

U.S. Department of the Interior
Bureau of Land Management

Coastal Plain Oil and Gas Leasing Program Record of Decision

August 2020

Prepared by:

US Department of the Interior
Bureau of Land Management

In cooperation with:

US Fish and Wildlife Service
US Environmental Protection Agency
State of Alaska
North Slope Borough
Arctic Village Council
Native Village of Kaktovik
Native Village of Venetie Tribal Government
Venetie Village Council

Cover Photo: Northward view in central coastal plain area near the Sadlerochit River showing gently rolling topography typical of the area. Natural oil indications are visible of an oil seep that occurs along the coast (Barter Island). Photo by David Houseknecht (USGS).

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Record of Decision

I hereby adopt Alternative B of the Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement as described further and modified herein, and subject to the lease stipulations, required operating procedures, and lease notices developed by the Bureau of Land Management for that alternative, as reflected in this Record of Decision. My approval of this Decision constitutes the final decision of the Department of the Interior and, in accordance with the regulations at 43 CFR § 4.410(a)(3), is not subject to appeal under Departmental regulations at 43 CFR Part 4.

Approved by:

A handwritten signature in black ink, appearing to read "David Bernhardt", written over a horizontal line.

David L. Bernhardt
Secretary of the Interior

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Record of Decision

SUMMARY

On December 22, 2017, after decades of congressional consideration regarding whether oil and gas development should take place on any area of the 1.56 million-acre Coastal Plain within the 19.3 million-acre Arctic National Wildlife Refuge (ANWR), Congress looked to the oil and gas potential of this area for needed federal revenues and enacted Section 20001 of the Tax Cuts and Jobs Act (Public Law [PL] 115-97). The law was considered pursuant to rules contained in the Congressional Budget Act of 1974 (2 United States Code (U.S.C.) 644) that limited the scope of the text to matters necessary for establishing an oil and gas program that would generate revenue for the treasury.

Section 20001(b)(1) of PL 115-97 lifted a prior prohibition on oil and gas leasing and development in the ANWR that had been established by Section 1003 of the Alaska National Interest Lands Conservation Act (ANILCA), as that prohibition pertained to the Coastal Plain. Section 20001(b)(2)(A) of PL 115-97 went further to *require* the Secretary of the Interior (Secretary), acting through the Bureau of Land Management (BLM)¹, to establish and administer a competitive oil and gas program for the “leasing, development, production, and transportation of oil and gas in and from the Coastal Plain.” The Secretary is required to manage the oil and gas program on the Coastal Plain “in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act of 1976 (42 U.S.C. 6501 et. seq.) (including regulations).”

In addition to directing the establishment of a new competitive oil and gas program in the Coastal Plain, the statute also includes additional mandates to the Secretary, acting through the BLM, to expedite and provide certainty toward establishment and development of the program in order to meet the statute’s revenue-generating purpose. First, Section 20001(c)(1) requires that at least two lease sales be held by December 22, 2024, including the first by December 22, 2021, and that each sale offer for lease at least 400,000 acres of the highest hydrocarbon potential lands within the Coastal Plain. Section 20001(c)(2) requires that the BLM issue any rights-of-way or easements across the Coastal Plain “for the exploration, development, production, or transportation” necessary to carry out the oil and gas program. Finally, Section 20001(c)(3) requires the Secretary, acting through the BLM, to authorize up to 2,000 surface acres of federal land on the Coastal Plain to be covered by production and support facilities during the term of the leases under the oil and gas program.

In summary, exercising its plenary authority over the management of federal lands, Congress’s enactment of Section 20001 of PL 115-97 decided the question of whether activities related to leasing, exploration, development, production and transportation of oil and gas would take place on the Coastal Plain. In doing so, Congress, among other things: (1) directed the Secretary, acting through the BLM, to “establish and administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain”; (2) included a Coastal Plain oil and gas program as a refuge purpose on equal footing with the other refuge purposes; (3) directed the Secretary, acting through the BLM, to manage the program in a manner similar to the administration of lease sales on the National Petroleum Reserve-Alaska

¹This provision grants authority to the Secretary but prevents the Secretary from re-delegating his authority to an agency within Interior other than the Bureau of Land Management. *See Trustees for Alaska v. Watt*, 524 F. Supp. 1303 (D. Alaska 1981) (holding that certain delegations of authority to the US Geological Survey were invalid because Congress had required those functions to be performed by the U.S. Fish and Wildlife Service).

(the NPR-A); (4) directed the Secretary, acting through the BLM, to issue rights-of-way or easements “for the exploration, development, production, or transportation necessary” to carry out the program; and (5) directed the Secretary, acting through the BLM, to authorize up to 2,000 surface acres to be covered by production and support facilities.

This Record of Decision (ROD or Decision) approves a program to carry out this statutory directive. By determining *where and under what terms and conditions* leasing will occur, this Decision takes into account the requirements of PL 115-97 and other applicable law. To inform this Decision, the BLM prepared the Coastal Plain Oil and Gas Leasing Program Environmental Impact Statement (Leasing EIS).

As explained further in the Leasing EIS, there is tremendous uncertainty regarding future potential exploration and development on the Coastal Plain. Any development scenario at this point is highly speculative because: it is unknown whether or where leases will be issued, it is unknown whether or where exploratory drilling may occur under such leases, and it is unknown whether or where commercially developable oil and gas discoveries may be made.

Despite these vast uncertainties, to meet its obligations under the National Environmental Policy Act (NEPA) the BLM endeavored to develop a hypothetical development scenario in a good faith effort to identify plausible indirect effects of leasing that are not known at this time but nonetheless might be theoretically considered "reasonably foreseeable" if leasing was to result in the exploration and development of oil and gas resources (40 Code of Federal Regulations [CFR] Section 1508.8(b)) (see Appendix B to the Leasing EIS). Further, in order to minimize the chance that the resultant impact analysis would understate potential impacts, the hypothetical scenario described in the Leasing EIS represents a successful discovery and optimistic high-production development scenario in a situation of favorable market prices.

Given the uncertainty, and the hypothetical, speculative and aggressive nature of the development scenario analyzed, the potential impacts described in the Leasing EIS are necessarily uncertain and likely overstated. At some future stage in the administration of the oil and gas program where impacts from proposed actions are actually reasonably foreseen, i.e., if and when the BLM is presented with proposals for exploration or development, those decisions by the BLM for specific authorizations will also be subject to project-specific analysis, including compliance with NEPA and other laws.

This Decision adopts Alternative B of the Leasing EIS as to where and under what terms and conditions leasing may occur subject to future specific environmental analysis and permitting decisions, except clarifications have been provided for required operating procedures (ROP) 11 and 17, as well as Lease Notice 2.² The ROD also does not adopt the interpretive assumptions made in the Leasing EIS as to the implementation of Section 20001(c)(3) of PL 115-97. Rather, it provides guidance regarding certain general principles for the future application of that section of the law. As explained in further detail below, this is not a substantial change in the proposed action.

This Decision implements the requirement that the Secretary, acting through the BLM, provide for a competitive oil and gas program for the leasing, production, development, and transportation of oil and gas in and from the Coastal Plain. This Decision takes into account protection of important surface resources and other uses of the Coastal Plain in consideration of the purposes of the ANWR set out in Section 303(2)(B) of ANILCA, as amended by Section 20001(b)(2)(B) of PL 115-97.

² See Section 3.4 and Appendix A of the ROD.

This Decision makes approximately 1,563,500 acres, or the entire program area,³ available for oil and gas leasing, and consequently for potential future exploration, development, and transportation. While providing these opportunities, the program adopted in this ROD also provides protections for surface resources and other uses, including subsistence use, through a comprehensive package of lease stipulations and ROPs, listed in **Appendix A**, that will apply to future oil and gas activities. Together these lease stipulations and ROPs build on, without frustrating, the statutorily-mandated oil and gas program taking into account other refuge purposes, which include conservation of fish and wildlife populations and habitats, fulfillment of international treaty obligations, allowance for continued subsistence use, and protection of water quality and quantity necessary to meet fish and wildlife conservation needs. This Decision also takes into account that any future specific exploration and development proposals will be subject to further environmental analysis and additional, project-specific ROPs as appropriate and necessary.

This Decision establishes a program to achieve the statutory oil and gas program while still providing that approximately 359,400 acres (23 percent of lands available) will be subject to No Surface Occupancy (NSO) stipulations within barrier islands and important aquatic habitats, including rivers and streams, nearshore marine waters, and lagoons, and that approximately 721,200 acres (46 percent of lands available) will be subject to operational timing limitations (TLs) in the primary calving habitat area for the Porcupine caribou herd. Together, these partially overlapping lease stipulations cover more than 60 percent of the program area. Additional lease stipulations and the 44 ROPs that apply to oil and gas activities throughout the program area provide further protections for important resources and uses, as discussed in **Section 3.3**, below.⁴

This Decision was reached after an extensive review and is made after an outreach effort where the BLM and the Department of the Interior heard and benefited from a wide variety of perspectives. The U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), State of Alaska, North Slope Borough (NSB), Native Village of Kaktovik, Native Village of Venetie Tribal Government, Venetie Village Council, and Arctic Village Council participated in the NEPA process as cooperating agencies. These agencies worked with the BLM by providing input as to what should be analyzed in the Leasing EIS, including suggestions for alternatives, lease stipulations, and ROPs, and by reviewing in-house drafts of the Draft and Final Leasing EISs; however, as the lead agency for the Leasing EIS, the BLM is ultimately responsible for the analysis therein, as well as this ROD.

In addition, the BLM met with Canadian government officials in Canada and conducted tribal consultation throughout the NEPA process with tribes in northern Alaska, including the four tribes that served as cooperating agencies and other tribes whose members have the potential to be substantially impacted by implementation of the Coastal Plain oil and gas leasing program. The BLM also held Native consultations with Alaska Native Claims Settlement Act (ANCSA) corporations during development of the EIS. See Appendix C of the Leasing EIS for complete listings of consultations.

The BLM provided for public involvement in the development of the Leasing EIS. Public meetings, both during scoping and on the Draft EIS, were held in Anchorage, Arctic Village, Fairbanks, Kaktovik, Utqiagvik, and Venetie, Alaska, and Washington, DC. A public meeting on the Draft EIS was also held in Fort Yukon,

³ The program area includes all lands within the Coastal Plain for which the federal government owns the mineral interest, with the exception of Air Force-administered lands near Kaktovik and approximately 4,400 acres of federal lands selected for conveyance under the Alaska Native Claims Settlement Act.

⁴ The specific conditions of those stipulations and ROPs are contained in Table 2-3 in Chapter 2 of the Final EIS. As noted therein, PL 115-97 requires that the BLM issue rights-of-way for essential roads and pipeline crossings, and other necessary access, even in areas subject to an NSO stipulation.

Alaska. In addition to receiving public comments at the scoping and Draft EIS public meetings, comments were also taken online, by email, and through the mail. Altogether, during the public scoping period and public review period for the Draft EIS, the BLM received more than 1.8 million comment submissions, containing more than 8,000 unique substantive comments. Additionally, the BLM and Departmental officials met with representatives of a broad range of stakeholders, including local and state governments, tribes, Canadian government, Alaska Native corporations, and industry and environmental organizations.

1. DECISION

An environmental impact statement informs a decision-maker before the decision is made. See 40 CFR 1502.1, 1505.2. To facilitate this outcome, the Council on Environmental Quality's (CEQ) NEPA regulations establish a minimum 30-day period after notice is published that the Final EIS has been filed with EPA before the agency may make a decision on a proposed action. See 40 CFR 1506.10. During this period, the decisionmaker completes its own internal final review, and the public and other agencies may comment on the Final EIS prior to the agency's final action on the proposal. See CEQ's NEPA's Forty Most Asked Questions (Q&A 34b). Consistent with this process, this Decision is rendered after carefully reviewing the Draft EIS and the Final EIS, public comments, and the BLM's response to public comments submitted on the Draft EIS.

The Decision described and adopted in this ROD implements the Congressional directive to the BLM in Section 20001(b)(2)(A) of PL 115-97 to establish and administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain area of the ANWR, as that area is defined by Section 20001(a)(1) of PL 115-97 (see **Map 1-1** in **Appendix B**).

In accordance with the provisions of PL 115-97 and for the reasons stated in more detail below,⁵ this Decision adopts Alternative B in the Leasing EIS as to where and under what terms and conditions leasing may occur subject to future specific environmental analysis and permitting decisions, except clarifications have been provided for ROPs 11 and 17, as well as Lease Notice 2. The ROD also does not adopt the interpretive assumptions made in the Leasing EIS as to the implementation of Section 20001(c)(3) of PL 115-97. The Decision makes the entire "program area" covered by the Congressional directive in PL 115-97, approximately 1,563,500 acres, available for oil and gas leasing, and consequently, for potential oil and gas exploration and development (see **Map 1-2** in **Appendix B**), subject to the lease stipulations and ROPs listed in **Appendix A**.

Map 1-3 in **Appendix B** illustrates the geographic scope of some of these lease stipulations. These stipulations and ROPs are derived from those listed for Alternative B in Table 2-3 of the Leasing EIS. This Decision expressly establishes the program to carry out the statutorily-required lease sales as described in **Section 1.5** below, including the issuance of necessary rights-of-way and easements and the authorization of up to 2,000 surface acres to be covered by production and support facilities as mandated by PL 115-97.

As noted above, the program area includes all lands within the Coastal Plain for which the federal government owns the mineral interest, with the exception of Air Force-administered lands near Kaktovik and approximately 4,400 acres of federal lands selected for conveyance under ANCSA; however, while the BLM may lease the subsurface mineral interest underlying Native allotments, which comprise approximately 900 acres of the program area (0.06 percent), lease stipulations and ROPs will not apply on Native allotments,

⁵ This section describes how the Decision conforms to the applicable provisions of PL 115-97. Additional considerations, including compliance with other applicable laws, are discussed in **Section 3, Management Considerations**.

except for Lease Stipulation 11, which requires written consent from allotment owners for the construction and maintenance of improvements on allotments. Instead, as the surface owners of these privately-owned lands, Native allotment owners have the authority to establish conditions for oil and gas operators' surface use of their allotments.

Future on-the-ground actions requiring BLM approval, including potential exploration, development, production and transportation proposals, will require further NEPA analysis based on site-specific proposals. For example, before drilling on any lease, a leaseholder will be required to submit an application for permit to drill, which will require appropriate NEPA analysis (as well as compliance with other applicable laws) before any drilling may be authorized. Potential applicants will be subject to the terms of the lease; however, the BLM Authorized Officer may require additional project-specific terms and conditions before authorizing any oil and gas activity based on the required project-level environmental, marine mammal, endangered species and subsistence impact analyses.

As described in more detail in **Section 1.5** below, this Decision provides guidance for potential future permitting purposes, regarding Section 20001(c)(3) of PL 115-97. The determination as to whether particular surface acreage must be authorized to be covered by "production and support facilities" is necessarily left to future fact specific determinations. This Decision determines where and under what conditions to apply to the statutorily-required lease sales that will benefit from the statutory mandate for authorizing production and support facilities covering up to the 2,000 acres of federal land. In so doing, this Decision takes a conservative approach to the highly speculative oil and gas program analyzed under the Leasing EIS that could span more than five decades.

1.1 Statutory Background

The ANWR established by ANILCA (PL 96-487) on December 2, 1980, consists of approximately 19.3 million acres in northeast Alaska. Section 303(2) of ANILCA established the ANWR, converting and expanding by approximately 9.2 million acres of public domain lands to the south and west the prior Arctic National Wildlife Range established by the Secretary of the Interior in 1960. Section 702(3) of ANILCA designated approximately 8 million acres of the ANWR as wilderness. Section 1002 of ANILCA excluded the Coastal Plain from wilderness designation, setting aside 1.56 million acres for study of all the resources of what is referred to commonly as the "1002 area" in recognition of the area's potential for oil and gas resources. Section 1003 of ANILCA prohibited oil and gas development throughout the ANWR until authorized by Congress.

Pursuant to Section 1002(a) of ANILCA, the Secretary was required to conduct "... an analysis of the impacts of oil and gas exploration, development, and production, and to authorize exploratory activity within the coastal plain in a manner that avoids significant adverse effects on the fish and wildlife and other resources." Section 1002(c)(D) of ANILCA required the Secretary to analyze the potential impacts of oil and gas exploration, development, and production on such wildlife and habitats, and Section 1002(c)(E) of ANILCA required the Secretary to analyze the potential effects of such activities on the culture and lifestyle (including subsistence) of affected Native and other people.

Section 1002(h) of ANILCA required the Secretary to prepare and submit a report to Congress with recommendations with respect to whether further exploration for, and the development and production of, oil and gas within the coastal plain should be permitted and, if so, what additional legal authority is necessary to ensure that the adverse effects of such activities on fish and wildlife, their habitats, and other resources are avoided or minimized.

On April 21, 1987, the Department of the Interior's *Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment: Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement* was published in accordance with Section 1002(h) of ANILCA. The report analyzed the environmental consequences of five management alternatives, ranging from opening the entire Coastal Plain area to oil and gas leasing, to wilderness designation. Therein, after 5 years of scientific study by the USFWS, U.S. Geological Survey (USGS) and BLM, the Secretary of the Interior selected as the preferred alternative making available for consideration the entire ANWR Coastal Plain for oil and gas leasing.

On December 22, 2017, following more than three decades of Congressional debate and consideration of the Secretary's recommendation to Congress, Congress enacted the Tax Cuts and Jobs Act (PL 115-97). Section 20001(b)(1) of PL 115-97 amends ANILCA to provide that Section 1003, which prohibited oil and gas development in the ANWR unless authorized by Congress, does not apply to the Coastal Plain. Section 20001(b)(2)(A) directs the Secretary, acting through the BLM, to establish and administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain area of the ANWR, as that area is defined by Section 20001(a)(1).

Section 20001(b)(2)(B) amended Section 303(2)(B) of ANILCA to add as a purpose of the ANWR: "to provide for an oil and gas program on the Coastal Plain." Section 20001(b)(3) requires the Secretary, acting through the BLM, to "manage the oil and gas program on the Coastal Plain in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act of 1976 (42 U.S.C. 6501 et seq.) (including regulations)." Section 20001(b)(4) sets a royalty rate of 16.67 percent for leases, and Section 20001(b)(5) requires 50 percent of revenues from lease bonus bids, rentals, and royalties to be paid to the State of Alaska and the other 50 percent to be deposited into the Federal Treasury.

Section 20001(c)(1) of PL 115-97 requires that at least two lease sales be held by December 22, 2024, with the first sale conducted by December 22, 2021, and that each sale offer for lease not fewer than 400,000 acres of the highest hydrocarbon potential lands within the Coastal Plain. Section 20001(c)(2) requires the Secretary, acting through the BLM, to issue any rights-of-way or easements across the Coastal Plain for "exploration, development, production, or transportation necessary to carry out the program." Additionally, Section 20001(c)(3) requires the Secretary, acting through the BLM, to authorize up to 2,000 surface acres of federal land to be covered by production and support facilities.

As set forth more fully below, this Decision takes into account and is fully consistent with all the foregoing provisions of Section 20001 of PL 115-97.

