

**Mitigation Measures**  
**North Slope Foothills Areawide**  
**Effective May 26, 2011**

AS 38.05.035(e) and the departmental delegation of authority provide the Director of DO&G (“Director”), with the authority to impose conditions or limitations, in addition to those imposed by statute or regulations, to ensure that a resource disposal is in the state’s best interests. Consequently, to mitigate the potential adverse social and environmental effects of specific lease-related activities, DO&G has developed mitigation measures and will condition plans of operation, exploration, or development and other permits based on these mitigation measures. Mitigation measures are not intended to duplicate or replace an agency’s regulatory authority.

Lessees must obtain approval of a detailed plan of operations from the Director before conducting exploration, development, or production activities. A plan of operations must identify the sites for planned activities and the specific measures, design criteria, construction methods, and operational standards to be employed to comply with the restrictions listed below. It must also address any potential geophysical hazards that may exist at the site.

These measures were developed after considering terms imposed in earlier competitive lease sales and comments and information submitted by the public, local governments, environmental organizations, and other federal, state, and local agencies. Additional measures will likely be imposed when lessees submit a proposed plan of operations.

Lessees must comply with all applicable local, state, and federal codes, statutes, and regulations, as amended, as well as all current or future ADNRC area plans and recreation rivers plans; and ADF&G game refuge plans, critical habitat area plans, and sanctuary area plans within which a lease area is located. Lease activities must be consistent with the enforceable policies of the Alaska Coastal Management Program (ACMP), including statewide standards and the enforceable policies of an affected coastal district with a plan in effect.

The Director may grant exceptions to these mitigation measures. Exceptions will only be granted upon a showing by the lessee that compliance with the mitigation measure is not practicable and that the lessee will undertake an alternative to satisfy the intent of the mitigation measure. Requests and justifications for exceptions must be included in the plan of operations. The decision whether to grant an exception will be made during the public review of the plan of operations.

Except as indicated, the mitigation measures do not apply to geophysical exploration on state lands; geophysical exploration activities are governed by 11 AAC 96.

Abbreviations used are:

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**Agencies**

ADF&G	Alaska Department of Fish and Game
ADEC	Alaska Department of Environmental Conservation

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ADNR	Alaska Department of Natural Resources
DMLW	Division of Mining, Land, and Water (ADNR)
DO&G	Division of Oil and Gas (ADNR)
DPOR	Division of Parks and Recreation
NMFS	National Marine Fisheries Service
NSB	North Slope Borough
USFWS	U.S. Fish and Wildlife Service

**Measurements**

ft	feet
mi	miles
in	inches
mm	millimeters
gal	gallons

**A. Mitigation Measures**

**1. Facilities and Operations**

- a. A plan of operations must be submitted and approved before conducting exploration, development, or production activities, and must describe the lessee’s plans to avoid or minimize impacts on residential, commercial, and recreational areas, Native allotments and subsistence use areas. At the time of application, lessee must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.
- b. Facilities must be designed and operated to avoid or minimize sight and sound impacts in areas of high residential, commercial, recreational, and subsistence use and important wildlife habitat. Methods may include providing natural buffers and screening to conceal facilities, sound insulation of facilities, or by using alternative means approved by the Director, in consultation with ADF&G and the NSB.
- c. The siting of facilities, other than docks, roads, utility, and pipeline crossings will be prohibited within 500 ft of all fish bearing streams and water bodies and 1,500 ft from all current surface drinking water sources; additionally, the siting of facilities will be prohibited within one-half mile of the banks of the main channel of the Colville, Canning, Sagavanirktok, Shavirovik, Kadleroshilik, and Kuparuk rivers. Facilities may be sited within any of these buffers if the lessee demonstrates to the satisfaction of the Director, in consultation with ADF&G, that a site location

inside the buffer is environmentally preferred. Road, utility, and pipeline crossings must be consolidated and aligned perpendicular or near perpendicular to watercourses.

