, and D, natural gas exploration and locatable mineral exploration and development on BLM-unencumbered lands in the planning area might generate a small amount of income for the region; however, such developments taken cumulatively with other developments on State and Native-owned lands could have a negative impact on the existing subsistence economy, the commercial fishing industry, and the sports hunting and fishing guiding industries.			
Effects to Environmental Justice			
The Altuiiq, Athabascan, and Central Yup'ik Native people predominate in 25 villages in the Bay planning area. Under Alternative A, BLM-administered lands would remain closed to leasable and most locatable mineral exploration and development. Residents' main livelihood is dependent upon a mix of subsistence hunting and fishing, commercial fishing, sports hunting and fishing guiding, and support services for those activities.	Alternative B would allow leasable and locatable mineral exploration and development on BLM lands in areas previously closed to those activities. Year round activities from these sources could increase the amount of area affected, the duration of effects, and spread the effects where development occurs. Disturbances to residents' current economic pursuits from these sources would be greater than in Alternative A.	Alternative B would allow leasable and locatable mineral exploration and development on BLM lands in areas previously closed to those activities. Year round activities from these sources could increase the amount of area affected, the duration of effects, and spread the effects where development occurs. Disturbances to residents' current economic pursuits from these sources would be greater than in Alternative A.	Alternative B would allow leasable and locatable mineral exploration and development on BLM lands in areas previously closed to those activities. Year round activities from these sources could increase the amount of area affected, the duration of effects, and spread the effects where development occurs. Disturbances to residents' current economic pursuits from these sources would be greater than in Alternative A.
Cumulative Effects: Alaska Natives are the predominant residents of southwestern Alaska, the area potentially most affected by activities under Alternatives B, C, and D and other activities associated with cumulative projects in Alaska. Effects on Alaska Natives could occur because of their reliance on subsistence foods, and potential effects could impact subsistence resources and harvest practices. Potential cumulative effects from noise, disturbance, and spills on subsistence resources, harvest practices and socio-cultural patterns would focus on communities throughout the planning area. The commercial fishing industry has long since affected considerable changes in the cultures of southwest Alaska. Expanded oil and gas exploration and development, locatable mineral exploration and development, and development of supporting infrastructure would bring			

Alternative A	Alternative B	Alternative C	Alternative D
about disturbances to subsistence species and harvest patterns cumulatively. Southwestern Alaska still has vast undisturbed areas, but the subsistence hunting environment continues to change in response to increased visitation and development.			
Effects to Subsistence			
Impacts from authorized activities such as exploration or development of locatable minerals, leases, permits, and OHV use may include temporary displacement of wildlife from harvest areas, access constraints, or increased competition for resources. These impacts would be minimal. Conflicts due to increasing recreational use levels would not be addressed. Wildlife used for subsistence purposes may be temporarily stressed or displaced. Direct impacts to subsistence use result from increased competition for resources by sport hunters and guides in heavily-used areas such as the Alagnak-Kvichak-Nushagak river drainages. Subsistence hunters may be reluctant to hunt in areas used for development purposes or for intensive recreational activities, as demonstrated by the historic and current hunting patterns summarized in Chapter 3. Subsistence users tend to shift away from their traditional harvest areas when too much activity from outside sources occurs. There would be no limits on OHV use or weights.	Impacts would be the same as Alternative A, but would have a slightly larger footprint than in Alternative A. The Koggiling Block is projected to be the location of any leasable mineral exploration, and while all BLM unencumbered lands in the planning area would be open to locatable mineral exploration and development, the most likely scenario during the life of the plan would be the development of pre-existing placer claims in the Goodnews Block. There would be no limits on where OHVs could travel, but weight limits would be at 2,000 pounds. BLM-administered lands would be managed as an Extensive Recreation Management Area with few restrictions. Access by subsistence users could be hindered by a pipeline or other infrastructure. Subsistence hunters may be reluctant to hunt in areas used for development purposes or for intensive recreational activities, as demonstrated by the historic and current hunting patterns summarized in Chapter 3. Subsistence users tend to shift away from their traditional harvest areas when too much activity from outside sources occurs.	Impacts would be the same as Alternative A, but would have a slightly larger footprint than in Alternative A. The Koggiling Block is projected to be the location of any leasable mineral exploration, and while all BLM unencumbered lands in the planning area would be open to locatable mineral exploration and development, the most likely scenario during the life of the plan would be the development of pre-existing placer claims in the Goodnews Block. There would be limits on where OHVs could travel, and weight limits would be at 2,000 pounds. BLM-administered lands would be managed as an Extensive Recreation Management Area with few restrictions. Access by subsistence users could be hindered by a pipeline or other infrastructure. The proposed Carter Spit ACEC, Bristol Bay ACEC, and three WSR segments might provide some benefit to subsistence resources. Subsistence hunters may be reluctant to hunt in areas used for development purposes or for intensive recreational activities, as demonstrated by the historic and current hunting patterns summarized in Chapter 3.	Impacts would be the same as Alternative A, but would have a slightly larger footprint than in Alternative A. The Koggiling Block is projected to be the location of any leasable mineral exploration, and while all BLM unencumbered lands in the planning area would be open to locatable mineral exploration and development, the most likely scenario during the life of the plan would be the development of pre-existing placer claims in the Goodnews Block. There would be limits on where OHVs could travel, and weight limits would be at 2,000 pounds. BLM-administered lands would be managed as an Extensive Recreation Management Area with few restrictions. Access by subsistence users could be hindered by a pipeline or other infrastructure. The proposed Carter Spit ACEC might provide some benefit to subsistence resources. Subsistence hunters may be reluctant to hunt in areas used for development purposes or for intensive recreational activities, as demonstrated by the historic and current hunting patterns summarized in Chapter 3. Subsistence users tend to shift away from their traditional harvest

Alternative A	Alternative B	Alternative C	Alternative D
		Subsistence users tend to shift away from their traditional harvest areas when too much activity from outside sources occurs.	areas when too much activity from outside sources occurs.
Cumulative Impacts: Mineral development, privatization of land, and development of regional infrastructure would have cumulative impacts on subsistence. These activities have the potential to negatively affect wildlife resources, and consequently subsistence. Development of regional infrastructure such as roads may improve access for non-local hunters, increasing competition for subsistence resources. Improved access may concentrate hunting efforts, depleting subsistence resources and potentially altering harvest.			