1.2 Section 20001(b)(2)(A) of PL 115-97—Establishment of the Program

As noted above, this Decision establishes a competitive oil and gas program. Section 20001(b)(2)(A) of PL 115-97 requires the Secretary, acting through the BLM, to both establish and to administer "a competitive oil and gas program for leasing, development, production, and transportation of oil and gas in and from the Coastal Plain." This broad directive by Congress plainly gives the Secretary, acting through the BLM, both a directive and the express authority necessary to carry out all elements typically associated with a competitive oil and gas program, including leasing, exploration, development, production, and transportation of oil and gas in and from the Coastal Plain. The lease stipulations and ROPs adopted in this ROD provide terms and conditions applicable to each such aspect of the program, from lease sales through reclamation of resulting oil and gas developments.

1.3 Section 20001(b)(2)(B) of PL 115-97—The Purposes of the ANWR

After the amendment by Section 20001(b)(2)(B) of PL 115-97, Section 303(2)(B) of ANILCA now provides (emphasis added in *italic*):

The purposes for which the Arctic National Wildlife Refuge is established and shall be managed include—

(i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd (including participation in coordinated ecological studies and management of this herd and the Western Arctic caribou herd), polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;

(ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;

(iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;

(iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge; *and*

(v) to provide for an oil and gas program on the Coastal Plain.

Under Section 20001 of PL 115-97, Congress directed the Secretary, acting through the BLM, to implement the Coastal Plain oil and gas program in the ANWR. See Sections 20001(a)(2) and (b)(2)(A). Thus, under Section 20001 of PL 115-97 and, acting through the BLM, the Secretary's administration of the Coastal Plain oil and gas program, the USFWS does not have jurisdiction over matters related to administration of the oil and gas program within the Coastal Plain, but exercises its authorities and responsibilities with regard to all other matters not related to the oil and gas program throughout the entire ANWR, under the National Wildlife Refuge System Administration Act (NWRSA), ANILCA, and various other applicable fish and wildlife and conservation-related statutes.

Jurisdiction for the authorization and administration of uses related to the oil and gas program rests with the Secretary, acting through the BLM. The specific requirements of Section 20001 and its directive to establish an oil and gas program on the Coastal Plain in accordance with the terms set by Congress requires, among other things, that the Secretary, acting through the BLM, hold lease sales and authorize all uses necessary to carry out the Coastal Plain oil and gas program.

By adding an oil and gas program on the 1.56 million-acre Coastal Plain as a purpose of the ANWR, Congress itself balanced the purposes of the 19.3 million-acre refuge, a balance which is now law. Although the ANWR has multiple purposes, Congress has mandated more specific management within particular areas. Just as Congress has mandated that 8 million acres of the ANWR be managed as wilderness, it has mandated that the 1.56 million-acre Coastal Plain be managed for an oil and gas program. Following the statutory directive, should leasing, exploration, development, production, and transportation activities actually take place on the Coastal Plain, those actions would potentially be limited in scope to only approximately 8 percent of the ANWR, with some potential impact on the other four refuge purposes.

Within this statutory framework, this Decision takes into account the other purposes of the ANWR. In developing lease stipulations and ROPs for evaluation in the Leasing EIS, and for purposes of adopting Alternative B's lease stipulations and ROPs in this Decision, the Secretary, acting through the BLM, implements purpose (v) of the ANWR in a way that takes into consideration that Congressional direction in light of the other four purposes of the ANWR.

This Decision provides consideration to the other refuge purposes so that the fifth purpose does not defeat the other four. In this way, the oil and gas program can take into account all of the purposes of the ANWR. For example, Alternative B, as adopted by this ROD, incorporates several lease stipulations and ROPs for the protection of the types of resources and uses that are cited in the statutory purposes of the ANWR. Such lease stipulations and ROPs include for example, but are not limited to: Lease Stipulation 9 and ROP 4, which provide protection for polar bears and their habitat, consistent with purpose (i); Lease Stipulation 7 and ROP 23, which provide protections for Porcupine herd caribou and their habitat, consistent with purpose (ii); Lease Stipulation 4 and ROP 18, which protect subsistence uses, consistent with purpose (iii); and Lease Stipulation 1 and ROP 8, which protect water quality and quantity, consistent with purpose (iv).

1.4 Section 20001(b)(3) of PL 115-97—Management in a Manner Similar to the Administration of Lease Sales in the NPR-A

This Decision follows the statutory direction to “manage the oil and gas program on the Coastal Plain in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act of 1976 (42 U.S.C. 6501 et seq.) (including regulations),” required by Section 20001(b)(3) of PL 115-97, except as otherwise provided. In this regard, where appropriate, and except as otherwise provided in Section 20001, the elements of the Coastal Plain oil and gas leasing program adopted by this Decision follow the NPR-A program statutory and regulatory scheme. For example, both programs determine which areas are available for leasing in future lease sales, and both establish the terms and conditions under which oil and gas activities will be conducted.

In many cases the terms and conditions (i.e., lease stipulations and ROPs) that will apply to oil and gas activities in the Coastal Plain pursuant to this Decision are derived from (with appropriate adjustments relevant to the Coastal Plain) lease stipulations and required best management practices contained in the February 2013 ROD for the current NPR-A Integrated Activity Plan, which governs the NPR-A program. Additionally, future on-the-ground oil and gas activities will be evaluated through additional, project-specific NEPA analysis, as is the case with the NPR-A program.

The words “similar to,” in this context means consistent except where the statutory goals and mandates or differences in circumstances between the NPR-A and the Coastal Plain support a departure. For example, special areas, as that term is used by the BLM in its management of the NPR-A, including in its current NPR-A Integrated Activity Plan, are not established for the Coastal Plain.

In the NPR-A, the BLM is both the oil and gas program manager and the surface manager of the entire Petroleum Reserve. The term special area is used by the BLM to describe areas in the NPR-A that contain significant surface resource values which require specialized management prescriptions in order to adequately protect those values (see 42 U.S.C. 6504(a)).

Given that the USFWS is responsible for management of the ANWR, except for implementation of the oil and gas program, this Decision declines to establish special areas in the Coastal Plain. Nevertheless, the Decision treats much of the Coastal Plain as special, adopting particular, location-specific management

prescriptions in certain areas where appropriate, in a manner similar to the BLM's management of the NPR-A oil and gas program.

In this regard, the Leasing EIS considered, and this Decision adopts, the use of special, particularly stringent lease stipulations described in **Appendix A** that apply in certain large areas containing significant surface values. These include Lease Stipulations 1 and 4, establishing NSO prohibitions on 359,400 acres within barrier islands and important aquatic habitats, including rivers and streams, nearshore marine waters, and lagoons, and Lease Stipulation 7, which applies operational timing limitations on 721,200 acres of the program area within the primary calving habitat area for the Porcupine caribou herd during the calving season, prohibiting construction activities using heavy equipment (except drilling from established pads), and applying ground and air traffic restrictions.

In applying the NPR-A statutory and regulatory framework to the Coastal Plain oil and gas program, the BLM has determined that Section 202 of the Federal Land Policy and Management Act (FLPMA), 43 U.S.C. 1712, which applies to lands managed by the BLM and provides for its development of land use plans, does not apply to the surface management of the ANWR. In particular, the Naval Petroleum Reserves Production Act explicitly exempts the NPR-A program from the land use planning requirements of Section 202 of FLPMA. See 42 U.S.C. 6506a(c). Thus, similar to its management of the NPR-A, the Secretary, acting through the BLM, is not preparing land use plans under FLPMA for the Coastal Plain program. Moreover, as stated above, and except for jurisdiction over the oil and gas program on the Coastal Plain, the USFWS is responsible for management of the entire ANWR, as governed by its Comprehensive Conservation Plan (CCP) and in accordance with the NWRSA and ANILCA.⁶

1.5 Section 20001(c) of PL 115-97

In General

To reduce uncertainty for prospective leaseholders and thereby increase the likelihood of achieving revenue goals for the ANWR oil and gas program, Congress went beyond the authorizations applicable to the NPR-A and required that necessary rights of way, easements and production and support facilities be authorized; thus, in contrast to the legislation and regulations establishing an oil and gas leasing program for the NPR-A, Section 20001(c) provides three striking differences. First, unlike in the NPR-A, where the timing of lease sales is left to the BLM's discretion, Section 20001(c)(1) directs the Secretary, acting through the BLM, to conduct "not fewer than 2 lease sales area-wide" by not later than December 22, 2024, each sale offering not fewer than 400,000 acres in areas with the highest hydrocarbon potential. The question as to whether or not to offer oil and gas leases in the Coastal Plain of the ANWR is not an open one. The BLM will comply with these mandatory provisions for lease sales under this ROD.

Second, Section 20001(c)(2) states that the Secretary, acting through the BLM, "shall issue any rights-of-way or easements across the Coastal Plain for the exploration, development, production, or transportation necessary to carry out this section." The BLM interprets the plain language of this provision as requiring that it authorize any such rights-of-way necessary to carry out the Coastal Plain oil and gas program established by Section 20001 of PL 115-97.

⁶ Subsections (b)(4) and (b)(5) of 16 U.S.C. 3143 provide that the royalty rate for leases will be 16.67 percent and that 50 percent of adjusted bonus, rental and royalty receipts derived from the program shall go to the State of Alaska, respectively. These provisions will be appropriately implemented for leases issued under the program. These provisions are not significantly different from the Naval Petroleum Reserves Production Act of 1976 (42 U.S.C. 6501 et. seq.), which sets a 12.5 percent minimum royalty rate for low potential areas and a 16.67 percent rate in high potential areas. As under subsection (b)(5), 50 percent of NPR-A receipts are paid to the State.

Clearly Congress intended that successful implementation of the mandated oil and gas program should not be frustrated by an unavailability of necessary access. This directive is unlike the NPR-A, where issuance of such rights-of-way are at the BLM's discretion. This directive is not limited to development under a particular *lease*, but rather any right-of-way necessary to carry out the *section*. It would, for example, apply to a request for a road or pipeline right-of-way, even if sought by a non-leaseholder.

Finally, Section 20001(c)(3) provides:

SURFACE DEVELOPMENT—In administering this section, the Secretary shall authorize up to 2,000 surface acres of Federal land on the Coastal Plain to be covered by production and support facilities (including airstrips and any area covered by gravel berms or piers for support of pipelines) during the term of the leases under the oil and gas program under this section.

This provision requires the Secretary, acting through the BLM, to authorize up to 2,000 surface acres of federal land to be covered by production and support facilities during the term of the leases under the oil and gas program. Just as with the rest of Section 20001, Congress's use of the term "shall" constitutes a directive to the Secretary, acting through the BLM, that he or she must: (1) establish and administer a competitive oil and gas program (Section 20001(b)), (2) hold lease sales within certain timeframes (Section 20001(c)(1)), (3) issue certain rights-of-way (Section 20001(c)(2)), and (4) authorize production and support facilities consistent with those leases (Section 20001(c)(3)).

In a letter dated October 21, 2019, after publication of the Final EIS, Region 10 of the EPA commented on several aspects of the document. As relevant here, Region 10 reiterated its comment on the Draft EIS that the BLM should have considered an alternative to reduce the impact area to less than 2,000 acres of production and support facilities.⁷

Such an interpretation is inconsistent with the mandate in Section 20001(c)(3), and, as described in the Final EIS, therefore inconsistent with the purpose and need for action. This mandate, requiring the authorization of up to 2,000 surface acres of federal land to be covered by production and support facilities during the term of the leases, will be carried out through leases that allow for regulation of facilities but may not preclude such infrastructure.

If a lessee discovers oil or gas, it may seek approval to develop the resources by submitting an application for a permit to drill that includes a drilling plan and a surface use plan of operations. In addition to the stipulations and ROPs included in this Decision, the BLM may require additional project-specific measures to further protect surface resources.

Consistent with Congress's objective to achieve revenue from the Coastal Plain oil and gas program, the "shall authorize" language in (c)(3) functions as a directive to the BLM that it must not deny or unreasonably limit development of production and support facilities on the Coastal Plain until 2,000 surface acres are covered by production and support facilities.

⁷ The October 21 letter actually states that the BLM should "reduce the impact area" to less than 2,000 surface acres where practicable. Given the reference to 2,000 acres and EPA's prior comments on the draft, the BLM interprets this comment to suggest that the BLM consider an alternative of less than 2,000 acres of production and support facilities, not "impact area."

While Congress clearly mandated that the Secretary, acting through the BLM, authorize up to 2,000 acres to be covered by production and support facilities, it did not define the terms “covered by” or “production and support facilities.” There are a broad range of actions potentially carried out during the entire life of an oil and gas program which may necessitate authorization of facilities related to exploration, development, transportation, production, and related facilities. In implementing the mandate of Section 20001(c)(3), the Secretary, acting through the BLM, will have to determine whether each type of proposed facility constitutes a “production and support facility,” and if so, whether such proposed facilities would cover federal land on the Coastal Plain.

Future BLM determinations about which facilities benefit from the 2,000-surface acre mandate, and which do not, could potentially influence the total extent of development in the Coastal Plain and, thus, the potential environmental impacts stemming from the leasing program. Recognizing this, the BLM included in its Leasing EIS several preliminary interpretative assumptions that facilitated the creation of a more detailed reasonably foreseeable development (RFD) scenario and thus provided a clearer picture of how much total development is reasonably foreseeable at this preliminary stage. For example, all transportation facilities were included whether or not they supported production, the authorization of gravel mines was considered discretionary in the Draft EIS and mandatory in the Final EIS, and the reclamation of covered land over time was considered to increase the required authorization of surface acres covered by production and support facilities beyond 2,000 acres.

The analytical assumptions contained in Section 1.9.1 of the Leasing EIS generally had the effect of assuring that overall program impacts from the hypothetical RFD scenario would be evaluated in the EIS.

Statutory Interpretation and Guidance for Future Project-Specific Decisions

This Decision does not need to adopt the Leasing EIS’s interpretive assumptions concerning Section 20001(c)(3) for several reasons. First, interpreting the language “covered by production and support facilities” is unnecessary at this preliminary stage of the leasing program, which focuses on broader issues such as which federal lands within the Coastal Plain are suitable for leasing, and under what general terms and conditions. To accomplish a good faith effort to meet its obligation under NEPA, the BLM reached these interpretive assumptions regarding the phrase “production and support facilities,” to apply the mandatory authorization requirement to the hypothetical development scenario. This Decision does not actually authorize any surface acreage to be covered by “production and support facilities,” so whether a particular facility will or will not fall within the 2,000-acre mandate is speculative at this stage and merely illustrative to provide an understanding of the hypothetical impacts.

Second, adopting and applying interpretive assumptions at this initial stage of the program would be premature. It is currently unknown whether any leases will ever be issued, it is unknown if any exploration will take place,⁸ and if so, it is unknown whether eventually any lessees will ever apply to the BLM for authorization of any production and support facilities. It bears repeating that as we make this Decision all aspects of a future oil and gas program are highly speculative and dependent on unpredictable circumstances that will play out over decades. If leases are issued, if exploration takes place, and if lessees apply for BLM authorization of any production and support facilities, the types of facilities and technologies deployed may be very different than what is foreseeable today. It is, at this stage, not possible, reasonable or necessary to

⁸ ROP 17, as amended by this Decision, prohibits construction of gravel roads and pads for exploratory drilling, and geophysical exploration does not result in the construction of production and support facilities.

establish for future administration the interpretive assumptions contained in the Leasing EIS regarding the treatment of each hypothetical facility for purposes of applying the mandate under Section 20001(c)(3).

Third, further review and consideration of the Leasing EIS's interpretive assumptions concerning Section 20001(c)(3) have highlighted several opportunities for improvement. Certain interpretive principles can be gleaned from the plain language of the statute, some of which may differ in some respects from the interpretive assumptions made in the Leasing EIS. Accordingly, this Decision provides the following guidance to help inform future project specific decisions about what does and does not qualify as "covered by production and support facilities":

- First, a proposal to cover surface acreage must be a facility; that is, under that term's ordinary dictionary definition, something that is built, installed, or established to serve a particular purpose.
- Second, under the plain language of the statute, the facility must be a "production and support facility." The term "production" is used elsewhere in Section 20001, but, in contrast to Section 20001(c)(3), in each of those other paragraphs the term is included as part of a longer list of various aspects that will likely occur with a successful oil and gas program. For example, Section 20001(c)(2) requires the issuance of rights-of-way or easements for necessary "exploration, development, production, or transportation," and Section 20001(b)(2)(A), refers to "leasing, development, production, and transportation." Had Congress decided to encompass a broad range of facilities for various aspects of an oil and gas program into 20001(c)(3) it knew how to do so. "Production and support facilities" are not "exploration and support facilities," nor are they "transportation and support facilities," or facilities that support some other aspect of the program that is not "production and support."

This understanding of Section 20001(c)(3) is particularly clear, given Congress's use of the conjunctive "and" rather than the disjunctive "or." Further, Congress's inclusion of the parenthetical reference in Section 20001(c)(3) to "airstrips and any area covered by gravel berms or piers for support of pipelines" supports this understanding of 20001(c)(3). Depending upon particular factual circumstances, such facilities may necessarily constitute "production and support facilities," and they should be included in the 2,000-acre mandate if they are a facility for production or a facility supporting production, but otherwise they would not. With respect to airstrips in particular—which outside of the context of oil and gas development in Alaska could on their face seem to be "transportation" facilities—production of oil and gas in Alaska often requires an airstrip at the actual site of production. In such a case, an airstrip would reasonably be considered a facility in support of production benefitting from the 2,000-acre mandate, but an airstrip that is not incident to the actual site of production, and which generally supports transportation in support of the program, may not.

- Third, the BLM's authorization of a qualifying facility above must be to cover the surface of the federal land supporting that facility. This follows from the plain language of the provision, which provides that the Secretary, acting through the BLM, shall authorize up to 2,000 acres to be covered by the qualifying facilities.
- Fourth, the inclusion of the phrase "during the term of the leases under the oil and gas program under this section" should be reasonably read to mean the 2,000-acre mandate must be authorized throughout the term of all of the leases issued under the program. The interpretive assumption reached in the Leasing EIS that the phrase could reasonably be read to mean at any point in time during the term of all the leases is not supported by the plain meaning of the statutory language.

Although, again, no definitive application of these principles to particular types of development need be reached at this early stage given the uncertainty and hypothetical nature of projected development, the future application of these principles may differ in some respects from some of the assumptions made in the Leasing EIS as to their interpretation. In particular:

- Although the EIS assumed for analytical purposes that reclaimed acreage of federal land formerly containing production and support facilities would free up additional acreage to be subject to the 2,000-acre mandate in Section 20001(c)(3) once they are reclaimed, this would not be the case given the fourth sideboard referenced above.
- Ice roads and pads are not production and support facilities. Although the EIS assumed that such roads would not be such facilities within the meaning of Section 20001(c)(3) because they are temporary, as noted above, they are also reasonably understood to be a transportation or exploration facility, not a “production and support” facility.
- Depending on the precise facts of a future proposal, certain other types of facilities that the BLM assumed were included within the 2,000 acre limit in the EIS, such as gravel roads not required for production,⁹ barge landing and storage, and gravel pits and stockpiles, may or may not be “production and support facilities,” depending on particular circumstances at issue.