- d. Impacts to identified wetlands must be minimized to the satisfaction of the Director, in consultation with ADF&G and ADEC. The Director will consider whether facilities are sited in the least sensitive areas. Further, certain activities within wetlands require permission from the U.S. Army Corps of Engineers (see Lessee Advisories below).
- e. Exploration facilities must be temporary and must be constructed of ice, unless the Director approves a proposed alternative. Use of gravel structures may be permitted on a case-by-case basis by the Director, after consultation with DMLW, and ADF&G. Approval for use of existing structures will depend on the extent and method of restoration needed to return these structures to a usable condition. Refer to A(5)(a) relating to access for exploration activities requirements.
- f. Pipelines must utilize existing transportation corridors where conditions permit. Pipelines and gravel pads must be designed to facilitate the containment and cleanup of spilled fluids. Onshore pipelines must be located on the upslope side of roadways and construction pads unless an alternative site is environmentally acceptable, as determined by the Director, in consultation with DMLW. Wherever possible, onshore pipelines must be buried where soil and geophysical conditions permit. All pipelines, including flow and gathering lines, must be designed, constructed and, maintained to maximize integrity against climatic conditions, geophysical hazards, corrosion and other hazards as determined on a case-by-case basis.
- g. Pipelines shall be designed and constructed to minimize alteration of caribou and other large ungulate movement and migration patterns. At a minimum, above-ground pipelines shall be elevated 7 ft, as measured from the ground to the bottom of the pipe, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage. Lessees shall consider increased snow depth in the sale area in relation to pipe elevation to ensure adequate clearance for wildlife. ADNR may, after consultation with ADF&G, require additional measures to mitigate impacts to wildlife movement and migration.
- h. Dismantlement, Removal and Rehabilitation (DR&R): Upon abandonment of material sites, drilling sites, roads, buildings, or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the Director, unless the Director, in consultation with DMLW, ADF&G, ADEC, NSB, and any non-state surface owner, determines that such removal and rehabilitation is not in the state's interest.
- i. Gravel mining sites required for exploration and development activities will be restricted to the minimum necessary to develop the field efficiently and with minimal environmental damage. Where practicable, gravel sites must be designed and constructed to function as water reservoirs for future use, unless the Director approves a proposed alternative. Gravel mine sites required for exploration activities must not be located within an active floodplain of a watercourse unless DMLW, after consultation with ADF&G, approves a proposed alternative, or that a floodplain site would enhance fish and wildlife habitat after mining operations are completed and the site is closed.

Mine site development and rehabilitation within floodplains must follow the procedures outlined in McLean, R. F. 1993, North Slope Gravel Pit Performance Guidelines, ADF&G Habitat and Restoration Division Technical Report 93-9, available from ADF&G.

## 2. Habitat, Fish and Wildlife

- a. Detonation of explosives will be prohibited in open water areas of fish bearing streams and lakes. Explosives must not be detonated beneath, or in proximity to fish bearing streams and lakes if the detonation of the explosive produces a pressure rise in the water body of greater than 2.7 pounds per square inch, or unless the water body, including its substrate, is solidly frozen. Detonation of explosives within or in close proximity to a fish spawning bed during the early stages of egg incubation must not produce a peak particle velocity greater than 0.5 in per second. Blasting criteria have been developed by ADF&G and are available upon request from ADF&G. The location of known fish bearing waters within the project area can also be obtained from ADF&G.  
  