That this ROD does not adopt the assumptions made in the Final EIS as to the interpretation of 20001(c)(3) now and instead provides general guidance and principles for the future is not a change in the proposed action. Although the Leasing EIS made certain hypothetical development assumptions for purposes of analysis, the decision made in this ROD, consistent with the description in the EIS of the BLM’s decisions to be made, are where and under what terms and conditions lease sales will occur. See Final EIS, Section 1.3. That decision need not, and does not here, adopt a particular interpretation of 20001(c)(3) or attempt to apply it to hypothetical future development. Providing guidance on how the BLM may interpret 20001(c)(3) in a potential subsequent permitting phase does not constitute a change to the BLM’s present leasing action.

For the purpose of proceeding with the lease sales required to be offered by the statutorily-mandated oil and gas program, the hypothetical RFD reasonably projects that development so that the Leasing EIS can project what the effects might be of potential future development associated with oil and gas leases that will benefit from statutory mandates related to rights of way, easements and surface use for production and support facilities. See *Conner v. Burford*, 848 F.2d 1441, 1449 (9th Cir. 1988); see also *Northern Alaska Environmental Center v. Kempthorne*, 457 F.3d 969 (2006). The resulting analysis informs decision-making to the best of the agency’s current abilities by providing a general but sufficient understanding (i.e., a reasonable “picture”) of the potential types and potential extent of environmental impacts that may occur if leases are developed all the way up to the 2,000-surface acre mandate of 20001(c)(3).

2. ALTERNATIVES

Under the NEPA, an agency is required to take a “hard look” at the environmental effects of an agency action and its reasonable alternatives, including foreseeable direct, indirect, and cumulative impacts. The Leasing EIS presents four alternatives that were analyzed in detail. The alternatives focus on the questions of which areas within the Coastal Plain to make available for oil and gas leasing, and which terms and conditions (i.e., lease stipulations and ROPs) to apply to future oil and gas activities in order to avoid, minimize, and mitigate adverse impacts on Coastal Plain resources and uses, including subsistence use.

⁹ That is, roads connecting production facilities to barge landings or other facilities, as opposed to roads connecting satellite well pads to the central processing facility. See Final EIS Appendix B, Figure B-1.

Under the NEPA, the BLM is generally required to analyze the reasonably foreseeable impacts of its action. Although the uncertain and speculative nature of oil and gas exploration and development can make those projections difficult at the leasing stage of the process, the Ninth Circuit has held that, unless future surface-disturbing activities on those leases can be absolutely precluded, the agency issuing the leases must prepare an EIS before issuing a lease and estimate what the reasonably foreseeable effects of future development of those leases might be. See *Conner v. Burford*, 848 F.2d 1441 (9th Cir. 1988).

Hypothetical future projections of development at the leasing stage are sufficient. See *Northern Alaska Environmental Center v. Kempthorne*, 457 F.3d 969 (9th Cir. 2006). Here, as explained further in the Leasing EIS, the BLM's ability to gauge the impacts of future exploration and development at the leasing stage is necessarily far from clear. Indeed, the issuance of an oil and gas lease does not have any direct effects on the environment since it does not authorize drilling or any other ground disturbing activities; however, a lease does grant the lessee certain rights to drill for and extract oil and gas subject to reasonable regulation, including applicable laws, terms, conditions, and stipulations of the lease.

Although the BLM cannot ascertain the precise extent of the effects of granting those rights until it receives and reviews potential future site-specific proposals for exploration and development, in order to meet the intent of NEPA, the BLM developed a hypothetical development scenario consistent with those leases, in a good faith effort to identify indirect effects that are not known at this time but nonetheless could be considered reasonably foreseeable (40 CFR 1508.8(b)) (see Appendix B of the Leasing EIS). Again, there is tremendous uncertainty regarding potential exploration and development on the Coastal Plain, due in part to the remoteness and lack of previous exploration and development as well as its harsh environment and potentially challenging engineering considerations, along with the extended time it has taken to go from leasing to development in other regions of the North Slope of Alaska including in the NPR-A.

As noted above and described in the Leasing EIS, these uncertainties include the amount and location of technically and economically recoverable oil, the timing of oil field discoveries and associated development, the future prices of oil and gas, and, more to the point, the many exploration companies' individual assessment of future prices and other competitive calculations that play into corporate investment decisions, and the ability of industry to find petroleum and to mobilize the requisite technology to exploit it. Indeed, USGS has repeatedly revised their prior assessments of producible oil and gas for the NPR-A and surrounding areas, as new information has become available and additional analysis has been conducted.

These assessments have proven to fluctuate significantly over time. This is evidenced by the fact that the assessments of technically recoverable reserves for the NPR-A and surrounding areas were projected by USGS to be 10.5 billion barrels of oil and 61 trillion cubic feet of gas in 2002. This was revised in 2010 to be 896 million barrels of oil and 53 trillion cubic feet of gas. In 2017 it was revised again to be 8.7 billion barrels of oil and 25 trillion cubic feet of gas in 2017 (USGS 2002, 2010, and 2017, cited in Appendix B of the Leasing EIS).

Future studies and assessments, whether by the USGS or others, will likely continue to evolve and shift based on advancements in geophysical assessment and drilling technology and as new geophysical data is acquired and made available.

Given the uncertainty, and in order to minimize the chance that the resultant impact analysis will understate potential impacts, the hypothetical scenario described in the Leasing EIS assumes a successful discovery and optimistic high-production development scenario in a situation of favorable market prices; thus, the projected impacts, which are necessarily uncertain, are likely overstated. At the stage at which those impacts would be

more reasonable to foresee—i.e., when the BLM is presented with proposals for exploration or development—those authorizations would be subject to project-specific and site-specific analysis, including compliance with NEPA, the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), ANILCA, and other laws.

The Leasing EIS alternatives include the following:

2.1 Alternative A: No Action Alternative

Under Alternative A, the No Action Alternative, no federal oil and gas in the Coastal Plain would be offered for future lease sales. Alternative A would not comply with the directive in PL 115-97 to establish and administer a competitive oil and gas program for leasing, developing, producing, and transporting oil and gas in and from the Coastal Plain in the ANWR that requires authorizations for necessary rights-of-way, easements and surface acres for production and support facilities. It also would not meet the purpose of the ANWR to provide for an oil and gas program on the Coastal Plain, set out in Section 303(2)(B)(v) of ANILCA. Under this alternative, current management actions would be maintained, and resource trends are expected to continue, as described in the USFWS's ANWR Revised CCP.

Alternative A would not meet the purpose and need of the action, which is the BLM's implementation of a Coastal Plain oil and gas program as required by PL 115-97, including the requirement to hold lease sales and to permit oil and gas activities; however, Alternative A was carried forward for analysis to provide a baseline for comparing impacts under the action alternatives, as required by 40 CFR 1502.14(d).

2.2 Alternative B: Preferred Alternative

Alternative B is the Preferred Alternative in the Leasing EIS and is the basis for this ROD. Alternative B offers the opportunity to lease the entire "program area" (1,563,500 acres) and has the fewest acres with NSO stipulations. In addition to applicable lease stipulations, 44 ROPs would apply to oil and gas activities to avoid, minimize, and mitigate potential adverse impacts on resources and uses. The development scenario for this alternative incorporates the Alternative B lease stipulations and ROPs from Table 2-3 of the Leasing EIS into the hypothetical projections.

2.3 Alternative C

The entire program area (1,563,500 acres) would also be available for lease under Alternative C; however, a majority of the program area would be subject to NSO. The BLM would rely on the same ROPs as under Alternative B to reduce potential adverse impacts on resources and uses from oil and gas activities.

2.4 Alternative D

Under Alternative D, portions of the Coastal Plain would not be available for lease, including the primary calving habitat for the Porcupine caribou herd. In addition, a large portion of the remaining area would be subject to NSO. In some instances, more prescriptive ROPs are included under Alternative D than under Alternatives B and C.

Alternative D contains two sub-alternatives, Alternatives D1 and D2, which use different approaches to avoid, minimize, and mitigate potential impacts on resources and uses through lease stipulations. The amount of land available for leasing under Alternative D1 is 1,037,200 acres and under Alternative D2 800,000 acres. Alternative D2 maximizes high hydrocarbon potential areas available for lease, while making unavailable for leasing additional caribou calving and post-calving habitat (areas along the coast of Camden Bay and east of the mouth of the Niguanak River), and expanding existing NSO buffers, including lands adjacent to springs

and auferis habitats. Alternative D2 reflects the total minimum acreage PL 115-97 requires to be offered in two mandated lease sales.

2.5 Environmentally Preferred Alternative

Alternative D2 is the environmentally preferred alternative. This is primarily because Alternative D2 would make the least amount of land available for leasing (800,000 acres). Fewer acres available for leasing would reduce potential for adverse impacts from oil and gas exploration and development in the Coastal Plain. Further, though most of the lease stipulations and ROPs are the same as Alternative D1 and many of the ROPs are common across the action alternatives, where there are differences Alternative D2 typically has the most protective measures across the program area.

3. MANAGEMENT CONSIDERATIONS

3.1 Key Considerations to the Decision

In reaching this Decision, and with the aid of the Leasing EIS and the input provided by the public and various stakeholders throughout the development of the EIS, the Secretary, acting through the BLM, considered and weighed several important factors. An overriding consideration was the need to implement the Congressional directive in Section 20001 of PL 115-97 to establish and administer a competitive oil and gas leasing program for the Coastal Plain in a manner similar to the NPR-A leasing program. PL 115-97 requires that the program be administered in such a way that would allow the BLM to hold at least two lease sales within seven years, each of not fewer than 400,000 acres of land having the highest potential for oil and gas discovery, and to provide for authorization of up to 2,000 surface acres to be covered by production and support facilities, and granting of all necessary rights-of-way or easements to support the oil and gas program.

This Decision is constructed to provide for the protection of important surface resources and uses thereof, such as caribou (especially the Porcupine herd), polar bears, migratory birds, surface waters, and subsistence uses, among other resources and uses, and to take into account the other, non-oil and gas purposes of the ANWR, which include conservation of fish and wildlife populations and habitats, fulfillment of international treaty obligations, allowance for continued subsistence use, and protection of water quality and quantity necessary to meet fish and wildlife conservation needs.

Subsistence uses of Coastal Plain resources by rural Alaska residents and indigenous communities in Canada was given important consideration, in recognition of the life-sustaining customary and traditional uses of these resources. The Kaktovikmiut (i.e., Iñupiat of Kaktovik) are the primary users of the program area. They have strong cultural and subsistence ties, having occupied the Coastal Plain and relied on its resources for thousands of years, and consider themselves the stewards of the program area.

One particular aspect of this consideration is the cultural importance of the Porcupine caribou herd to Native communities in both Alaska and Canada, which the Gwich'in have stated is "central to their cultural identity," in addition to the importance of the herd to many Iñupiat and Gwich'in for biological sustenance.

A related aspect of this consideration was the recognition that the program will have transboundary impacts on resources such as caribou, polar bears, and migratory birds, particularly affecting Native communities in Canada as well as in Alaska. For all these reasons, protection of subsistence uses of Coastal Plain resources and of the resources themselves, such as caribou, waterfowl and fish, as well as access to the resources and traditional hunting areas, was given due consideration in the development and adoption of lease stipulations and ROPs.

Another important factor in this Decision was to provide additional economic and community development opportunities to local residents and Alaska Native communities within and near the Coastal Plain. In this regard, much of the economic and community development that has occurred in Native communities on the North Slope of Alaska has been a direct result of North Slope oil and gas development, which provides job opportunities and substantial property taxes and other funding for community infrastructure development such as new schools, healthcare centers, roads, and drinking water, wastewater, and other utility systems. Prior to oil and gas development on the North Slope, many Native communities lacked these types of basic community infrastructure, including indoor plumbing in homes.

One particular aspect of this consideration was to ensure that the BLM's program will not impinge on the ability of ANCSA corporations owning lands and mineral interests within the Coastal Plain to develop their resources and thus provide economic and other benefits to the Native shareholders and communities they represent, as intended by ANCSA.

These types of considerations, together with the opportunity to generate substantial revenues for the State of Alaska and the Federal Treasury from the program, including from lease bonus bids, lease rentals, production royalties, and property and income taxes, played an important role in addressing the direction of Congress. This Decision does this by making the entire program area available for leasing, albeit subject to lease stipulations and ROPs that will serve to protect important resources and uses. By making the entire program area available for leasing, potential economic state and local opportunities and federal revenues from the program are maximized.

Additionally, making all of the "program area" available for leasing provides maximum flexibility for future decision-making and innovation for project proposals by potential lessees. This is particularly the case given that until exploration drilling occurs, the BLM cannot reasonably foresee which areas of the Coastal Plain have the highest prospects for oil and gas discoveries. Also, given the limited geophysical information that currently exists for the Coastal Plain, making the entire program area available for leasing ensures that the areas having the highest potential for the discovery of oil and gas can be prioritized for offering in the first two lease sales, as required by Section 20001(c)(1)(B)(i)(II) of PL 115-97.

This Decision recognizes that the ANWR provides large expanses of habitat for numerous species of fish and wildlife, including polar bear, Steller's eider, and spectacled eider, which are listed as threatened under the ESA, as well as support for meeting international treaty obligations associated with animals such as Porcupine caribou, polar bears, and migratory birds. The USFWS was a key partner in the BLM's development of the Leasing EIS and the Coastal Plain oil and gas program directed by Congress and adopted by this Decision. The BLM will continue to coordinate and consult with the USFWS, especially its ANWR management team, as the BLM implements the program, including during review of each application for proposed oil and gas activities in the Coastal Plain.

All of these and other factors were considered against the backdrop of our changing environment, with a recognition that the Arctic environment has been and will continue to be affected by a changing climate, experiencing such impacts as coastal erosion, melting permafrost, and changing sea ice patterns, among many others. There is a thorough discussion of climate change effects in the Leasing EIS in the Climate Change subsections of the Affected Environment as well as under the Direct and Indirect Impacts and Cumulative Impacts for each resource, as applicable. While the Coastal Plain program's contribution to global climate change is speculative, limited, and incremental in nature, this Decision was arrived at in full awareness of the potential environmental impacts associated with the potential development and continued use of fossil fuels.

Despite the vast uncertainty, the impact analysis undertaken for the Coastal Plain oil and gas development program presented in the Leasing EIS is robust and suitably specific for the broad-scale management decisions made in this ROD. This Decision authorizes multiple lease sales, including, at a minimum, the two sales mandated by Section 20001(c) of PL 115-97, as well as potential additional sales.

It is intended that the Leasing EIS and this ROD will provide NEPA compliance for multiple sales. Prior to the second and any subsequent sales, the BLM will evaluate the Leasing EIS to determine whether it remains adequate or requires supplementation based on new circumstances or information, or substantial changes to the leasing program (see 40 CFR 1502.9(c)(1) and 43 CFR 46.120(c)). The timing of the second and subsequent lease sales would depend in part on the response to earlier sales and the results of any exploration that may follow.

The Leasing EIS evaluates which lands to offer for lease and what terms and conditions to apply to oil and gas activities; it does not by itself provide NEPA compliance for any particular on-the-ground exploration or development. Future on-the-ground activities requiring BLM approval, including potential exploration and development proposals, would require further NEPA analysis based on the project-specific and site-specific proposal. In appropriate circumstances, such additional analyses could be tiered from the Leasing EIS, in accordance with 40 CFR 1502.20 and 43 CFR 46.140.

Applicants for oil and gas activities would be subject to the lease stipulations and ROPs adopted by this Decision; however, the BLM Authorized Officer may require additional project-specific and site-specific terms and conditions before authorizing any oil and gas activity based on the project-specific NEPA analysis. Provisions built in at the leasing stage through lease stipulations and ROPs allow for this Decision's selection of an alternative that both protects valuable resources and uses and is consistent with Congress's direction in PL 115-97 to establish and administer a competitive oil and gas program within the authorized area of the Coastal Plain.

In implementing the oil and gas development program required by Section 20001 of PL 115-97, the Secretary, acting through the BLM, will comply with applicable international agreements, federal, state, and local laws, regulations, and executive orders (see Appendix D of the Leasing EIS for a summary). The Secretary, acting through the BLM, will continue to consult with regulatory agencies, tribal governments, and ANCSA corporations, as appropriate, during subsequent NEPA processes before oil and gas activities are authorized, to ensure that all legal requirements are met.

3.2 Amendment of the Comprehensive Conservation Plan

To guide its management of the ANWR and other refuges in Alaska, the USFWS develops and implements CCPs as required by Section 304(g) of ANILCA. The USFWS adopted its most recently revised ANWR CCP in 2015,¹⁰ prior to enactment of PL 115-97. Certain aspects of the current CCP, as it applies to the "program area," are overridden by Congress's enactment of PL 115-97.¹¹ The CCP does not constrain BLM actions taken consistent with its jurisdiction over the statutorily mandated oil and gas program within ANWR. As the USFWS previously explained in the CCP, until Congress took action to allow oil and gas exploration, leasing,

¹⁰ USFWS 2015. Arctic National Wildlife Refuge Revised Comprehensive Conservation Plan. U.S. Fish and Wildlife Service, Final Environmental Impact Statement, Vol. 1. Internet website: <https://www.fws.gov/home/arctic-ccp/>.

¹¹ Both the Constitution's property clause and existing federal law make clear that Congress may direct the conduct of activities on Refuges that supersede the USFWS's administrative decisions. See 16 U.S.C. 668dd(c).

development and production, the Service could not permit it. Nevertheless, if Congress took such action, it would be incorporated into the CCP and implemented (see CCP at p. 1-1).

Now that Congress, through PL 115-97, has amended the purposes of the ANWR to provide for, and required the Secretary, acting through the BLM, to establish and administer, a competitive oil and gas program for leasing, developing, producing, and transporting oil and gas in and from the Coastal Plain, including authorizations for necessary rights-of-way, easements, and surface acres for production and support facilities, and in light of this ROD establishing the structure of such a program, the USFWS will take into account the statutory requirements and the Secretary's, acting through the BLM, jurisdiction over the "program area" oil and gas activities when it next amends the CCP. Thus, given the requirements of PL-115-97, this Decision does not require that the USFWS first amend its CCP governing the ANWR prior to its adoption.

Moreover, Section 304(g) of ANILCA, which requires the USFWS to develop management plans for Alaska Refuges, does not stipulate when the management plans must be amended. It leaves that matter to the USFWS's discretion, directing that the plans be amended, ". . . from time to time." While the USFWS adopted its original ANWR Management Plan in 1988, the plan was not amended until the adoption of the current plan in 2015. In the 2015 plan, the USFWS acknowledged that, ". . . much has changed since the (1988) Arctic Plan was completed" (see CCP at 1-1), and yet the USFWS had continued to manage the ANWR over the course of 27 years before amending the Plan. Thus, until the USFWS amends the CCP to be consistent with PL 115-97, the Congressional action directing the Secretary, acting through the BLM, to establish and administer an oil and gas development program in the ANWR supersedes any conflicting provisions in the current CCP.

3.3 Mitigation Measures

This Decision includes all practicable and reasonable means to avoid or minimize environmental harm consistent with the purpose and need of the action, including potential adverse direct, indirect, and cumulative impacts, through the lease stipulations, ROPs, and lease notices listed in **Appendix A**, which are designed to provide protection for a wide range of surface resources and non-oil and gas uses throughout the program area, including subsistence use. The lease stipulations, ROPs and lease notices, adopted herein will apply to all oil and gas activities authorized by the BLM in the Coastal Plain, according to the management framework outlined in Section 2.2.5 of the Leasing EIS.

Significant constraints on potential future oil and gas exploration and development activities are presented by lease stipulations adopted in this ROD. These include Lease Stipulations 1 and 4, which together apply NSO designations on approximately 359,400 acres of the program area within barrier islands and important aquatic habitats, including rivers and streams, nearshore marine waters, and lagoons; and Lease Stipulation 7, which applies operational timing limitations on 721,200 acres of the program area within the primary calving habitat area for the Porcupine caribou herd during the calving season, prohibiting construction activities using heavy equipment (except drilling from established pads), and applying ground and air traffic restrictions.

NSO stipulations prohibit the construction of most oil and gas facilities in areas open to leasing, with exceptions for facilities necessary to be located in such areas, such as essential road and pipeline crossings of streams and rivers as required by Section 20001(c)(2) of PL 115-97, and docks and seawater treatment plants located along coastlines (see Lease Stipulations 1 and 4).

Under Lease Stipulation 1, ten identified rivers and creeks will have 0.5 to 1-mile setbacks prohibiting permanent oil and gas facilities in the streambed and within the described setback distance, except for essential pipelines and road crossings. Under Lease Stipulation 4, exploratory well drill pads, production well drill

pads, and central processing facilities are prohibited in the nearshore marine waters, lagoons, and barrier island habitats to protect wildlife and subsistence uses and resources. Making these areas subject to an NSO stipulation allows for the use of modern technology to access oil and gas in accordance with the Congressional direction in PL 115-97. Other lease stipulations adopted by this ROD include measures to protect sensitive aquatic and coastal areas, polar bear denning habitat, and Native allotments.

In addition to lease stipulations, the 44 ROPs adopted by this ROD will apply to oil and gas activities throughout the Coastal Plain to provide further protections for numerous resources and uses. For example, ROP 4 requires operators to develop and implement polar bear interaction plans, ROP 19 requires 500-foot setbacks on all fish-bearing waterbodies (many of which are key drainages used for subsistence activities) within which permanent oil and gas facilities (except essential road and pipeline crossings) are prohibited, ROP 23 requires roads and pipelines to be designed to allow for the free movement of caribou and the safe passage of subsistence users, ROP 27 requires power lines to be buried or hung from pipeline vertical support members to reduce bird collisions, ROP 34 restricts use of aircraft to reduce interference with subsistence activities, and ROP 36 requires operators to coordinate activities directly with local communities to prevent unreasonable conflicts with subsistence uses and other activities.

In addition to ROPs and lease stipulations, this Decision requires baseline studies, oversight monitoring, and effectiveness monitoring for oil and gas related activities.

Baseline studies: Studies or surveys prior to activities to better mitigate impacts associated with the activities.

Project proponents may be responsible for conducting or funding baseline studies, including fish, wildlife, and vegetation surveys where applicable, to provide BLM decision-makers with sufficient information to make informed decisions on a project or series of projects. The type and scale of such studies will be determined by the BLM, based on the characteristics of the proposed project and location. The BLM will work with project proponents to coordinate any necessary surveys to ensure that consistent methods are used and that surveys are not duplicative of existing federal and state data or other publicly available data. Some such studies and surveys are described in Lease Stipulation 3, and ROPs 10, 23, 28, 29, 30, 32, 41, 43, 44 and 45.

Oversight monitoring: Monitoring to ensure compliance with applicable requirements.

The BLM will conduct oversight monitoring to ensure that project proponents' plans for activities and implementation of those plans conform to the relevant requirements. Commonly oversight monitoring will require review of planning documents; field visits prior to activities to ensure compliance with requirements at the on-the-ground preparation stage for construction, operational start-ups, and abandonment activities; presence in the field during activities to ensure compliance; and follow-up field visits to ensure that any required clean-up and abandonment activities were in compliance with requirements.

Effectiveness monitoring: Monitoring to evaluate the effectiveness of project designs and mitigation measures.

Project proponents may be responsible for planning and implementing monitoring to assess the effectiveness of project designs and required mitigations in protecting resources. As with baseline monitoring, the type and scale of such monitoring will be determined by the BLM Authorized Officer based on the characteristics of the proposed project and location. Lease Stipulation 9 is a specific example of a requirement at the leasing stage, for the development and implementation of an impact and conflict avoidance and monitoring plan to assess, minimize, and mitigate the effects of infrastructure and its use on the coastal habitats and their use by wildlife and people.

Studies and monitoring undertaken to provide baseline data or to monitor effectiveness of mitigation measures must meet the approval of the BLM Authorized Officer. As the Authorized Officer determines to be appropriate, the data collection process and product shall be consistent with standards established by the BLM's Assessment, Inventory, and Monitoring program. If studies and monitoring reveal significant changes in circumstances or conditions associated with the implementation of the oil and gas program, the BLM may re-evaluate its management of the program, including consideration of potential new lease stipulations and ROPs that would apply to future lease sales and oil and gas activities.

Taken together, the provisions of the program adopted by this ROD provide protections for areas important to numerous wildlife, bird, fish, and aquatic subsistence species, including primary calving habitat for the Porcupine caribou herd, and nearshore marine, lagoon, and barrier island habitats. Additionally, protections are put in place for coastal and river routes important for water quality, fish, wildlife, raptors, cultural resources, and subsistence uses and activities.

It is important to note that the lease stipulations and ROPs adopted in this ROD are the baseline for protection of the various resources and uses within the Coastal Plain. Subsequent NEPA analysis for on-the-ground oil and gas activities may evaluate additional, project-specific mitigation measures, including site-specific measures, suited and appropriate to the specific proposals, which could be adopted by the BLM and applied as additional required protective measures on a project-specific basis consistent with 40 CFR 1508.20.

3.4 Endangered Species Act Consultation

Section 7(a)(2) of the ESA requires federal agencies to consult with the USFWS and National Marine Fisheries Service (NMFS), as appropriate depending on the species at issue, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under the ESA or destroy or adversely modify their critical habitat. To meet requirements outlined in Section 7(a)(2), the BLM consulted with the USFWS and NMFS on the species listed and described below.

USFWS-“managed species” under the ESA that are within or in close proximity to the program area include three threatened species: polar bear (*Ursus maritimus*), spectacled eider (*Somateria fischeri*), and the Alaska-breeding Steller's eider (*Polysticta stelleri*). In addition, there is USFWS-designated Critical Habitat for the polar bear within the program area.

The USFWS determined the oil and gas leasing program is *not likely to jeopardize the continued existence* of Spectacled eiders, Steller's eiders, or polar bears, and it is *not likely to destroy or adversely modify* polar bear critical habitat.

In addition, the threatened northern sea otter, Southwest Alaska Distinct Population Segment (DPS) (*Enhydra lutris kenyoni*), is present *en route* to the program area along the marine transit route described in the Leasing EIS. There is also USFWS-designated Critical Habitat for the northern sea otter, spectacled eider, and Steller's eider within or next to the marine transit route. USFWS has determined the oil and gas leasing program is *not likely to adversely affect* the southwest Alaska DPS of the northern sea otter, and *not likely to adversely affect* designated sea otter, spectacled eider, or Steller's eider critical habitat.

The USFWS identified four project design criteria (PDC) that would ensure compliance with Section 7(a)(2) of the ESA. They are:

1. Section 7 Consultation on Future Activities—The lease areas may now or hereafter contain plants, animals, or their habitats determined to be threatened or endangered. The BLM would not approve any 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.

*Lease Notice 1 is adopted as part of this Decision, which is the PDC described above (see **Appendix A**). It applies to all future oil and gas activities authorized by the BLM, including lease-based activities and non-lease-based activities.*

2. The lease area and/or potential project areas may now or hereafter contain marine mammals. The BLM may require modifications to exploration and development proposals to ensure compliance with federal laws, including the MMPA. The BLM would not approve any exploration or development activity absent documentation of compliance under the MMPA. Such documentation shall consist of a Letter of Authorization, Incidental Harassment Authorization, and/or written communication from USFWS and/or NMFS confirming that a take authorization is not warranted.

*Lease Notice 2 is adopted as part of this Decision, which is the PDC described above, the last two sentences of which are modified from what was published in the Final Leasing EIS (see **Appendix A**). It applies to all future oil and gas activities authorized by the BLM, including lease-based activities and non-lease-based activities.*

3. The USFWS and the BLM will conduct programmatic reviews by meeting at least annually beginning one year after the first Lease Sale. These reviews will evaluate, among other things, 1) whether activities proposed are consistent with the RFD scenario, as described, for the Proposed Program, 2) whether the nature and scale of predicted effects remain valid, and 3) whether the programmatic consultation, including the PDCs and determinations reached, remain adequate and appropriate. In addition, these meetings will provide a venue where any new information on the status of species, their critical habitat, or new methods to avoid or minimize impacts can be shared.

This requirement is adopted as part of this Decision. Annual meetings will be coordinated between the BLM and USFWS staff.

4. All activities, including plan development, study development, and consideration of exceptions, modifications, or waivers would include coordination with the USFWS as the refuge surface management agency¹² and would comply with the ESA. In addition, the BLM would coordinate with other appropriate federal, state, and NSB agencies, tribes, and ANCSA corporations.

*This requirement is adopted as part of this Decision (see **Appendix A**).*

NMFS “managed species” under the ESA that are within or in close proximity to the program area, include the endangered bowhead whale (*Balaena mysticetus*), and the threatened bearded seal, Beringia DPS (*Erignathus barbatus*) and ringed seal, Arctic subspecies (*Phoca hispida hispida*). Additionally, along the marine transit route in the Bering and Chukchi Seas, seven additional species are protected under the ESA, the threatened humpback whale, Mexico DPS (*Megaptera novaeangliae*), and endangered: Steller sea lion, western DPS (*Eumetopias jubatus*), North Pacific right whale (*Eubalaena japonica*), blue whale

¹² The USFWS manages the refuge except for implementation of the oil and gas program. As described above, implementation of the oil and gas program (including surface authorizations for those purposes) is under the jurisdiction of the BLM. References in this Record of Decision to USFWS as the surface manager of the refuge refer to its role as the manager for purposes other implementation of the oil and gas program.

(*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale, Western North Pacific DPS (*Megaptera novaeangliae*), and the sperm whale (*Physeter catodon*).

NMFS determined that the proposed action is *not likely to jeopardize the continued existence* of Beringia DPS bearded seals, Arctic ringed seals, western DPS Steller sea lions, bowhead whales, blue whales, fin whales, Western North Pacific DPS and Mexico DPS humpback whales, North Pacific right whales, and sperm whales; and it is *not likely to destroy or adversely modify* designated critical habitat for North Pacific right whales and Steller sea lions.

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02). In this regard, both USFWS and NMFS provided two conservation recommendations each as follows:

USFWS

1. Continue to monitor threatened eiders, polar bears, and BLM special status species in the Arctic Refuge. Results will allow the Service and BLM to better evaluate abundance, distribution, and population trends of listed eiders, polar bears, and other special status species. These efforts will enhance the likelihood that future oil and gas development within the Arctic Refuge will not jeopardize listed species, impact the conservation value of critical habitat, or increase the need to list additional species.
2. Work with the Service and other Federal and State agencies in implementing recovery actions identified in the Steller's and spectacled eider recovery plans and the Polar Bear Conservation Management Plan. Research to determine habitat requirements, sensitivity to disturbance and other program-related impacts, and response to current population threats is an important step toward minimizing conflicts with current and future North Slope oil and gas activities.

NMFS

1. The BLM should conduct or fund surveys to determine densities and distribution of ringed and bearded seals on ice and in marine waters offshore of the Coastal Plain.
2. The BLM should conduct or fund surveys to determine densities and distribution of cetaceans in marine waters offshore of the Coastal Plain.

It should be noted that any proposed exploration or development projects will be subjected to further project-specific ESA consultation before permits or approvals for those projects will be granted to ensure that the BLM's decisions continue to be well informed as activities proceed. These subsequent ESA consultations will assess potential impacts from the specific projects on listed species in the project area, based on any new information about the resources and known information about the location and technology of the proposed projects. These subsequent ESA consultations will occur for each stage of oil and gas exploration and development activities proposed to be authorized by the BLM. It is during these subsequent reviews and through consultation with NMFS that the BLM will make a decision based on the proposed activities as to whether a survey to determine densities or distributions of marine mammals as identified above is necessary in order to minimize or avoid adverse effects on the listed species. Further, BLM will continue to work with USFWS, NMFS, and other federal agencies as appropriate to ensure continued compliance with ESA and

MMPA, and to ensure best available information is being gathered and used to inform decision making as it may relate to oil and gas development.

Lease Stipulation 5 further emphasizes the requirement to comply with the ESA and the MMPA to specifically minimize disturbance to denning polar bears and denning habitat areas. Lease Notice 1 notifies the lessee that the BLM would not approve any activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA. Lease Notice 2 notifies lessees that activities that could result in the potential “take” of marine mammals would not be authorized without documentation of compliance with the MMPA by the USFWS and/or NMFS prior to commencement of such activities.

3.5 National Historic Preservation Act

In compliance with Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. 306108, the BLM developed a programmatic agreement concurrent with the NEPA process, in accordance with 36 CFR 800.14(b)(1)(ii), and in consultation with the Advisory Council on Historic Preservation, the State Historic Preservation Officer, and the USFWS, who are signatories to the agreement. In addition, the BLM consulted with federally recognized Indian Tribes, as defined in 36 CFR 800.16(m), including Native villages, and regional and village ANCSA corporations.

The programmatic agreement establishes the process the BLM will follow to fulfill its responsibilities under Section 106 of the NHPA, including consultation with Indian Tribes, while implementing the oil and gas leasing program within the Coastal Plain.

3.6 ANILCA Section 810 Subsistence Evaluation

ANILCA Section 810(a), 16 U.S.C. 3120(a), requires that in determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the federal agency having primary jurisdiction over such lands or his designee must evaluate and include findings on three specific issues:

1. The effect of such use, occupancy, or disposition on subsistence uses and needs;
2. The availability of other lands for the purpose sought to be achieved; and
3. Other alternatives that reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes.

The following discussion summarizes the ANILCA Section 810 Final Evaluation for the Decision in this ROD. The summary is based on the detailed ANILCA Section 810 Final Evaluation contained in Appendix E of the Final Leasing EIS, as it pertains to the alternative selected by this Decision, Alternative B. The BLM's evaluation of the effects of this Decision are based on the impact analysis in the Final Leasing EIS, which, as described in this ROD, is based on the BLM's hypothetical, speculative, and aggressive development scenario.

- *Without the Cumulative Case:* The effects of the alternative adopted in this ROD, Alternative B, will not result in a significant restriction to subsistence uses. A positive determination pursuant to ANILCA Section 810 is not required. Adequate lease stipulations and ROPs have been incorporated into the alternative, including specific procedures for subsistence consultation with directly affected subsistence communities, requirements for extensive studies of caribou movement, and setbacks or other protective measures specific to birds, to ensure that significant restrictions to subsistence uses and needs would not occur. This finding applies to the communities of Arctic Village, Kaktovik, Nuiqsut, and Venetie.

- *With the Cumulative Case:* The cumulative case includes, but is not limited to, a road and pipeline between the Kaktovik area and the Dalton Highway/Trans-Alaska Pipeline, oil and gas development in the Colville-Canning Area, and oil and gas activity in the vicinity of Alpine. The cumulative case, when taken in conjunction with the selected alternative, will not result in a significant restriction to subsistence uses for the communities of Arctic Village, Nuiqsut, and Venetie; however, the effects of the cumulative case exceed the “may significantly restrict” threshold for the community of Kaktovik, and thus a positive ANILCA Section 810 determination was made. Although the effects of the activities proposed under the program adopted in this ROD alone fall below the threshold, adding them to those of the cumulative case results in a level of effects that “may significantly restrict” subsistence uses, with the potential to affect Kaktovik due to the potential decrease in the community’s access to fish, marine mammals, and caribou.

ANILCA Section 810(a) provides that no “withdrawal, reservation, lease, permit, or other use, occupancy or disposition of the public lands which would significantly restrict subsistence uses shall be effected” until the federal agency gives the required notice and holds a hearing in accordance with Section 810(a)(1) and (2), and makes the three determinations required by Section 810(a)(3)(A), (B), and (C). The BLM has found in this subsistence evaluation that all the action alternatives (Alternatives B, C, D1, and D2) considered in the Leasing EIS, when considered together with all the past, present, and reasonably foreseeable future cumulative effects of the hypothetical development scenario discussed in the Leasing EIS, may significantly restrict subsistence uses for the community of Kaktovik; therefore, the BLM undertook the notice and hearing procedures required by ANILCA Section 810(a)(1) and (2), as described above, including a subsistence hearing held in Kaktovik in conjunction with the public meeting on the Draft Leasing EIS, and now must make the three determinations required by Section 810(a)(3)(A), (B), and (C) (16 U.S.C. Section 3120(a)(3)(A), (B), and (C)).

The BLM has determined that the program adopted in this ROD meets the following requirements (16 U.S.C. Section 3120(a)(3)(A), (B), and (C)) for federal actions that may result in a significant restriction on subsistence uses:

1. The significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands.

The BLM undertook the Leasing EIS to fulfill the Secretary of the Interior’s responsibilities under Section 20001 of PL 115-97, including the requirement to establish and administer an oil and gas program for the Coastal Plain, and to hold not fewer than two lease sales in the program area before December 22, 2024, each sale offering not fewer than 400,000 acres in areas with the highest hydrocarbon potential.

Alternative B, selected by this ROD, will provide the opportunity, subject to appropriate conditions developed through the NEPA process, to conduct at least two lease sales in the program area meeting the requirements of Section 20001 of PL 115-97. These conditions include lease stipulations and ROPs, attached as **Appendix A** of this ROD, that incorporate protective measures that would minimize potential impacts on important subsistence resources and subsistence use areas.

The cumulative case, in conjunction with Alternative B, could significantly restrict subsistence uses for the community of Kaktovik. The BLM has determined that such a significant restriction is necessary, consistent with sound management principles for the use of the public lands, and for the BLM to fulfill the Secretary of the Interior’s responsibilities under PL 115-97, described above.

2. The proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition.

The BLM has determined that Alternative B involves the minimal amount of public lands necessary to accomplish the purposes of the oil and gas leasing program required by Section 20001 of PL 115-97. Under all alternatives analyzed in the Leasing EIS, including Alternative B, no more than 2,000 acres of public lands would be covered by production and support facilities during the oil and gas program mandated by the law. In this regard, the alternatives do not vary with respect to the amount of public lands that would be covered by production and support facilities. An alternative that allowed less than 2,000 acres to be covered by production and support facilities would be inconsistent with the mandate contained in PL 115-97. In this regard, Section 20001(c)(3) states “the Secretary *shall* authorize up to 2,000 surface acres to be covered by production and support facilities.”

The BLM cannot administratively modify this explicit statutory directive. Alternative B includes numerous lease stipulations and ROPs that apply across the Coastal Plain for protection of specific habitats and site-specific resources and uses, while allowing reasonable opportunity for necessary infrastructure to support oil and gas exploration and development. Important subsistence habitats along rivers and streams, as well as nearshore marine, lagoon, and barrier island habitats contain no surface occupancy restrictions, to ensure the habitat is protected for the important subsistence uses and resources.