The lessee will consult with the NSB before proposing the use of explosives for seismic surveys. The Director may approve the use of explosives for seismic surveys after consultation with the NSB.
- b. Removal of water from fish bearing rivers, streams, and natural lakes shall be subject to prior written approval by DMLW and ADF&G. Water intake pipes used to remove water from fish bearing water bodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement. Screen mesh size shall be no greater than 1 mm (0.04 in), unless another size has been approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 ft per second, unless an alternative velocity has been approved by ADF&G.
- c. Removal of snow from fish bearing rivers, streams, and natural lakes shall be subject to prior written approval by ADF&G. Compaction of snow cover overlying fish bearing water bodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice or snow bridges may be required.
- d. No facilities will be sited within one-half mile of identified Dolly Varden and Arctic char overwintering and/or spawning areas on the Canning, Kavik, Shaviovik, Echooka, Ivishak, Saviukviayak, Anaktuvuk, Kanayut, and Nanushuk Rivers; and on May, Cobblestone, Upper Section, Lower Section, and Accomplishment Creeks without prior authorization. Road and pipeline crossings within these buffers, and for other anadromous streams, require an ADF&G Fish Habitat permit. Current data must indicate that the proposed crossing is not within an overwintering and/or spawning area, or that the crossing will have no significant adverse impact to Dolly Varden or Arctic char overwintering and/or spawning habitat.
- e. Bears:
  - i. Lessees are required to prepare and implement a human-bear interaction plan designed to minimize conflicts between bears and humans. The plan should include measures to:
    - A. minimize attraction of bears to facility sites, including garbage and food waste;
    - B. organize layout of buildings and work areas to minimize interactions between humans and bears such as including the use of electric fencing;
    - C. warn personnel of bears near or on facilities and the proper actions to take;
    - D. if authorized, deter bears from the drill site;

- E. provide contingencies in the event bears do not leave the site;
  - F. provide for proper storage and disposal of materials that may be toxic to bears; and
  - G. document and communicate the sighting of bears onsite or in the immediate area to all shift employees.
- ii. Before commencement of any activities, lessees shall consult with ADF&G to identify the locations of any known brown bear den sites that are occupied in the season of proposed activities. Exploration and development activities started between September 20 and May 15 may not be conducted within one-half mile of known occupied brown bear dens, unless alternative mitigation measures are approved by ADF&G. A lessee who encounters an occupied brown bear den not previously identified by ADF&G must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. Mobile activities shall avoid such discovered occupied dens by one-half mile unless alternative mitigation measures are approved by DO&G with concurrence from ADF&G. Non-mobile facilities will not be required to relocate.
- f. Permanent, staffed facilities must be sited outside identified brant, white-fronted goose, snow goose, tundra swan, king eider, common eider, Steller's eider, spectacled eider, and yellow-billed loon nesting and brood rearing areas, unless the Director approves a proposed alternative.
  - g. Aircraft travel shall remain one-half mile horizontal or 1,000 ft vertical from Dall sheep lambing areas between May 5 and June 20, and mineral licks from May 20 to June 30. Human safety will take precedence over flight restrictions.
  - h. Minor ground activity (e.g., surveying, geological hand sampling) and major activity (e.g., seismic testing, construction) shall remain ¼ mi and 1 mi from Dall sheep lambing areas and mineral licks, respectively, during the same time periods as above.
  - i. Major manned facilities (e.g., processing facilities, camps) shall be sited at least one mile from Dall sheep lambing areas and mineral licks.
  - j. Known Dall sheep lambing areas and mineral licks shall be obtained from ADF&G, Division of Wildlife Conservation, Region 3 (Interior Alaska).

### **3. Subsistence and Sport Harvest Activities**

- a. Exploration, development and production operations shall be conducted in a manner that prevents unreasonable conflicts with subsistence activities. Lease-related use will be restricted when the Director determines it is necessary to prevent conflicts with local subsistence and sport harvest activities.
  - i. Before submitting a plan of operations for onshore activities that have the potential to disrupt subsistence activities, the lessee shall consult with the potentially affected subsistence communities and the NSB (collectively "parties") to discuss the siting, timing, and methods of proposed operations and safeguards or mitigating measures that could be implemented by the operator to prevent unreasonable conflicts. The parties shall also discuss the reasonably foreseeable effect on subsistence activities of any other operations in the area that they know will occur during the lessee's proposed operations. Through this consultation, the lessee shall make reasonable efforts to assure that exploration, development, and production activities are compatible with subsistence hunting and fishing activities and will not result in unreasonable

interference with subsistence harvests. In order to avoid conflicts with subsistence and sport harvest activities, restrictions may include alternative site selection, requiring directional drilling, seasonal drilling restrictions, and other technologies deemed appropriate by DO&G.