More restrictive alternatives that varied and offered less acreage for leasing were analyzed, and it was determined Alternative B best meets the purpose and need of the oil and gas program required by the law. As discussed in **Section 3.1** of this ROD, having the entire Coastal Plain program area available for leasing provides maximum flexibility for future decision-making and innovation for project proposals by potential lessees. This is particularly the case given that unless and until exploration drilling occurs, the BLM cannot be reasonably certain as to which areas of the Coastal Plain have the highest prospects for oil and gas discoveries. Furthermore, given the limited geophysical information that currently exists for the Coastal Plain, the BLM has determined that making the entire program area available for leasing is the only way to ensure that the areas having the highest potential for the discovery of oil and gas can be offered in the first two leases sales, as required by Section 20001(c)(1)(B)(i)(II) of PL 115-97.

3. Reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

When the BLM began its NEPA scoping process, it internally identified subsistence as one of the major issues to be addressed. The information found within the Leasing EIS’s analysis of impacts on subsistence were used to craft Alternative B. This information included access, harvests, and traditional use patterns, as well as the results of workshops with the cooperating agencies, public scoping meetings in the villages, and meetings with tribal and local governments.

This information resulted in the development of strict mitigation measures similar to those used on BLM-administered lands in the NPR-A. Several protective measures specifically minimize adverse impacts on subsistence uses and resources, such as, but not limited to:

- Lease Stipulation 1 minimizes impacts on subsistence cabins and campsites, as well as the disruption of subsistence activities.
- Lease Stipulation 4 protects fish and wildlife habitat and minimizes impacts on subsistence activities.
- Lease Stipulation 9 protects nearshore marine subsistence resources and activities.

- ROP 18 protects subsistence uses and access to subsistence hunting and fishing areas and minimizes the impact of oil and gas activities on air, land, water, fish, and wildlife resources.
- ROP 20 protects subsistence use and access to subsistence hunting and fishing and anadromous fish.
- ROP 23 minimizes disruption of caribou movement and subsistence use.
- ROP 34 minimizes impacts of aircraft activity on subsistence use.
- ROP 36 and ROP 37 require coordination and consultation with subsistence users.
- ROP 38 minimizes impacts on subsistence resources from non-local hunting, trapping, and fishing.
- ROP 39 minimizes impacts on subsistence access.

Based on these and several other lease stipulations and ROPs (see **Appendix A**) that serve to protect various subsistence resources or their habitat, and subsistence uses generally, including access to subsistence resources, the BLM has determined that the Decision presented in this ROD includes reasonable steps to minimize adverse impacts on subsistence uses and resources resulting from the Coastal Plain program. In addition to the lease stipulations and ROPs, the BLM will consider alternatives to avoid adverse effects and incompatible development to subsistence resources and uses and subsistence access before any on-the-ground activities are approved. This will be done through subsequent NEPA analysis, which will be conducted before any construction or operation permits or approvals are issued. Compliance with ANILCA Section 810(a) will be undertaken at these subsequent stages through project-specific ANILCA Section 810 evaluations.

3.7 Environmental Justice

Executive Order 12898 requires that an agency identify and address “as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Section 3.4.5 of the Leasing EIS identifies direct and indirect impacts that may affect the communities of Arctic Village, Kaktovik, Nuiqsut, and Venetie. The residents of these communities qualify as low-income and minority populations and could potentially be disproportionately impacted by this Decision.

This Decision avoids, minimizes, and mitigates potential adverse impacts on these populations. It accomplishes this primarily through adopting measures that protect subsistence resources, access to those resources, and public health; and by monitoring operators’ activities to ensure compliance with requirements and other monitoring to assess the effectiveness of lease stipulations and ROPs and help adapt management to better meet resource and use objectives.

The following are examples of some of the mitigation measures that accomplish this:

- Lease Stipulation 1 minimizes impacts on subsistence habitat and resources, as well as cultural and paleontological sites, by requiring setbacks for specific rivers and creeks that contain these important resources and sites.
- Lease Stipulation 4 protects fish and wildlife habitat and minimizes impacts on subsistence activities, by limiting development activities in nearshore marine, lagoon, and barrier island habitats, as well as requiring development and implementation of an impact and conflict avoidance and monitoring plan.
- Lease Stipulation 7 minimizes disturbance and hindrance of caribou or alteration of their movements in the areas identified as important for calving.
- ROP 6 contains specific requirements related to avoiding, minimizing, or mitigating impacts on air quality for various phases of development to prevent unnecessary or undue degradation of the air and lands and to protect health.

- ROP 18 requires design of roads, as well as construction, operation, and maintenance to be done in consultation with affected subsistence users, to protect subsistence use and access to subsistence hunting and fishing areas.
- ROP 36 requires the lessee/operator/contractor to coordinate directly with affected communities to provide opportunities for subsistence users to participate in planning and decision-making to prevent unreasonable conflicts between subsistence uses and other activities.
- ROP 38 prohibits lessees/operators/contractors in work status from hunting, trapping and fishing to minimize impacts from non-local hunting, trapping and fishing activities on subsistence resources.

Based on these and other lease stipulations and ROPs that serve to protect various cultural resources, subsistence resources and their habitat, and human health and the environment generally, the BLM has determined that this Decision includes reasonable measures to minimize adverse impacts on these populations. In addition to these and other lease stipulations and ROPs, the BLM will consider alternatives to avoid adverse effects and incompatible development to protect the various cultural resources, subsistence resources and their habitat, and human health and the environment, before any on-the-ground activities are approved. This will be done through subsequent NEPA analysis, which will be conducted before any construction or operation permits or approvals are issued. Compliance with Executive Order 12898 will be undertaken at these subsequent stages through consideration of all practicable alternatives and additional mitigation, as appropriate.

3.8 Floodplain Management and Protection of Wetlands

The following findings are based on a comprehensive impact analysis completed in compliance with Executive Orders 11988 and 11990 in the Leasing EIS (see Sections 3.2.4, 3.2.10, and 3.3.1).

Executive Order 11988—Floodplain Management

Executive Order 11988, concerning the protection of floodplains, requires an agency to provide leadership and to take action to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities. Pursuant to the order, the agency has a responsibility to:

1. Evaluate the potential effects of any actions that may take place in a floodplain;
2. Ensure that its planning programs and budget requests reflect consideration of flood hazards and floodplain management; and
3. Prescribe procedures to implement the policies and requirements of Executive Order 11988.

Additional requirements are as follows:

1. Before taking an action, each agency shall determine whether the proposed action will occur in a floodplain and the evaluation required will be included in any statement prepared under Section 102(2)(C) of the NEPA (42 U.S.C. 4332(2)(C)).
2. If an agency has determined to, or proposes to conduct, support, or allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains. If the head of the agency finds that the only practicable alternative consistent with the law and with the policy presented in this order requires siting in a floodplain, the agency shall, prior to taking action,
 - a. design or modify its action in order to minimize potential harm to or within the floodplain, consistent with regulations and

- b. prepare documentation explaining why the action is proposed to be located in the floodplain.

The following discussion summarizes methods under the alternative adopted by this Decision, Alternative B, to avoid to the extent possible potential impacts on floodplains at the leasing stage, recognizing additional requirements may be required if the NEPA analysis for project-specific activities identifies the need for site-specific mitigation measures.

River floodplains and deltas encompass approximately 24.6 percent of the Coastal Plain program area. Floodplains will be protected to the greatest extent practicable, primarily through lease stipulations and ROPs incorporated into this ROD (see **Appendix A**), including but not limited to:

- Lease Stipulation 1 minimizes the disruption of natural flow patterns and changes to water quality and the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of floodplain and riparian areas, springs, and auffs.
- ROP 3 prohibits refueling equipment within 100 feet of the active floodplain of any waterbody.
- ROP 16 prohibits exploratory drilling in fish-bearing rivers and streams and other fish-bearing waterbodies. On a case-by-case basis, the BLM Authorized Officer may consider exploratory drilling in floodplains of fish-bearing rivers and streams.
- ROP 22 requires single-span bridges if technically feasible, to allow for sheet flow and floodplain dynamics and to ensure passage of fish and other organisms.
- ROP 24 requires gravel mine site design, construction, and reclamation be done in accordance with a plan approved by the BLM Authorized Officer. The plan must take into consideration locations inside or outside the active floodplain, depending on potential site-specific impacts. It must also consider the design and construction of gravel mine sites in active floodplains to serve as water reservoirs for future use.

In addition to these and other lease stipulations and ROPs, the BLM will consider alternatives to avoid adverse effects and incompatible development in the floodplains before any on-the-ground activities are approved. This will be done through subsequent project-specific NEPA analysis, which will be conducted before any construction or operation permits or approvals are issued. Compliance with Executive Order 11988 will be undertaken at these subsequent stages through consideration of all practicable alternatives and additional mitigation in order to ensure that all possible protection is provided for floodplain functions and values.

Executive Order 11990—Protection of Wetlands

Executive Order 11990, concerning the protection of wetlands, requires that the BLM consider factors relevant to the proposal's effect on the survival and quality of wetlands. Factors to be considered include the following:

1. Public health, safety, and welfare; including water supply, quality, recharge and discharge, pollution; flood and storm hazards; and sediment and erosion;
2. Maintenance of natural systems; including conservation and long-term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and,
3. Other uses of wetlands in the public interest, including recreation, scientific, and cultural uses.

Under the order, in furtherance of the NEPA (42 U.S.C. 4331(b)(3)), to improve and coordinate federal plans, functions, programs, and resources so that the nation may attain the widest range of beneficial uses of the environment without degradation and risk to health or safety, the agency, to the extent permitted by law, shall

avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds:

1. There is no practicable alternative to such construction, and
2. The proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors.

The following discussion summarizes the evaluation of impacts and findings to wetlands as presented in the Leasing EIS for Alternative B, as applicable to this Decision. It also identifies protective mitigation measures developed to avoid to the extent possible potential impacts on wetlands.

Most of the landscape in the Coastal Plain program area is considered wetlands, and National Wetlands Inventory data indicate that at least 96 percent of the program area is classified as wetlands or waters of the U.S. The program area is largely undisturbed, and wetland structure and function are intact.

Potential impacts on vegetation and wetlands from seismic exploration include changes in plant community composition and structure, altered hydrology, compacted soil, and by direct damage to aboveground structures, such as tussocks or woody stems and branches. The most susceptible vegetation types to seismic impacts correspond to drier tundra types, typically saturated wetlands or possibly uplands. Potential effects on vegetation and wetlands from seismic operations are avoided, minimized, and mitigated through ROPs 11, 12, and 15 (see **Appendix A**).

Compaction of the soil and surface organic layers is also a potential effect of ice-road construction. ROP 11 requires operational and design criteria for the protection of stream banks and freshwater resources, by minimizing soil compaction and the breakage, abrasion, compaction, or displacement of vegetation.

The primary impact on vegetation and wetland types from development activities is permanent loss of those types due to the placement of fill for the construction of roads, pads, vertical support members for pipeline footings, and gravel excavation. The removal of surface layers for gravel extraction in material sites may also result in loss of vegetation and wetlands that may be recovered through reclamation. The potential loss as a result of these types of activities would be limited to a small fraction of the Coastal Plain.

During construction, vegetation and wetland plant community composition can be altered through the deposition of dust and gravel spray from vehicle traffic, alterations to drainage patterns from drifted snow, impounded drainages, the potential for introduction of invasive or noxious nonnative plants, and the potential for oil, water, and drilling mud spills to the tundra surface.

After construction is complete, gravel from roads, pads, and airstrips would be the main dust source; dust fallout from vehicle traffic could increase turbidity and contaminant loads in ponds, lakes, creeks, streams and rivers, and wetlands that are next to roads and construction areas. Dust particles may reduce plant growth by smothering the vegetation and may reduce wetland function by introducing pollutants. Many of the ROPs provide protections for water resources, and are designed to minimize disruptions to natural flow patterns and impacts on water quality, such as: ROPs 2, 3, 8, 9, 11, 12, 15, 17, and 21. ROP 43 was specifically designed to prevent the introduction or spread of nonnative, invasive species in the Coastal Plain.

Due to continuous permafrost, pipelines on the North Slope of Alaska are typically constructed above ground, which introduces the potential for damage due to oil spills and less severe long-term effects of shading and snow accumulation on vegetation and wetlands below the pipeline. Spill effects would range in severity and

impacts would be evaluated on a case-by-case basis. Lease Stipulations 4 and 9 and ROP 33 require operators to develop adequate spill response plans before construction begins.

Wetter vegetation types tend to provide important wildlife habitat function; thus, the NSO protections preferentially preserve some high functioning wetlands from impacts of road and pad construction in many riparian areas. Furthermore, the NSO areas in the high hydrocarbon potential zone includes 31,800 acres, or 22 percent of Herbaceous (Wet), which is the most common vegetation type within that land use category. The high hydrocarbon potential zone includes a large area in the Staines and Canning River deltas and the wettest terrain in the program area.

Placement and construction of gravel pads, roads, air access facilities, culverts, and bridges could affect natural drainage patterns. This would come about by creating new channels, inundating dry areas, causing ground surface subsidence under some seismic trails, and starving wetlands of water on the downstream side of roads. Also, gravel roads and pads tend to increase the occurrence of thermokarst next to the footprint edge, with ponded areas extending into the adjacent tundra and altering the vegetation and wetland plant community structure. Additionally, water withdrawals to support components of oil and gas activities under Alternative B would affect the water levels of lakes used as water sources and any connected waterbody, such as streams or wetlands.

Wetlands would be protected to the greatest extent practicable, primarily through lease stipulations and ROPs (see **Appendix A**) incorporated into this ROD. In addition to the lease stipulations and ROPs, the BLM will consider alternatives to avoid adverse effects and incompatible development in the wetlands before any on-the-ground activities are approved. This will be done through subsequent project-specific NEPA analysis, which will be conducted before any construction or operation permits or approvals are issued. Compliance with Executive Order 11990 will be undertaken at these subsequent stages through consideration of all practicable alternatives and mitigation measures in order to ensure that harm to wetland functions and values is minimized.

4. PUBLIC INVOLVEMENT

The BLM considered public comments throughout the Leasing EIS process. The following list highlights major steps in the public involvement process (for more information on public involvement, see Appendix C in the Leasing EIS):

- Scoping: Public scoping occurred from April 20 to June 19, 2018. The BLM held 6 public meetings in Alaska and one in Washington, DC, and received more than 760,000 scoping comment submissions, which contained 4,546 substantive comments.
- Public Review of the Draft Leasing EIS: The comment period for the Draft Leasing EIS occurred from December 28, 2018 through March 13, 2019. The BLM held 7 public meetings in Alaska and one in Washington, DC and received more than 1 million comment submissions, of which 3,709 were considered unique submissions.
- Comments received after the Final Leasing EIS was released: In reaching this Decision, the BLM reviewed and considered comments received after distribution of the Final Leasing EIS on September 12, 2019.

In addition to the above, the Leasing EIS benefited from suggestions and review of the analysis in the Leasing EIS by the eight cooperating agencies: Arctic Village Council, EPA, USFWS, Native Village of Kaktovik, Native Village of Venetie Tribal Government, Venetie Village Council, NSB, and the State of Alaska.

Formal (i.e., legally required) consultation occurred during the Leasing EIS process with:

- Tribes, as required by a Presidential Executive Memorandum dated April 29, 1994, and Executive Order 13175 (November 6, 2000), and in accordance with the Department of the Interior Policy on Consultation with Indian Tribes (December 1, 2011);
- ANCSA corporations, as required by Executive Order 13175 (November 6, 2000), as amended, and the Department of the Interior Policy on Consultation with ANCSA Corporations (August 10, 2012);
- The USFWS and NMFS, pursuant to the ESA; and
- Alaska's State Historic Preservation Office, pursuant to the NHPA.

Pursuant to ANILCA Section 810(a)(1) and (2), the BLM also conducted a hearing in the potentially affected community of Kaktovik to gather comments regarding potential impacts on subsistence uses resulting from the alternatives considered in the Draft Leasing EIS.

Additionally, the BLM met with representatives of a broad range of stakeholders, including local and state governments, tribes, Canadian government, ANCSA corporations, and industry and environmental organizations.

4.1 Comments Prior to Final Leasing EIS

While there were comments on a large number of topics and resources pertaining to an oil and gas leasing program in the ANWR, all of which were considered in the development of the Leasing EIS, throughout the NEPA process there were consistent concerns expressed regarding: 1) Timeline (the speed of development of the EIS); 2) data gaps or missing information and; 3) the fiscal purpose of PL 115-97.

- 1) **Timeline:** In accordance with 40 CFR 1501.8, and consistent with CEQ's Forty Most Frequently Asked Questions Concerning CEQ's National Environmental Act Regulations, Question 35; DOI Secretarial Order 3355 sets a goal of 12 months as the time limit for completing an EIS. Though there were dedicated staff working on the Leasing EIS, to include over 70 specialists that contributed in excess of 30,000 hours to its development, it took 21 months from implementation of PL 115-97, and 17 months from issuance of the Notice of Intent to publish the FEIS.
- 2) **Data gaps or missing information:** Prior to issuance of a Notice of Intent for preparation of the Leasing EIS, Rapid Response Resource Assessments were compiled by the USFWS and the BLM in order to inform decision-making related to successful implementation of an oil and gas program in the Coastal Plain, from leasing through production and reclamation. In addition, recommendations were made through the public process on potential data gaps and missing information. To ensure consistency with 40 CFR 1502.22, the BLM reviewed each item of "incomplete or unavailable" information that had been identified, which is included as Appendix Q in the Leasing EIS.
- 3) **Fiscal purpose of PL 115-97:** Comments were received regarding the Congressional Budget Office's 2017 fiscal estimate for the total revenue that would be generated by a leasing program within the Coastal Plain, suggesting the analysis in the EIS is not consistent with that estimate. PL 115-97 does not direct the Secretary, acting through the BLM, to generate specific amounts of revenue from an oil and gas leasing program in the Coastal Plain, and an analysis was included in the EIS of the total revenue that could be generated based on best available information.

4.2 Comments Received After Final Leasing EIS

After the Final Leasing EIS was distributed (September 12, 2019), the BLM received and considered several comments and additional information from the public and various stakeholders. Over 10,000 form letter style

comments were received opposed to an oil and gas program within the ANWR. These comments were generally similar to and consistent with the comments received during the development of the Leasing EIS. Some comment submissions were substantive and provided specific input, including recent studies, regarding the Final Leasing EIS and/or the ROD, which the BLM has included in the administrative record and considered prior to executing this ROD.

The BLM reviewed the submissions to determine if the information presents significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, consistent with 40 CFR 1502.9(c)(1)(ii). The BLM's review is outlined below.

Trustees for Alaska provided four documents with a September 17, 2019, letter:

- U.S. Department of the Interior, Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment, Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement, Plate 1, Plate 2, and Plate 3 (Apr. 1987);
- George M. Durner, David C. Douglas, and Todd C. Atwood, “Are polar bear habitat resource selection functions developed from 1985–1995 data still useful?” *Ecology and Evolution* (May 28, 2019);
- Matthew Strum, Charles Parr, and Chris Larsen, A Report on the Snow Cover of the 1002 Area of the Arctic National Wildlife Refuge, 2014–2019, University of Alaska Fairbanks, Geophysical Institute (Aug. 28, 2019); and
- Viktoriia Radchuk, Adaptive responses of animals to climate change are most likely insufficient, Nature Communications (2019).

Comment Response: The U.S. Department of the Interior, Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment, Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement, was cited and referenced in the Leasing EIS. No further review of this document is necessary. The existing analysis is valid in light of the additional information provided in the other documents referenced above. All of the information contributes to further understanding of the Arctic and specifically the Coastal Plain but does not change the overall analysis.

The Sierra Club's September 18, 2019, letter included a letter from Dr. Steven Amstrup, Chief Scientist for Polar Bears International, dated September 17, 2019.

Comment Response: The Leasing EIS discusses real-world conditions associated with aerial forward-looking infrared radiometry den detection for polar bear and acknowledges its limitations (see Section 3.3.5 of Leasing EIS). The letter does not change the overall analysis in the EIS.

World Wildlife Fund provided two documents with a September 20, 2019, letter:

- Benjamin J. Laurel, et al., Embryonic Crude Oil Exposure Impairs Growth and Lipid Allocation in a Keystone Arctic Forage Fish, 19 *ISCIENCE* 1101 (Sept. 27, 2019); and
- NOAA Fisheries, New Study Shows Arctic Cod Development, Growth, Survival Impacted by Oil Exposure (Sept. 17, 2019).

Comment Response: The existing analysis is valid in light of the additional information provided in the documents referenced above. All of the information contributes to further understanding of the Arctic and specifically the Coastal Plain but does not change the overall analysis.

Audubon Alaska provided four documents with an October 3, 2019, letter via email:

- Kenneth V. Rosenberg, Adriaan M. Dokter, Peter J. Blancher, John R. Sauer, Adam C. Smith, Paul A. Smith, Jessica C. Stanton, Arvind Panjabi, Laura Helft, Michael Parr, Peter P. Marra, “Decline of the North American avifauna,” *Science* (September 19, 2019).
- Moreno Di Marco, Simon Ferrier, Tom D. Harwood, Andrew J. Hoskins, and James E. M. Watson, “Wilderness areas halve the extinction risk of terrestrial biodiversity,” *Nature* (2019).
- Vojtěch Kubelka, Miroslav Šálek, Pavel Tomkovich, Zsolt Végvári, Robert P. Freckleton, Tamás Székely, Response to Comment on “Global pattern of nest predation is disrupted by climate change in shorebirds,” *Science* (June 14, 2019).
- S. G. Hamilton & A. E. Derocher, “Assessment of global polar bear abundance and vulnerability,” *Animal Conservation* (2018).

Comment Response: The existing analysis is valid in light of the additional information provided in the documents referenced above. All of the information contributes to further understanding of the Arctic and specifically the Coastal Plain but does not change the overall analysis.

USFWS sent an email on October 3, 2019, with concern regarding language in the Final Leasing EIS regarding springs and the potential impacts of exploration or development, suggesting that well drilling and fracking would be unlikely to contact groundwater flow to the springs because the flow paths of the springs are above the impenetrable permafrost layer. This statement is in contrast with Kane et al. (2013), who discuss with certainty that the flow paths come from deep below the permafrost layer with unclear pathways to the surface. They further suggest that the warmer the spring, the deeper the flow path.

Comment Response: The text USFWS references in the Final EIS is specific to EPA’s requirement that underground injection control wells be used to dispose of pumpable wastes as incorporated into ROP 2c. The text does not discuss any unknown future oil exploration practices concerning fracking which would be addressed in any future development EISs.

USFWS’s comment that “This statement is in contrast with Kane et al. (2013; attached), who discuss with certainty that the flow paths come from deep below the permafrost layer with unclear pathways to the surface (see page 43 of the attached reference)” is incorrect.

The reference actually states:

- In the Abstract “The transmission zone is beneath the permafrost, with discharge occurring through the springs via taliks through the permafrost (where faults are present) and also likely at the northern edge of the permafrost along the Beaufort Sea coast.”
- In the caption to Figure 2: “. . . that groundwater recharges through permafrost-free areas of limestone on the south side of the Brooks Range and discharges through taliks (probably coinciding with faults), extending through the permafrost north of the Brooks Range. Some discharge is apt to discharge along the northern boundary of the permafrost and the coast.”
- On page 44 of the reference “Hall and Roswell (1981) and others suggest that faults may represent the most likely pathway for groundwater discharge in this permafrost environment.”
- On page 45 of the reference “Also, Beikman and Lathram (1976) and others have mapped the distribution of faults across northern Alaska. They show that there are many more faults in northeastern Alaska than in the northwestern sector; this also matches the distribution of major icing

formations. Finally, Hall and Roswell (1981) have produced a map that shows the collocation of springs and faults in northeastern Alaska.”

Additionally, the USFWS comment, “They further suggest that the warmer the spring, the deeper the flow path,” is an incorrect interpretation of the referenced article. It states, “The two warmest springs are located the farthest away from the recharge area; this fits the concept of geothermal heating of deeper groundwater flow.” Being the farthest away from the recharge area indicates that this groundwater travels the farthest/longest time in the sub-permafrost or warmer/deeper ground conditions, not that the groundwater flow is deeper for these warmer springs.

The comment was thoroughly considered, and based on the above review, the BLM determined the existing analysis is valid as is.

Trustees for Alaska transmitted the USFWS water rights application maps with an October 8, 2019, transmittal letter:

Comment Response: Trustees for Alaska did not reference any specific study or new information, as the USFWS water rights applications were referenced in the analysis of the Leasing EIS. No further review of these documents is necessary.

The EPA submitted a letter via email on October 21, 2019 with several recommendations, though did not provide new information to consider. Some of their comments were previously responded to during review of the Draft EIS or Preliminary Final EIS (see Appendix S of the Leasing EIS); however, the following recommendations were specific to the ROD:

1. The BLM should commit in the ROD to develop a cumulative, quantitative analysis prior to authorizing any future development, and use this analysis to identify whether additional mitigation measures are necessary to protect air quality or air quality related values. In addition, the BLM should commit to begin development of an ambient air quality monitoring program to determine baseline air quality conditions at Kaktovik and at lease block locations on the Coastal Plain where development is most likely to occur.

Comment Response: ROP 6 requires all projects to comply with all applicable National and State Ambient Air Quality Standards and notes it may be required to provide a minimum of 1 year of baseline ambient air monitoring data for pollutants of concern.

2. Define successful reclamation in the ROD and adopt Alternative D’s ROP 35 and modify to specify how the BLM will ensure that reclamation has been successful prior to authorizing additional land disturbance to include specific criteria on how reclamation has been achieved.

Comment Response: Alternative B’s ROP 35 adequately describes requirement (i.e., . . . rehabilitation to the land’s previous hydrological, vegetation, and habitat functions . . .) and allows for the specific details of reclamation to be developed and implemented through a BLM-approved abandonment and reclamation plan, based on the site-specific project requirements.

3. Communicate with potentially affected environmental justice communities regarding the BLM’s final environmental justice determination and mitigation strategies in the selected alternative as well as include ROP 7 under Alternative D, to further minimize impacts.

Comment Response: The BLM has ensured the Final EIS was widely distributed and shared with potentially affected parties and will continue to reach out to potentially affected communities throughout implementation of the oil and gas leasing program. ROP 7 was not retained in Alternative B as this condition has not been practical to implement in the NPR-A nor has it resulted in meaningful mitigation to meet the objective identified in the ROP.

The Government of Canada sent a letter on October 25, 2019, via email, requesting several ROPs be revised to explicitly allow for Canadian management agencies to have access to data collected that is germane to the management of shared wildlife, including Porcupine caribou, polar bears, and migratory birds.

Comment Response: The BLM agrees there is value in continuing to share data with Canadian management agencies, however, because the ROPs are an agreement/requirement between the leaseholder and the BLM, it would not be the appropriate mechanism in which to do so. Formal data sharing should continue between the Department of the Interior and Canadian management agencies through established agreements, and/or the respective agencies should develop new data sharing agreements as appropriate. The letter was forwarded through the Department of the Interior to the State Department for formal response.

The Porcupine Caribou Management Board sent a letter on October 30, 2019, regarding impacts on the Porcupine Caribou herd with three main points, as follows:

1. Lack of quantitative analysis and proof of effectiveness of mitigation

Comment Response: The comment was thoroughly considered, and based on the above review, the BLM determined the existing analysis is valid as is.

2. Lack of consultation with Canadian user groups

Comment Response: The Leasing EIS gives consideration of transboundary impacts throughout the EIS. As stated in Appendix S of the Final EIS, the EIS gives due consideration to the International Porcupine Caribou Agreement, and Department of the Interior conducted consultation with the International Porcupine Caribou Board and with Canadian officials.

3. Emphasis on the need for future data-sharing and international collaborative study of the effectiveness of the mitigation measures

Comment Response: The BLM agrees there is value in continuing to share data with Canadian management agencies. Formal data sharing should continue between the Department of the Interior and Canadian management agencies through established agreements, and/or the respective agencies should develop new data sharing agreements as appropriate.

Natural Resources Defense Council provided two letters on November 8, 2019. One was specific to climate change as described below.

This comment asserts that the BLM must account for changes in foreign energy consumption that could result under the Proposed Action and No Action alternatives, and provides the documents listed below, which purportedly illustrate how the BLM could model such changes. This comment also suggests that the BLM use a social cost of carbon calculation or a comparable technique to quantify the economic impacts associated with those marginal changes in foreign energy consumption, in order to more fully account for the benefits and detriments associated with the Proposed Program.

- Jason Bordoff and Trevor Houser, Center on Global Energy Policy, Navigating the U.S. Oil Export Debate (2015);
- Bureau of Ocean Energy Management, U.S. Department of the Interior, OCS Oil and Natural Gas: Potential Lifecycle Greenhouse Gas Emissions and Social Cost of Carbon (2016);
- Peter Erickson and Michael Lazarus, “Impact of the Keystone XL Pipeline on global oil markets and greenhouse gas emissions,” 4 *Nature Climate Change* 778, 788-81 (2014);
- ICF International, The Impacts of U.S. Crude Oil Exports on Domestic Crude Production, GDP, Employment, Trade, and Consumer Costs (2014); and
- IHS Energy, U.S. Crude Oil Export Decision: Assessing the Impact of the Export Ban and Free Trade on the U.S. Economy (2014).

Comment Response: This comment largely reiterates prior comments concerning potential changes in foreign consumption that were submitted in response to the DEIS (see Comment Letter, Alaska Wilderness League et al., Comments re: Notice of Availability of the Draft Environmental Impact Statement for the Coastal Plain Oil and Gas Leasing Program and Announcement of Public Subsistence Related Hearings, 83 Fed. Reg. 67,337 (Dec. 28, 2018) at 105-11 (Mar. 13, 2019)). The BLM responded to those prior comments in Appendix S to the Final EIS, pages S-591-92, and those responses are again applicable here. This comment also cites several documents not referenced in prior comments on the Draft EIS. These additional documents do not provide a sufficiently reliable method to calculate marginal changes in foreign consumption attributable to the Proposed Action.

The majority of sources referenced in the comment advocate for or simply analyze the hypothetical effects of lifting the U.S. crude oil export ban on the domestic U.S. economy. They do not address emissions. Only two of the papers actually propose analyses quantifying how increases in domestic production or supply will lead to increased global consumption of oil. They then estimate the changes in global greenhouse gas (GHG) emissions likely to result from the oil consumption changes, but none of the studies acknowledge(s) the increased consumption of energy substitutes for oil and attempt(s) to estimate the overall net change in GHG emissions. None provides any useful guidance to the BLM as to how to account for the varied consumption responses across local or national energy markets to an increase in oil production (which lowers prices) and then to increased global GHG emissions. Notably, the comment submits Bureau of Ocean Energy Management’s GHG emission analysis for the 2017-2022 National Program, which supports the BLM’s approach.

Even if the BLM could reliably calculate marginal differences in foreign energy consumption under the Proposed Action and No Action alternatives, it would still lack the information needed to calculate the relevant concern here, which is the associated changes in foreign GHG emissions. Every country in the global energy market meets its energy demand through a different mix of energy sources, and each particular energy source emits different types of GHG emissions at different rates. In order to predict how changes in foreign consumption will translate into changes in foreign GHG emissions, one must understand the particular energy sources that each country would consume more or less of as its energy consumption increases or decreases. If a given country replaces oil with solar, for instance, its emissions would decrease by a certain factor, whereas if that same country replaced oil with coal, its emissions would increase by a certain factor. The BLM simply lacks sufficient information to conduct credible modelling of foreign energy markets and emissions rates, and the comment has not provided any such information.

The rigorous modeling that informed the Final EIS's quantitative analysis of GHG impacts already constitutes a hard look at the Proposed Action's potential contributions to GHG emissions and adequately informs decision-making. The slight reduction in global oil prices that could result from the Proposed Action and action alternatives—which the Final EIS acknowledged and the decision-maker is aware of—cannot reasonably be expected to increase foreign energy consumption and associated GHG emissions to an extent that fundamentally alters the results of the Final EIS's analysis. It follows that additional information about marginal changes in foreign energy consumption and associated GHG emissions is simply not essential to making a reasoned choice amongst Final EIS alternatives. The fact that (1) the BLM is statutorily required to implement an oil and gas leasing program, and (2) estimated GHG emissions are the same under each action alternative also render such information not essential to a choice amongst Final EIS alternatives.

Meanwhile, Appendix F, Section F.2.1 of the Final EIS explains the BLM's rationale for not conducting a cost-benefit analysis, social cost of carbon analyses, or similar analyses recommended by this comment.

The second letter from the Natural Resources Defense Council dated November 8, 2019, was regarding conducting seismic exploration, and included an attached Memorandum from Dr. Cameron Wobus, Lynker Technologies.

The memorandum states:

1. The snow conditions that have been experienced in the past 5 years have not been conducive to the requirements of ROP 11 which says the snow depth must be an average of 9 inches with a minimum of 3 inches over the highest tussock. While average conditions may be met, there are large areas where wind scour could result in no to minimum snow depths.
2. If a seismic survey were to be conducted over the entire 1002 area, there would be areas where damage to the tundra vegetation would occur due to the snow conditions not being met.
3. Tundra vegetation damage will lead to increased permafrost thaw, thermokarst, and drainage changes.

Comment Response: The comment was thoroughly considered, and based on the above review, the BLM has determined the existing analysis is valid as is. ROP 11 is clarified to include language, stating “average snow depth along the line of vehicle travel,” which is consistent with the analysis. See **Appendix A**.

Defenders of Wildlife sent a letter via email on November 19, 2019, regarding the applicability of ANILCA Title XI to oil and gas development in the Coastal Plain.

Comment Response: The Final EIS acknowledges the applicability of Title XI in Appendix D and in the response to comments in Appendix S.

Dr. Martha K. Reynolds, University of Alaska Fairbanks, submitted a copy of an article via email on May 27, 2020: Reynolds, M. K., J. C. Jorgenson, M. T. Jorgenson, M. Kanevskiy, A. K. Liljedahl, M. Nolan, M. Sturm, and D. A. Walker. 2020. *Landscape impacts of 3D-seismic surveys in the Arctic National Wildlife Refuge, Alaska*. *Ecological Applications* 00(00):e02143. 10.1002/eap.2143

Comment Response: The existing analysis is valid in light of the additional information provided in the document referenced above. The information in the article contributes to further understanding of the Arctic and specifically the Coastal Plain but does not change the overall analysis.

The Natural Resource Defense Council sent a letter on May 28, 2020, referencing recent comments provided to the U.S. Fish and Wildlife Service, relating to the impacts on denning polar bears of industrial activity in the Coastal Plain of the Arctic National Wildlife Refuge.

Comment Response: The existing analysis is valid in light of the information provided in the document referenced above. To ensure compliance with the ESA and MMPA, BLM has included Lease Notices 1 and 2.

Appendix A

Lease Stipulations and Required
Operating Procedures

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Appendix A. Lease Stipulations and Required Operating Procedures

A.1 DEFINITIONS

The following definitions apply to the stipulations and required operating procedures listed in this appendix. The Glossary of the Final Environmental Impact Statement (EIS) has additional definitions.

- **Active floodplain:** The flat area along a waterbody where sediments are deposited by seasonal or annual flooding; generally demarcated by a visible high-water mark.
- **Authorized Officer (BLM):** Designated Bureau of Land Management (BLM) personnel responsible for a certain area of a project; for the Leasing EIS, generally this would be the BLM State Director.
- **Buffer area:** A spatial zone created to enhance the protection of a specific conservation area, often peripheral to the area.
- **Class I air quality area:** One of 156 protected areas, such as national parks over 6,000 acres, wilderness areas over 5,000 acres, national memorial parks over 5,000 acres, and international parks that were in existence as of August 1977, where air quality should be given special protection. Federal Class I areas are subject to maximum limits on air quality degradation called air quality increments (often referred to as prevention of significant deterioration increments). All areas of the United States not designated as Class I are Class II areas. The air quality standards in Class I areas are more stringent than national ambient air quality standards.
- **Consultation:** Exchange of information and interactive discussion; when capitalized it refers to consultation mandated by statute or regulation that has prescribed parties, procedures, and timelines, such as Consultation under the National Environmental Policy Act (NEPA) or Section 7 of the Endangered Species Act (ESA).
- **Criteria air pollutants:** The six most common air pollutants in the U.S.: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (both PM₁₀ and PM_{2.5} inhalable and respirable particulates), and sulfur dioxide (SO₂). Congress has focused regulatory attention on these six pollutants because they endanger public health and the environment, are widespread throughout the U.S., and come from a variety of sources. Criteria air pollutants are typically emitted from many sources in industry, mining, transportation, electricity generation, energy production, and agriculture.
- **Development:** The phase of petroleum operations that occurs after exploration has proven successful and before full-scale production. The newly discovered oil or gas field is assessed during an appraisal phase, a plan to fully and efficiently exploit it is created, and additional wells are usually drilled.
- **Exception:** A one-time exemption to a lease stipulation, determined on a case-by-case basis.
- **Greenhouse gas (GHG):** A gas that absorbs and emits thermal radiation in the lowest layers of the atmosphere. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases that are considered air pollutants are carbon dioxide, (CO₂), methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons (CFCs).
- **Hazardous air pollutants (HAPs):** Also known as toxic air pollutants, those that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects. The Environmental Protection Agency (EPA) is required to

control 187 hazardous air pollutants. Examples of HAPs are benzene (found in gasoline), perchloroethylene (emitted from dry cleaning facilities), and methylene chloride (used as a solvent).