- ii. A discussion of resolutions reached or not reached during the consultation process and any plans for continued consultation shall be included in the plan of operations. The lessee shall identify who participated in the consultation and send copies of the plan to participating communities and the NSB when it is submitted to the division.
  - iii. If the parties cannot agree, then any of them may request that the Commissioner of ADNR or his/her designee intercede. The Commissioner may assemble the parties or take other measures to resolve conflicts among the parties.
  - iv. The lessee shall notify the Director of all concerns expressed by subsistence hunters during operations and of steps taken to address such concerns.
- b. Traditional and customary access to subsistence areas shall be maintained unless reasonable alternative access is provided to subsistence users. "Reasonable access" is access using means generally available to subsistence users. Lessees will consult the NSB, nearby communities, and native organizations for assistance in identifying and contacting local subsistence users.
  - c. Exploratory drilling operations may be restricted during the fall caribou migration (August 1 through October 31) in the Chandler, Nanushuk, Itkillik, Kuparuk, and Anaktuvuk River valleys to allow for subsistence hunting.
  - d. Exploration activities may be restricted during fall caribou migration (August 1 through October 31); and the siting of permanent facilities, except for roads or pipelines, will be prohibited in the Chandler, Anaktuvuk, Nanushuk, Itkillik, and Kuparuk River valleys, unless the lessee demonstrates to the satisfaction of the Director, in consultation with the NSB, that the development will not preclude reasonable subsistence user access to caribou.

Lease related use may be restricted when the Director determines it is necessary to prevent conflicts with subsistence and sport harvest activities. DO&G will consult with other agencies, the affected local borough(s) and the public to identify and avoid potential conflicts that are brought to the division's attention both in the planning and operational phases of lease-related activities. In order to avoid conflicts with subsistence, commercial and sport harvest activities, restrictions may include alternative site selection, requiring directional drilling, seasonal drilling restrictions, and other technologies deemed appropriate by the Director.

#### **4. Fuel, Hazardous Substances, and Waste**

- a. Secondary containment shall be provided for the storage of fuel or hazardous substances. Secondary containment means an impermeable diked area or portable impermeable containment structure capable of containing 110% of the volume of the largest independent container. Double walled tanks do not qualify as secondary containment unless an exception is granted for a particular tank.
- b. Containers with a storage capacity larger than 55 gal that contain fuel or hazardous substances shall not be stored within 100 ft of a water body, or within 1,500 ft of a current surface drinking water source.

- c. During equipment storage or maintenance, the site shall be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.
- d. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to 5 gal, must be on hand during any transfer or handling of fuel or hazardous substances. Trained personnel shall attend transfer operations at all times.
- e. Vehicle refueling shall not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.
- f. All independent fuel and hazardous substance containers shall be marked with the contents and the lessee's or contractor's name using paint or a permanent label.
- g. A fresh water aquifer monitoring well, and quarterly water quality monitoring, may be required down gradient of a permanent above-ground liquid hydrocarbon storage facility.
- h. Waste from operations must be reduced, reused, or recycled. Garbage and domestic combustibles must be incinerated or disposed of at an approved site in accordance with 18 AAC 60. (See also Section B(2), below.) Proper disposal of garbage and putrescible waste is essential to minimize attraction of wildlife. The lessee must use the most appropriate and efficient method to achieve this goal.

The primary method of garbage and putrescible waste disposal is prompt, on-site incineration in compliance with state air quality control regulations (18 AAC 50). The secondary method of disposal is on-site frozen storage in animal-proof containers with backhaul to an approved waste disposal facility. The tertiary method of disposal is on-site non-frozen storage in animal proof containers with backhaul to an approved waste disposal facility. Daily backhauling of non-frozen waste must be achieved unless safety considerations prevent it. Alternative methods of waste disposal must be approved by the Director.