- **Major construction activity:** Creation or construction of infrastructure, causing surface disturbance.
- **Modification:** A change to a lease stipulation either temporarily or for the life of the lease.
- **No surface occupancy (NSO):** An area that is open for mineral leasing but does not allow the construction of surface oil and gas facilities in order to protect other resource values. Facilities such as essential roads and pipelines would be allowed in these areas in accordance with Public Law (PL) 115-97. Facilities such as a dock and a seawater treatment/desalinization plant may be allowed in these areas on a case-by-case basis.
- **NO_x:** Mono-nitrogen oxides, including nitric oxide (NO) and NO₂. It is formed when naturally occurring atmospheric nitrogen and oxygen are combusted with fuels in automobiles, power plants, industrial processes, and home and office heating units.
- **Offshore:** (1) In beach terminology, the comparatively flat zone of variable width, extending from the shoreface to the edge of the continental shelf. It is continually submerged. (2) The direction seaward from the shore. (3) The zone beyond the nearshore zone where sediment motion induced by waves alone effectively ceases and where the influence of the seabed on wave action is small in comparison with the effect of wind. (4) The breaker zone directly seaward of the low tide line.
- **Ordinary high-water mark:** The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- **Permanent oil and gas facilities:** Production facilities, pipelines, roads, airstrips, production pads, docks, seawater treatment plants, and other structures associated with oil and gas production that occupy land for more than one winter season. Material sites and seasonal facilities, such as ice roads, are excluded, even when the pads are designed for use in successive winters. Gravel mines are also excluded from this definition.
- **Reclamation:** Reclamation helps to ensure that any effects of oil and gas development on the land and on other resources and uses are not permanent. The ultimate objective of reclamation is ecosystem restoration, including restoration of any natural vegetation, hydrology, and wildlife habitats affected by surface disturbances from construction and operating activities at an oil and gas site. In most cases, this means a condition equal to or closely approximating that which existed before the land was disturbed.
- **Required operating procedures (ROPs):** Procedures carried out during proposal implementation that are based on laws, regulations, executive orders, BLM planning manuals, policies, instruction memoranda, and applicable planning documents.
- **Setback:** A distance by which a structure or other feature is set back from a designated line.
- **SO_x:** Sulfur oxides, including SO₂. A product of vehicle tailpipe emissions.
- **Spill prevention control and countermeasure plan (SPCC):** A plan that the EPA requires to be on file within six months of project inception. It is a contingency plan for avoidance of, containment of, and response to spills or leaks of hazardous materials.
- **Standard:** A model, example, or goal established by authority, custom, or general consent as a rule for the measurement of quantity, weight, extent, value, or quality.

- **Stipulation:** A requirement or condition placed by the BLM on the leaseholder for operations the leaseholder might carry out within that lease. The BLM develops stipulations that apply to all future leases within the Arctic Refuge Coastal Plain.
- **Timing limitation (TL):** This stipulation, a moderate constraint, is applicable to fluid mineral leasing, all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, and construction of wells and pads) and other surface-disturbing activities (i.e., those not related to fluid mineral leasing). Areas identified for TL are closed to fluid mineral exploration and development, surface-disturbing activities, and intensive human activity during identified time frames. This stipulation does not apply to operation and basic maintenance, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive are not allowed. Intensive maintenance, such as workovers on wells, is not permitted. TLs can overlap spatially with no surface occupancy and controlled surface use, as well as with areas that have no other restrictions.
- **Unavailable:** When referring to oil and gas leasing, unavailable lands would not be offered for oil and gas leasing.
- **Volatile organic compounds (VOCs):** A group of chemicals that react in the atmosphere with nitrogen oxides in the presence of sunlight and heat to form ozone. VOCs contribute significantly to photochemical smog production and certain health problems. Examples of VOCs are gasoline fumes and oil-based paints.
- **Waiver:** A permanent exemption to a stipulation or lease.

A.2 APPLICABILITY OF REQUIREMENTS/STANDARDS

A.2.1 Lease Stipulations

Appropriate stipulations will be attached to the lease when the BLM issues it. As part of a lease contract, stipulations are specific to the lease. All oil and gas activity permits issued to a lessee must comply with the lease stipulations appropriate to the activity under review, such as exploratory drilling or production pad construction.

A stipulation included in an oil and gas lease will be subject to a waiver, exception, or modification, as appropriate. The objective of a stipulation must be met before a waiver, exception, or modification would be granted. Waivers, exceptions, and modifications are:

- A waiver—A permanent exemption to a stipulation on a lease;
- An exception—A one-time exemption to a lease stipulation, determined on a case-by-case basis; and
- A modification—A change attached to a lease stipulation, either temporarily or for the life of the lease.

The BLM Authorized Officer may authorize a modification to a lease stipulation only if they determine that the factors leading to the stipulation have changed sufficiently to make the stipulation no longer justified; the proposed operation would still have to meet the objective stated for the stipulation.

While the BLM may grant a waiver, exception, or modification of a stipulation through the permitting process, it may also impose additional requirements through permitting terms and conditions to meet the objectives of any stipulation. This would be the case if the BLM Authorized Officer considers that such requirements are

warranted to protect the land and resources, in accordance with the BLM's responsibility under relevant laws and regulations. Note that PL 115-97 requires that the BLM authorize rights-of-way (ROWs) for essential roads and pipeline crossings and other necessary access, even in areas closed to leasing or with an NSO stipulation.

A.2.2 Required Operating Procedures

The ROPs describe the protective measures that the BLM will impose on applicants during the permitting process. Similar to lease stipulations, the objective of a ROP must be met in order for exceptions, modifications, or waivers to be granted.

Any applicant requesting authorization for an activity from the BLM will have to address the applicable ROPs in one of the following ways:

- Before submitting the application (e.g., performing and documenting subsistence consultation or surveys);
- As part of the application proposal (e.g., including in the proposal statements that the applicant will meet the objective of the ROP and how the applicant intends to achieve that objective); and
- As a term imposed by the BLM in a permit.

At the permitting stage, the BLM Authorized Officer will not include those ROPs that, because of their location or other inapplicability, are not relevant to a specific permit application. Note also that at the permit stage, the BLM Authorized Officer may establish additional requirements as warranted to protect the land, resources, and uses in accordance with the BLM's responsibilities under relevant laws and regulations.

A.3 LEASE STIPULATIONS, REQUIRED OPERATING PROCEDURES AND LEASE NOTICES

While the language below refers only to the BLM or its Authorized Officer, it is understood that all activities, including plan development, study development, and consideration of exceptions, modifications, or waivers will include appropriate coordination with the U.S. Fish and Wildlife Service (USFWS) as the surface management agency, and, if necessary, consultation under the ESA. In addition, the BLM will coordinate with other appropriate federal, state, and North Slope Borough (NSB) agencies, tribes, Alaska Native Claims Settlement Act corporations, and other Native organizations as appropriate.

A.3.1 Lease Stipulations

PROTECTIONS THAT APPLY IN SELECT BIOLOGICALLY SENSITIVE AREAS

Lease Stipulation 1—Rivers and Streams (Map 1-3)

Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of floodplain and riparian areas, springs, and aufeis; the loss of spawning, rearing, or overwintering fish habitat; the loss of cultural and paleontological resources; the loss of raptor habitat; impacts on subsistence cabins and campsites; and the disruption of subsistence activities.

Requirement/Standard: (NSO) Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the streambed and within the described setback distances outlined below, from the southern boundary of the Coastal Plain to the stream mouth. For streams that are entirely in the Coastal Plain, the setback extends to the head of the stream, as identified in the National Hydrography Dataset. Essential pipelines and road crossings will be permitted through setback areas in accordance with Section 20001(c)(2)

of PL 115-97, which requires issuance of rights-of-way or easements across the Coastal Plain, including access to private land used in support of the federal oil and gas leasing program, for the exploration, development, production, or transportation necessary to carry out Section 20001. Gravel mines can be permitted in setback areas. Setbacks may not be practical in river deltas; in these situations, an exception may be granted by the Authorized Officer if the operator can demonstrate: (1) there are no practical alternatives to locating facilities in these areas; (2) the proposed actions would maintain or enhance resource functions; and (3) permanent facilities are designed to withstand a 100-year flood.

- a. Canning River: from the western boundary of the Coastal Plain to 1 mile east of the eastern edge of the active floodplain;
- b. Hulahula River: 1 mile in all directions from the active floodplain;
- c. Aichilik River: 1 mile from the eastern edge of the Coastal Plain boundary;
- d. Okpilak River: 1 mile from the banks' ordinary high-water mark;
- e. Jago River: 1 mile from the banks' ordinary high-water mark;
- f. The following rivers and creeks will have a 0.5-mile setback from the banks' ordinary high-water mark:
 - i. Sadlerochit River
 - ii. Tamayariak River
 - iii. Okerokovik River
 - iv. Katakturuk River
 - v. Marsh Creek

Lease Stipulation 2—Canning River Delta and Lakes

Objective: Protect and minimize adverse effects on the water quality, quantity, and diversity of fish and wildlife habitats and populations, subsistence resources, and cultural resources; protect and minimize the disruption of natural flow patterns and changes to water quality, the disruption of natural functions resulting from the loss or change to vegetation and physical characteristics of floodplain and riparian areas; the loss of passage, spawning, rearing, or overwintering habitat for fish; the loss of cultural and paleontological resources; and adverse effects on migratory birds.

Requirement/Standard: See **ROP 9** for requirements/standards.

Lease Stipulation 3—Springs/Aufeis

Objective: Protect the water quality, quantity, and diversity of fish and wildlife habitats and populations associated with springs and aufeis across the Coastal Plain. River systems with springs provide year-round habitat and host the most diverse and largest populations of fish, aquatic invertebrates, and wildlife; they are associated with major subsistence activity and cultural resources. An aufeis is a unique feature associated with perennial springs. It helps sustain river flow during summer and provides insect relief for caribou. Because the subsurface flow paths to perennial springs are unknown and could be disturbed by drilling, use buffer areas around the major perennial springs that support fish populations in which no leasing is permitted.

Requirement/Standard: Before drilling, the lessee/operator/permittee will conduct studies to ensure drilling would not disrupt flow to or from the perennial springs and waste injection wells would not contaminate any

perennial springs. Study plans will be developed in consultation with the BLM, USFWS, and other agencies, as appropriate.

See **Lease Stipulation 1** for additional requirements/standards.

Lease Stipulation 4—Nearshore marine, lagoon, and barrier island habitats of the Southern Beaufort Sea within the boundary of the Arctic Refuge (Map 1-3)

Objective: Protect fish and wildlife habitat, including that for waterfowl and shorebirds, caribou insect relief, marine mammals, and polar bear summer and winter coastal habitat; preserve air and water quality; and minimize impacts on subsistence activities, recreation, historic travel routes, and cultural resources in the nearshore marine area.

Requirement/Standard: (NSO) Exploratory well drill pads, production well drill pads, or a central processing facility (CPF) for oil or gas will not be permitted in nearshore marine waters, lagoons, or barrier islands within the boundaries of the Coastal Plain.

- a. The BLM Authorized Officer may approve infrastructure for oil and gas activities necessary to be located in these critical and sensitive habitats, such as barge landing, docks, spill response staging and storage areas, and pipelines.
- b. Before conducting open water activities, the lessee/operator/contractor will consult with the Alaska Eskimo Whaling Commission, the NSB, and local whaling captains' associations to minimize impacts on subsistence whaling and other subsistence activities of the communities of the North Slope. In a case in which the BLM authorizes permanent oil and gas infrastructure in the nearshore marine area, the lessee/operator/contractor will develop and implement an impact and conflict avoidance and monitoring plan. This would be used to assess, minimize, and mitigate the effects of the infrastructure and its use on these nearshore marine area habitats and their use by wildlife and people, including the following:
 - i. Design and construct facilities to minimize impacts on subsistence uses, travel corridors, and seasonally concentrated fish and wildlife resources.
 - ii. Daily operations, including use of support vehicles, watercraft, and aircraft, alone or in combination with other past, present, and reasonably foreseeable activities, will be conducted to minimize impacts on subsistence and other public uses, travel corridors, and seasonally concentrated fish and wildlife resources.
 - iii. The location of oil and gas facilities, including artificial islands, platforms, associated pipelines, ice or other roads, and bridges or causeways, will be sited and constructed to not pose a hazard to public navigation, using traditional high-use subsistence-related travel routes into and through the major coastal lagoons and bays, as identified by the community of Kaktovik and the NSB.
 - iv. Operators will be responsible for developing comprehensive prevention and response plans, including Oil Discharge Prevention and Contingency Plans and SPCC plans and maintain adequate oil spill response capability to effectively respond during periods of ice, broken ice, or open water, based on the statutes, regulations, and guidelines of the USFWS, EPA, Alaska Department of Environmental Conservation (ADEC), and the Bureau of Safety and Environmental Enforcement (BSEE), as well as ROPs, stipulations, and policy guidelines of the BLM.

Lease Stipulation 5—Coastal Polar Bear Denning River Habitat

Objective: Minimize disturbance to denning polar bears, and disturbance or alteration of key river and creek maternal denning habitat areas.

Requirement/Standard: Comply with ESA and Marine Mammal Protection Act (MMPA) requirements.

Lease Stipulation 6—Caribou Summer Habitat

Note: All lands in the Arctic Refuge Coastal Plain are recognized as habitat of the Porcupine Caribou Herd (PCH) and Central Arctic Herd (CAH) and would be managed to allow for unhindered movement of caribou through the area.

Objective: Minimize disturbance and hindrance of caribou or alteration of caribou movements.

Requirement/Standard: See **ROP 23** for requirements/standards.

Lease Stipulation 7—Porcupine Caribou Primary Calving Habitat Area (Map 1-3)

Note: PCH primary calving habitat area is defined as the area used for calving (based on annual 95 percent contours calculated using kernel density estimation of parturient female caribou locations May 26–June 10) during more than 40 percent of the years surveyed.

Objective: Minimize disturbance and hindrance of caribou or alteration of their movements in the south-southeast portion of the Coastal Plain, which has been identified as important caribou habitat during calving.

Requirement/Standard: (TL) Construction activities using heavy equipment, excluding drilling from existing production pads, will be suspended in the PCH primary calving habitat area from May 20 through June 20. These areas encompass approximately 721,200 acres. If caribou arrive on the Coastal Plain before May 20, construction activities using heavy equipment will be suspended. The lessee shall submit with the development proposal a stop work plan that considers this, and any other mitigation related to caribou early arrival. The intent of this latter requirement is to provide flexibility to adapt to changing climate conditions that may occur during the life of fields in the region. The Authorized Officer may waive this stipulation if the operator, through coordination with appropriate federal, state, and local regulatory agencies can demonstrate calving is not occurring in the lease area; or may grant an exception if the operator can demonstrate their action would not hinder caribou or alter their movements.

- a. The following ground and air traffic restrictions will apply to permanent oil and gas-related roads in the areas and time periods indicated:
 - i. Within the calving habitat area, from May 20 through June 20, traffic speed shall not exceed 15 miles per hour when caribou are within 0.5 miles of the road. Additional strategies may include limiting trips and using convoys and different vehicle types, to the extent practicable. The lessee will submit with the development proposal a vehicle use plan that considers these and any other mitigation. The plan shall include a vehicle-use monitoring plan. The BLM Authorized Officer will require adjustments if resulting disturbance is determined to be unacceptable.
 - a. Major equipment, materials, and supplies to be used at oil and gas work sites in the calving habitat area shall be stockpiled prior to the period of May 20 through June 20 to minimize road traffic during that period.

- ii. Operators of aircraft used for permitted activities will maintain an altitude of at least 1,500 feet above ground level (except for takeoffs and landings) over caribou calving range, unless doing so would endanger human life or violate safe flying practices. See **ROP 34** for additional conditions.

Lease Stipulation 8—Porcupine Caribou Post-Calving Habitat Area

Note: The PCH post-calving area is defined as the area used by female caribou (based on annual 95 percent contours calculated using kernel density estimation of female caribou locations June 11-30) during more than 40 percent of the years surveyed.

Objective: To protect key surface resources and subsistence resources/activities from permanent oil and gas development and associated activities in areas used by caribou during post-calving and insect-relief periods.

Requirement/Standard: See **ROP 23** for requirements/standards.

Lease Stipulation 9—Coastal Area

Objective: Protect nearshore marine waters, lagoons, barrier islands, coastlines, and their value as fish and wildlife habitat, including for waterfowl, shorebirds, and marine mammals; minimize the hindrance or alteration of caribou movement in caribou coastal insect-relief areas; minimize hindrance or alteration of polar bear use and movement in coastal habitats; protect and minimize disturbance from oil and gas activities to nearshore marine habitats for polar bears and seals; prevent loss and alteration of important coastal bird habitat; and prevent impacts on nearshore marine subsistence resources and activities.

Requirement/Standard: Before beginning exploration or development within 2 miles inland of the coastline, the lessee/operator/contractor will develop and implement an impact and conflict avoidance and monitoring plan to assess, minimize, and mitigate the effects of the infrastructure and its use on these coastal habitats and their use by wildlife and people. Operators will be responsible for developing comprehensive prevention and response plans, including Oil Discharge Prevention and Contingency Plans and SPCC plans and maintain adequate oil spill response capability to effectively respond during periods of broken ice or open water, based on the statutes, regulations, and guidelines of the EPA, ADEC, and the BSEE, as well as ROPs, stipulations, and policy guidelines of the BLM.

Lease Stipulation 10— [Not applicable under Alternative B]

Lease Stipulation 11

Objective: Ensure Native allotment owners maintain control over use of their land.

Requirement/Standard: Use of the surface of Native allotments for the construction and maintenance of improvements is prohibited unless written consent is obtained from the allotment owner.

A.3.2 Required Operating Procedures

WASTE PREVENTION, HANDLING, DISPOSAL, SPILLS, AND PUBLIC SAFETY

Required Operating Procedure 1

Objective: Protect public health, safety, and the environment by disposing of solid waste and garbage, in accordance with applicable federal, state, and local laws and regulations.

Requirement/Standard: Areas of operation will be left clean of all debris.

Required Operating Procedure 2

Objective: Minimize impacts on the environment from nonhazardous and hazardous waste generation. Encourage continuous environmental improvement. Protect the health and safety of oil and gas field workers, local communities, Coastal Plain subsistence users, Coastal Plain recreationists, and the general public. Avoid human-caused changes in predator populations. Minimize attracting predators, particularly bears, to human use areas.

Requirement/Standard: The lessee/operator/contractor will prepare and implement a comprehensive waste management plan for all phases of exploration, development, and production, including seismic activities. The plan will include methods and procedures to use bear resistant containers for all waste materials and classes. The plan will be submitted to the BLM Authorized Officer for approval, in consultation with federal, state, and NSB regulatory and resource agencies, as appropriate (based on agency legal authority and jurisdictional responsibility), as part of a plan of operations or other similar permit application.