- i. New solid waste disposal sites will not be approved or located on state property during the exploration phase. Exceptions may be provided for drilling waste if the facility will comply with the applicable provisions of 18 AAC 60.
- j. Wherever practicable, the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection, as regulated by AOGCC. Other methods of disposal shall be allowed only upon approval by the Director, in consultation with ADEC and ADF&G.

## 5. Access

- a. Except for approved off-road travel, exploration activities must be supported only by ice roads, winter trails, existing road systems or air service. (Refer to A(1)(e) relating to exploration facilities). Wintertime off-road travel across tundra and wetlands may be approved in areas where snow and frost depths are sufficient to protect the ground surface. Summertime off-road travel across tundra and wetlands may be authorized subject to time periods and vehicle types approved by DMLW. Exceptions may be granted by DMLW and the Director if an emergency condition

exists; or if it is determined after consulting with ADF&G that travel can be accomplished without damaging vegetation or the ground surface.

- b. Public access to, or use of, the lease area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related facilities. Areas of restricted access must be identified in the plan of operations. Lease facilities and operations shall not be located so as to block access to or along navigable or public waters as defined in AS 38.05.965.

## **6. Prehistoric, Historic, and Archaeological Sites**

- a. Before the construction or placement of any gravel, or other structure, road, or facility resulting from exploration, development, or production activities, the lessee must conduct an inventory of prehistoric, historic, and archaeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the NSB, nearby communities, Native organizations, and local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity.
- b. The inventory of prehistoric, historic, and archaeological sites must be submitted to the Director and to DPOR Office of History and Archaeology who will coordinate with the NSB for review and comment. If a prehistoric, historic, or archaeological site or area could be adversely affected by a lease activity, the Director, after consultation with DPOR Office of History and Archaeology and the NSB, will direct the lessee as to the course of action to take to avoid or minimize adverse effects.
- c. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during lease operations, the lessee must report the discovery to the Director as soon as possible. The lessee must make reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the Director, after consultation with DPOR Office of History and Archaeology and the NSB, has directed the lessee as to the course of action to take for its preservation.

## **7. Local Hire, Communication, and Training**

- a. Lessees are encouraged to employ local and Alaska residents and contractors, to the extent they are available and qualified, for work performed in the lease area. Lessees shall submit, as part of the plan of operations, a proposal detailing the means by which the lessee will comply with the measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit, hire and train local and Alaska residents and contractors. The lessee is encouraged, in formulating this proposal, to coordinate with employment and training services offered by the State of Alaska and local communities to train and recruit employees from local communities.
- b. A plan of operations application must describe the lessee's past and prospective efforts to communicate information about the project with local communities and interested local community groups.
- c. A plan of operations application must include a training program for all personnel including contractors and subcontractors. The program must be designed to inform each person working on

the project of environmental, social, cultural, health, and safety concerns that relate to that person's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archaeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating. The program must include an explanation of the applicable laws protecting cultural and historic resources. The program shall address the importance of not disturbing archeological, cultural and historic resources and provide guidance on how to avoid disturbance.

## 8. Definitions

***Facilities*** means any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps and buildings.

***Hazardous substance*** means the following: (A) an element or compound that, when it enters into or on the surface or subsurface land or water of the state, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found; or (B) a substance defined as a hazardous substance under 42 USC 9601 - 9675 (Comprehensive Environmental Response, Compensation, and Liability Act of 1980); "hazardous substance" does not include uncontaminated crude oil or uncontaminated refined oil (AS 46.09.900).

***Identified wetlands*** are those areas that have been identified as wetlands by the U. S. Army Corps of Engineers under Section 404 of the Clean Water Act.

***Minimize*** means to reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction.

***Plan of operations*** means a lease plan of operations under 11 AAC 83.158 and a unit plan of operations under 11 AAC 83.346.

***Practicable*** means feasible in light of overall project purposes after considering cost, existing technology, and logistics of compliance with the standard.

***Reasonable access*** means access using means generally available to subsistence users.

***Temporary*** means no more than 12 months.

## B. Other Regulatory Requirements (Lessee Advisories)

Lessees must comply with all applicable local, state, and federal codes, statutes, and regulations in place at the time of a given project or activity. ADNR provides the following Lessee Advisories to alert lessees to additional obligations and restrictions that government entities other than DO&G may impose on the lessee. These advisories are not intended to be exhaustive or as commentary on the jurisdiction of any government entity or propriety of any code, statute, or regulation. It is the lessee's responsibility to obtain all necessary state, federal or local authorizations or permits relating to lease activities.

## **1. Alaska Department of Natural Resources, Division of Coastal and Ocean Management**

- a. Pursuant to AS 46.40, projects are required to comply with all policies and enforceable standards of the Alaska Coastal Management Program, including the approved District Coastal Management Plans.

## **2. Alaska Department of Environmental Conservation**

- a. Pursuant to AS 46.04.030, lessees are required to have an approved oil discharge prevention and contingency plan (C-plan) before commencing operations. The plan must include a response action plan to describe how a spill response would occur, a prevention plan to describe the spill prevention measures taken at the facility, and supplemental information to provide background and verification information.
- b. Pursuant to state regulations administered by ADEC and the Clean Air Act administered by EPA, lessees are required to obtain air quality permits before construction and operation. The permits will include air quality monitoring, modeling, and emission control obligations.
- c. Unless authorized by an ADEC permit, surface discharge of reserve pit fluids and produced waters is prohibited.
- d. Unless authorized by National Pollutant Discharge Elimination System or state permits, disposal of wastewater into freshwater bodies is prohibited.

## **3. Alaska Department of Fish and Game**

- a. Under the provisions of Title 16 of the Alaska Statutes, the measures listed below may be imposed by ADF&G below the ordinary high water mark to protect designated anadromous water bodies and to ensure the free and efficient passage of fish in all fish bearing water bodies. However, exceptions may be authorized with a Fish Habitat permit. Specific information on the location of anadromous water bodies in and near the area may be obtained from ADF&G.
  - i. Alteration of riverbanks may be prohibited.
  - ii. The operation of equipment, excluding boats, in open water areas of rivers and streams may be prohibited. Except for approved stream crossings, equipment must not be operated within willow stands (*Salix* spp.).
  - iii. Bridges or non-bottom founded structures may be required for crossing fish spawning and important rearing habitats.
  - iv. Culverts or other stream crossing structures must be designed, installed, and maintained to provide free and efficient passage of fish.
- b. Removal of water from fish bearing water bodies is subject to the regulations for the Appropriation and Use of Water (11 AAC 93.035-.147) and Fish and Games statutes AS 16.05.841 and AS 16.05.871.

- c. The Director, in consultation with ADF&G, may impose seasonal restrictions on activities located in, or requiring travel through or overflight of, important caribou or other large ungulate calving and wintering areas during the plan of operations approval stage.
- d. The Director, in consultation with ADF&G, may impose seasonal restrictions on activities located in and adjacent to important waterfowl and shorebird habitat during the plan of operations approval stage.
- e. To minimize impacts on Dolly Varden, and Arctic char overwintering areas, permanent, staffed facilities must be sited to the extent practicable outside identified Dolly Varden or Arctic char overwintering areas.
- f. Lessees are encouraged in planning and design activities to consider the recommendations of oilfield design and operations in the final report to the Alaska Caribou Steering Committee: Cronin, M. et al., 1994. "Mitigation of the Effects of Oil Field Development and Transportation Corridors on Caribou." LGL Alaska Research Associates, Inc., July.
- g. Lessees must comply with the provision of Appendix B of the "Yellow-billed Loon Conservation Agreement," dated July 31, 2006, between ADF&G, ADNR, USFWS, Bureau of Land Management, and the National Park Service.

#### **4. Alaska Department of Natural Resources, Office of History and Archaeology**

- a. Pursuant to AS 11.46.482, defacing, disturbing, or desecration of a cemetery or graves is prohibited in the State of Alaska. Removal of remains or artifacts is against statute mandates and may be punishable by law.
- b. The Alaska Heritage Resource Survey (AHRs) data set is comprised of "restricted access documents" and specific site location data should not appear in final reports or be distributed to others.

#### **5. Alaska Department of Natural Resources**

- a. The State of Alaska is in the process of reviewing and evaluating information from the Deepwater Horizon investigations and the Alaska Risk Assessment reports, and is determining which of the information and recommendations are applicable to Alaska, which recommendations to implement, and the next steps for implementing them. As this process develops, new or modified mitigation measures, lessee advisories, or other statutory or regulatory requirements addressing issues such as safety, environmental safeguards, risk management, and reporting standards may be forthcoming.

#### **6. Alaska Department of Labor and Workforce Development**

- a. The lessee shall facilitate Alaska resident hire monitoring by reporting project wages on a quarterly basis for each individual employed by the lessee in the lease area, through electronic unemployment insurance reporting, and by requiring the same of the lessee's contractors and subcontractors.

## 7. U.S. Army Corps of Engineers

- a. A U.S. Army Corps of Engineers permit is required when work is anticipated on, in, or affects navigable waters or involves wetland related dredge or fill activities. A Section 10 permit is required for construction, excavation, or deposition of material in, over, or under navigable waters, or for any work which would affect the course, location, condition, or capacity of navigable waters, or for any work which would affect the course, location, condition, of capacity of navigable waters (33 USC 403). A Section 404 permit (33 USC 404) authorizes the discharge of dredged and fill material into waters and wetlands of the United States. The process is similar for both permits and, at times, both may be required.

## 8. Pipeline and Hazardous Materials Safety Administration

- a. Lessees are advised that any pipeline used for transportation of gas or hazardous liquids may be subject to Federal Pipeline Safety Laws (49 USC 60101 et seq.) and regulations (49 CFR 190-195) under the jurisdiction of the U.S. DOT – Pipeline and Hazardous Materials Safety Administration.

## 9. U.S. Fish and Wildlife Service and National Marine Fisheries Service

- a. Lessees are advised that the Endangered Species Act of 1973 (ESA), as amended (16 USC 1531-1544) protects endangered and threatened species and candidate species for listing that may occur in the lease sale area. Lessees shall comply with the Recommended Protection Measures developed by the USFWS to ensure adequate protection for all endangered, threatened and candidate species. The following endangered or threatened species occur in or adjacent to the lease sale area:

Common Name	ESA Status
Spectacled eider	Threatened
Steller's eider (Alaska breeding population)	Threatened
Polar bear	Threatened

- b. Lessees are advised of the need to comply with the Migratory Bird Treaty Act (MBTA; 16 USC 703) which is administered by the USFWS. Under the MBTA, it is illegal to "take" migratory birds, their eggs, feathers or nests. "Take" is defined (50 CFR 10.12) to include "pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting." The MBTA does not distinguish between "intentional" and "unintentional" take. Migratory birds include songbirds, waterfowl, shorebirds, and raptors. In Alaska, all native birds except grouse and ptarmigan (which are protected by the State of Alaska) are protected under the MBTA.

In order to ensure compliance with the MBTA, it is recommended that lessees survey the project area before construction, vegetation clearing, excavation, discharging fill or other activities which create disturbance, and confirm there are no active migratory bird nests. It is recommended lessees contact the USFWS for assistance and guidance on survey needs, and other compliance issues under the MBTA. While the USFWS can recommend methods (such as surveys and timing windows) to avoid unintentional take, responsibility for compliance with the MBTA rests with lessees.

- c. Lessees are advised that they must comply with the provisions of the Marine Mammal Protection Act of 1972, as amended (16 USC 1361-1407). USFWS shares authority for marine mammals with the NMFS.
- d. Peregrine falcon nesting sites are known to occur in the sale area. Lessees are advised that disturbing a peregrine falcon nest violates federal law. Lessees are required to comply with the federal resource recovery plan for the arctic peregrine falcon.
- e. Lessees are advised that the Magnuson-Stevens Fishery Conservation and Management Act requires identification of Essential Fish Habitat (EFH) for all species managed under a federal Fisheries Management Plan. Subsequent exploration and/or development activities associated with the lease sale may be subject to consultation under EFH. EFH information, consultation, guidance, and species life history information are available from the National Marine Fisheries Service (NMFS).

## 10. North Slope Borough

- a. Lessees are advised that the NSB Assembly has adopted a comprehensive plan and land management regulations under Title 29 of the Alaska Statutes (AS 29.40.020-040). The NSB's Title 19 for zoning, and other borough regulations, require borough approval for all proposed uses, development, and master plans. It is the lessee's responsibility to obtain and comply all authorizations and permits relating to lease activities.
- b. Lessees are advised that restricting access to and use of fish camps and other subsistence use areas defined in the NSB Traditional Land Use Inventory, may violate subsistence harvest protection and land use regulations. Lessees are advised to consult with the NSB Planning Department and local communities during planning of operations.
- c. Lessees are encouraged to include residents of communities in the area of operations into their planning process. Local communities have a unique understanding of their environment and community activities. Involving local community residents in the earliest stages of the planning process for oil and gas activities can be beneficial to the industry and to the community. Community representation on management teams developing plans of operation, oil spill contingency plans, and other permit applications can help communities understand permitting obligations and help industry to understand community values and expectations for oil and gas operations being conducted in and around their area.
- d. In order to protect species that are sensitive to noise or movement, horizontal and vertical buffers will be required, consistent with aircraft, vehicle, and vessel operations regulated by NSB Code §19.70.050(I)(1). Lessees are encouraged to apply the following provisions governing aircraft operations in and near the sale area:
  - i. From June 1 to August 31, aircraft overflights must avoid identified brant, white fronted goose, tundra swan, king eider, common eider, and yellow-billed loon nesting and brood rearing habitat, and from August 15 to September 15, the fall staging areas for geese, tundra swans, and shorebirds, by an altitude of 1,500 ft, or a lateral distance of 1 mi.
  - ii. To the extent practicable, all aircraft should maintain an altitude greater than 1,500 ft or a lateral distance of 1 mi, excluding takeoffs and landings, from caribou and muskoxen concentrations.

A concentration means numbers of animals in excess of the general density of those animals found in the area.

- iii. Human safety will take precedence over flight restrictions.
- e. Lessees are advised that certain areas are especially valuable for: their concentrations of mammals, birds, fish, or other biological resources; cultural resources; and for their importance to subsistence harvest activities. The following areas must be considered when developing plans of operation.
  - i. Dolly Varden or Arctic char overwintering and/or spawning areas on the Canning, Kavik, Shaviovik, Echooka, Ivishak, Saviukviayak, Anaktuvuk, Kanayut, and Nanushuk Rivers; and, on May, Cobblestone, Upper Section, Lower Section, and Accomplishment creeks.
  - ii. The Chandler, Anaktuvuk, Nanushuk, Itkillik, and Kuparuk river drainages, from August 1<sup>st</sup> to October 15, for protection of subsistence caribou harvest opportunities.
- f. No lease facilities or operations may be located so as to block access to, or along, navigable and public waters as defined by AS 38.05.965(13) and (18).
- g. Lessees are advised that the NSB requires that permits be obtained prior to implementation for these activities:
  - 1. construction of facilities;
  - 2. placement of gravel pads;
  - 3. use of explosive devices; and
  - 4. tundra travel
- h. Lessees are advised that prior to any earth-moving activity, ice road, or seismic survey activities the NSB may require a Certificate of Inupiat History, Language and Culture/Traditional Land Use Inventory (IHLC/TLUI) Clearance from the NSB Planning Department. The TLUI are comprised of “restricted access documents” and specific site location data should not appear in final reports or be distributed to others.