Management decisions affecting waste generation will be addressed in the following order of priority: (1) prevention and reduction, (2) recycling, (3) treatment, and (4) disposal. The plan will consider and take into account the following requirements:

- a. Methods to avoid attracting wildlife to food and garbage: The plan will identify precautions that are to be taken to avoid attracting wildlife to food and garbage. The use of bear-resistant containers for all waste will be required.
- b. Disposal of rotting waste: Requirements prohibit burying garbage. Lessees/operators/contractors will have a written procedure to ensure that rotting waste will be handled and disposed of in a manner that prevents the attraction of wildlife. All rotting waste will be incinerated, backhauled, or composted in a manner approved by the BLM Authorized Officer. All solid waste, including incinerator ash, will be disposed of in an approved waste-disposal facility, in accordance with EPA and ADEC regulations and procedures. Burying human waste is prohibited, except as authorized by the BLM Authorized Officer. The use of bear-resistant containers for all waste will be required.
- c. Disposal of pumpable waste products: Except as specifically provided, the BLM requires that all pumpable solid, liquid, and sludge waste be disposed of by injection, in accordance with the applicable regulations and procedures. On-pad temporary muds and cuttings storage, as approved by the ADEC, will be allowed as necessary to facilitate annular injection and backhaul operations.
- d. Disposal of wastewater and domestic wastewater: The BLM prohibits wastewater discharges or disposal of domestic wastewater into bodies of fresh, estuarine, and marine water, including wetlands, unless authorized by an Alaska Pollutant Discharge Elimination System or State permit.
- e. Prevention of the release of poly- and perfluoroalkyl substances: At facilities where fire-fighting foam is required, use fluorine-free foam unless other state or federal regulations require aqueous film-forming foam (AFFF) use. If AFFF use is required, contain, collect, treat, and properly dispose of all runoff, wastewater from training events, and, to the greatest extent possible, from any emergency response events. All discharges must be reported to the ADEC Spill Response Division, Contaminated Sites Program. Measures shall also be taken to fully inform workers/trainees of the potential health risks of fluorinated foams and to specify appropriate personal protective equipment to limit exposure during training and use. Training events shall be conducted in lined areas or basins to prevent the release of poly- and perfluoroalkyl substances associated with AFFF.

Required Operating Procedure 3

Objective: Minimize the impact of contaminants from refueling operations on fish, wildlife, and the environment.

Requirement/Standard: Refueling equipment within 100 feet of the active floodplain of any waterbody¹ is prohibited. Fuel storage stations will be located at least 100 feet from any waterbody, except for small caches (up to 210 gallons) for motorboats, float planes, and ski planes, and for small equipment, such as portable generators and water pumps. The BLM Authorized Officer may allow storage and operations at areas closer than the stated distances if properly designed and maintained to account for local hydrologic conditions.

Required Operating Procedure 4

Objective: Minimize conflicts from the interaction between humans and bears during oil and gas activities.

Requirement/Standard:

- a. Implement policies and procedures to conduct activities in a manner that minimizes adverse impacts on polar bears, their habitat, and their availability for subsistence uses.
- b. Implement adaptive management practices, such as temporal or spatial activity restrictions, in response to the presence of polar bears or polar bears engaged in a biologically significant activity; must be used to avoid interactions with and minimize impacts on them and their availability for subsistence uses.
- c. Cooperate with the USFWS and other designated federal, state, and local agencies to monitor and mitigate the impacts of Industry activities on polar bears.
- d. Designate trained and qualified personnel to monitor for the presence of polar bears, initiate mitigation measures, and monitor, record, and report the effects of Industry activities on polar bears.
- e. Provide polar bear awareness training to personnel.
- f. Contact affected subsistence communities and hunter organizations to discuss potential conflicts.
- g. Polar bears: The lessee/operator/contractor, as a part of lease operation planning, will prepare and implement polar bear interaction plans to minimize conflicts between polar bears and humans. These polar bear interaction plans will be developed in consultation with and approved by the USFWS and the Alaska Department of Fish and Game (ADFG). The plans will include specific measures identified by the USFWS for petroleum activities on the Coastal Plain, which may include updated measures and/or may include similar measures identified in the current USFWS Incidental Take Regulations (81 CFR 52318 §18.128) that have been promulgated and applied to petroleum activities to the west of the Coastal Plain. If the USFWS issues Incidental Take Regulations for petroleum activities in the Coastal Plain, those will be followed instead. These plans must include:
 - i. The type of activity and where and when the activity will occur (i.e., a plan of operation);
 - ii. A food, waste, and other “bear attractants” management plan;
 - iii. Personnel training policies, procedures, and materials;
 - iv. Site-specific polar bear interaction risk evaluation and mitigation measures;

¹For the purposes of this document, waterbody is defined as any feature included in the National Hydrography Dataset. This is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation’s surface water drainage system.

- v. Polar bear avoidance and encounter procedures; and
- vi. Polar bear observation and reporting procedures.
- h. Grizzly bears: The lessee/operator/contractor will prepare and implement a grizzly bear interaction plan as necessary, in consultation with and approved by the ADFG.

Required Operating Procedure 5

Objective: Reduce air quality impacts.

Requirement/Standard: All oil and gas operations (vehicles and equipment) that burn diesel fuels must use ultra-low sulfur diesel, as defined by the EPA.

Required Operating Procedure 6

Objective: Prevent unnecessary or undue degradation of the air and lands and protect health.

Requirement/Standard:

- a. All projects and permitted uses will comply with all applicable National Ambient Air Quality Standards (NAAQS) and Alaska Ambient Air Quality Standards (AAAQS) and ensure Air Quality Related Values are protected under the Clean Air Act or other applicable statutes.
- b. Prior to initiation of a NEPA analysis for an application to develop a CPF, production pad/well, airstrip, road, gas compressor station, or other potential air pollutant emission source (hereafter called project), the BLM Authorized Officer may require the project proponent to provide a minimum of 1 year of baseline ambient air monitoring data for pollutants of concern, as determined by the BLM. This will apply if no representative air monitoring data are available for the project area or if existing representative ambient air monitoring data are insufficient, incomplete, or do not meet minimum air monitoring standards set by the ADEC or the EPA. If the BLM determines that baseline monitoring is required, this pre-analysis data must meet ADEC and EPA air monitoring standards and cover the year before the submittal. Pre-project monitoring may not be appropriate where the life of the project is less than 1 year.
- c. For an application to develop a CPF, production pad/well, airstrip, road, gas compressor station, or other potential substantial air pollutant emission source:
 - i. The project proponent shall prepare and submit for BLM approval an emissions inventory that includes quantified emissions of regulated air pollutants from all direct and indirect sources related to the proposed project, including reasonably foreseeable air pollutant emissions of criteria air pollutants, VOCs, HAPs, and GHGs estimated for each year for the life of the project. The BLM uses this estimated emissions inventory to identify pollutants of concern and to determine the appropriate form of air analysis to be conducted for the proposed project.
 - ii. The BLM may require air quality modeling for purposes of analyzing project direct, indirect, or cumulative impacts on air quality. The BLM may require air quality modeling depending on:
 - a. The magnitude of potential air emissions from the project;
 - b. Proximity to a federally mandated Class I area;
 - c. Proximity to a population center;
 - d. Location within or proximity to a nonattainment or maintenance area;
 - e. Meteorological or geographic conditions;

- f. Existing air quality conditions;
- g. Magnitude of existing development in the area; or
- h. Issues identified during the NEPA process.

The BLM will determine the information required for a project-specific modeling analysis through the development of a modeling protocol for each analysis. The BLM will consult with appropriate federal (including federal land managers), state, and/or local agencies regarding modeling to inform its modeling decision and avoid duplication of effort. The modeling shall compare predicted impacts on all applicable local, state, and federal air quality standards and increments, as well as other scientifically defensible significance thresholds (such as impacts on air quality related values and incremental cancer risks).

- iii. The BLM may require the proponent to provide an emissions reduction plan that includes a detailed description of operator-committed measures to reduce project-related air pollutant emissions, including, but not limited to, criteria pollutants, GHGs, heavy metals, mercury, and fugitive dust.
- d. Air monitoring or air modeling reports will be provided to the BLM; federal land managers; federal, state, local community, or Tribal governments; and other interested parties, as appropriate.
- e. The BLM may require monitoring for the life of the project depending on:
 - i. The magnitude of potential air emissions from the project;
 - ii. Proximity to a federally mandated Class I area;
 - iii. Proximity to a population center;
 - iv. Location within or proximity to a nonattainment or maintenance area;
 - v. Meteorological or geographic conditions;
 - vi. Existing air quality conditions;
 - vii. Magnitude of existing development in the area; or
 - viii. Issues identified during the NEPA process.
- f. If ambient air monitoring or air quality modeling indicates that project-related emissions cause or contribute to impacts, unnecessary or undue degradation of the lands, exceedances of the NAAQS/AAAQS, or fails to protect health (either directly or through use of subsistence resources), then the BLM may require changes or additional emission control strategies. To reduce or minimize emissions from proposed activities, in order to comply with the NAAQS/AAAQS and/or minimize impacts on Air Quality Related Values, the BLM shall consider air quality mitigation measure(s) within its authority in addition to regulatory requirements and proponent-committed emission reduction measures, and also for emission sources not otherwise regulated by ADEC or EPA. Mitigation measures will be analyzed through the appropriate form of NEPA analysis to determine effectiveness. The BLM will consult with the federal land managers and other appropriate federal, state, and/or local agencies to determine potential mitigation options for any predicted significant impacts from the proposed project development.
- g. Publicly available reports on air quality baseline monitoring, emissions inventory, and modeling results developed in conformance with this ROP shall be provided by the project proponent to the NSB and to local communities and tribes in a timely manner.

WATER USE FOR PERMITTED ACTIVITIES

Required Operating Procedure 7—[Not applicable under Alternative B]

Required Operating Procedure 8

Objective: In flowing waters (rivers, springs, and streams), ensure water of sufficient quality and quantity to conserve fish, waterbirds, and wildlife populations and habitats in their natural diversity.

Requirement/Standard: Withdrawal of unfrozen water from springs, rivers, and streams during winter (onset of freeze-up to break-up) is prohibited. The removal of ice aggregate from grounded areas 4 feet deep or less may be authorized from rivers on a site-specific basis.

Required Operating Procedure 9

Objective: Maintain natural hydrologic regimes in soils surrounding lakes and ponds, and maintain populations of, and adequate habitat for, fish, birds, and aquatic invertebrates.

Requirement/Standard: Withdrawal of unfrozen water from lakes and the removal of ice aggregate from grounded areas 4 feet deep or less during winter (onset of freeze up to breakup) and withdrawal of water from lakes during the summer may be authorized on a site-specific basis, depending on water volume and depth, the fish community, and connectivity to other lakes or streams and adjacent bird nesting sites. Current water use guidelines are as follows:

Winter Water Use

- a. Lakes with fish except ninespine stickleback or Alaska blackfish: unfrozen water available for withdrawal is limited to 15 percent of calculated volume deeper than 7 feet; only ice aggregate may be removed from lakes that are 7 feet deep or less.
- b. Lakes with only ninespine stickleback or Alaska blackfish: unfrozen water available for withdrawal is limited to 30 percent of calculated volume deeper than 5 feet; only ice aggregate may be removed from lakes that are 5 feet deep or less.
- c. Lakes with no fish, regardless of depth: water available for use is limited to 20 percent of total lake volume.
- d. In lakes where unfrozen water and ice aggregate are both removed, the total use will not exceed the respective 15 percent, 20 percent, or 30 percent volume calculations above, unless recharge calculations, river overbank flooding, or a connection to a stream or river indicate recharge will replenish full water withdrawal plus additional ice aggregate withdrawal amounts above these limits.
- e. Compacting snow cover or removing snow from fish-bearing waterbodies will be prohibited, except at approved ice road crossings, water pumping stations on lakes, or areas of grounded ice.

Summer Water Use

- f. Requests for summer water use must be made separately, and the volume allowance will be evaluated on a case-by-case basis. Approval from the BLM Authorized Officer is required.

All Water Use

- g. Any water intake structures in fish-bearing or non-fish-bearing waters will be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. Note: All water withdrawal equipment must be equipped with and use fish screening devices approved by the ADFG, Division of Habitat.
- h. Additional modeling or monitoring may be required to assess water level and water quality conditions before, during, and after water use from any fish-bearing lake or lake of special concern

WINTER OVERLAND MOVES AND SEISMIC WORK

The following ROPs apply to overland and over-ice moves, seismic work, and any similar cross-country vehicle use and heavy equipment on surfaces without roads during winter. These restrictions do not apply to the use of such equipment on ice roads after they are constructed.

Required Operating Procedure 10

Objective: Protect grizzly bear, polar bear, and seal denning and birthing locations.

Requirement/Standard:

- a. Grizzly bear dens: Cross-country use of all vehicles, equipment, and oil and gas activity is prohibited within 0.5 miles of occupied grizzly bear dens identified by the ADFG or the USFWS, unless alternative protective measures are approved by the BLM Authorized Officer, in consultation with the ADFG.
- b. Polar bear dens: Cross-country use of vehicles, equipment, oil and gas activity, and seismic survey activity is prohibited within 1 mile of known or observed polar bear dens, unless alternative protective measures are approved by the BLM Authorized Officer and are consistent with the MMPA and the ESA.

Polar bear and seal mitigation measures for onshore activities.

- c. In order to limit disturbance around known polar bear dens:
 - i. Attempt to locate polar bear dens. Operators seeking to carry out onshore activities in known or suspected polar bear denning habitat during the denning season (approximately November–April) must make efforts to locate occupied polar bear dens within and near areas of operation, utilizing appropriate tools, such as infrared imagery and/or polar bear scent-trained dogs. All observed or suspected polar bear dens must be reported to the USFWS prior to the initiation of activities.
 - ii. Observe the exclusion zone around known polar bear dens. Operators must observe a 1.6-kilometer (km) (1-mile) operational exclusion zone around all known polar bear dens during the denning season (approximately November–April, or until the female and cubs leave the areas). Should previously unknown occupied dens be discovered within 1 mile of activities, work must cease and the USFWS contacted for guidance. The USFWS will evaluate these instances on a case-by-case basis to recommend the appropriate action. Potential actions may range from cessation or modification of work to conducting additional monitoring, and the holder of the authorization must comply with any additional measures specified.

- iii. Use the den habitat map developed by the U.S. Geological Survey. This measure ensures that the location of potential polar bear dens is considered when conducting activities in the coastal areas of the Beaufort Sea.
 - iv. Polar bear den restrictions. Restrict the timing of the activity to limit disturbance around dens.
- d. In order to limit disturbance of activities to seal lairs in the nearshore area (<3 meters) water depth:

Specific to seismic operations:

- v. Before the seismic survey begins, the operator will conduct a sound source verification test to measure the distance of vibroseis sound levels through grounded ice to the 120 decibels (dB) re 1 μ Pa threshold in open water and water within ungrounded ice. Once that distance is determined, it will be shared with the BLM and National Marine Fisheries Service (NMFS). The distance will be used to buffer all on-ice seismic survey activity operations from any open water or ungrounded ice throughout the project area. The operator will draft a formal study proposal that will be submitted to the BLM and NMFS for review and approval before the activity begins.

For all activities:

- vi. Maintain airborne sound levels of equipment below 100 dB re 20 μ Pa at 66 feet. If different equipment will be used than was originally proposed, the applicant must inform the BLM Authorized Officer and share sound levels and air and water attenuation information for the new equipment.
- vii. On-ice operations after May 1 will employ a full-time trained protected species observer (PSO) on vehicles to ensure all basking seals are avoided by vehicles by at least 500 feet and will ensure that all equipment with airborne noise levels above 100 dB re 20 μ Pa were operating at distances from observed seals that allowed for the attenuation of noise to levels below 100 dB. All sightings of seals will be reported to the BLM using a NMFS-approved observation form.
- viii. Ice paths must not be greater than 12 feet wide. No driving beyond the shoulder of the ice path or off planned routes unless necessary to avoid ungrounded ice or for other human or marine mammal safety reasons. On-ice driving routes shall minimize travel over snow/ice/topographical features that lead to birthing lair development.
- ix. No unnecessary equipment or operations (e.g., camps) will be placed or used on sea ice.

Required Operating Procedure 11

Objective: Protect stream banks and freshwater sources, minimize soils compaction and the breakage, abrasion, compaction, or displacement of vegetation.

Requirement/Standard:

- a. Ground operation will be allowed when soil temperatures at 12 inches below the tundra surface (defined as the top of the organic layer) reaches 23 degrees Fahrenheit ($^{\circ}$ F) and snow depths are an average of 9 inches, or 3 inches over the highest tussocks along the line of vehicle travel. Ground operations will cease when the spring snowmelt begins. The dates will be determined by the BLM Authorized Officer.
- b. Low ground pressure vehicles used for off-road travel will be defined by the BLM Authorized Officer. These vehicles will be selected and operated in a manner that eliminates direct impacts on

the tundra caused by shearing, scraping, or excessively compacting the tundra. **Note:** This provision does not include the use of heavy equipment required during ice road construction; however, heavy equipment will not be allowed on the tundra until conditions in “a,” above, are met.

- c. Bulldozing tundra mat and vegetation, trails, or seismic lines is prohibited. Clearing or smoothing drifted snow is allowed to the extent that the tundra mat is not disturbed. Only smooth pipe snow drags will be allowed for smoothing drifted snow.
- d. To reduce the possibility of excessive compaction, vehicle operators will avoid using the same routes for multiple trips, unless necessitated by serious safety or environmental concerns and approved by the BLM Authorized Officer. This provision does not apply to hardened snow trails or ice roads.
- e. Ice roads will be designed and located to avoid the most sensitive and easily damaged tundra types as much as practicable. Ice roads may not use the same route each year; offsets may be required to avoid using the same route or track in subsequent years.
- f. Conventional ice road construction may not begin until off-road travel conditions are met (as described in “a,” above) within the ice road route and approval to begin construction is given by the BLM Authorized Officer.
- g. Snow fences may be used in areas of low snow to increase snow depths within an ice road or snow trail route. Excess snow accumulated by snow fences must be excavated or pushed to decrease snow depths to that found in surrounding tundra at the end of road use.
- h. Seismic operations and winter overland travel may be monitored by agency representatives, and the operator may be required to accommodate the representative during operations.
- i. Incidents of damage to the tundra will be reported to the BLM Authorized Officer within 72 hours of occurrence. Follow-up corrective actions will be determined in consultation with and approved by the BLM Authorized Officer.

Required Operating Procedure 12—[Not applicable under Alternative B]

Required Operating Procedure 13

Objective: Avoid additional freeze-down of aquatic habitat harboring overwintering fish and aquatic invertebrates that fish prey on.

Requirement/Standard: Travel up and down streambeds is prohibited unless it can be demonstrated that there will be no additional impacts from such travel on overwintering fish, the aquatic invertebrates they prey on, and water quality. Rivers, streams, and lakes will be crossed at areas of grounded ice or with the approval of the BLM Authorized Officer and when it has been demonstrated that no additional impacts will occur on fish or aquatic invertebrates.

Required Operating Procedure 14

Objective: Minimize the effects of high-intensity acoustic energy from seismic surveys on fish.

Requirement/Standard: When conducting vibroseis-based surveys above potential fish overwintering areas (water 6 feet deep or greater, ice plus liquid depth), lessees/operators/contractors will follow recommendations by Morris and Winters (2005):² only a single set of vibroseis shots will be conducted if possible; if multiple

²W. Morris and J. Winters. 2005. Fish Behavioral and Physical Responses to Vibroseis Noise, Prudhoe Bay, Alaska 2003. Alaska Department of Fish and Game Technical Report 05-02. March 2005.

shot locations are required, these will be conducted with minimal delay; multiple days of vibroseis activity above the same overwintering area will be avoided, if possible.

Required Operating Procedure 15

Objective: Reduce changes in snow distribution associated with the use of snow fences to protect water quantity and wildlife habitat, including snow drifts used by denning polar bears.

Requirement/Standard: The use of snow fences to reduce or increase snow depth requires permitting by the BLM Authorized Officer.

Oil and Gas Exploratory Drilling

Required Operating Procedure 16

Objective: Protect water quality in fish-bearing waterbodies and minimize alteration of riparian habitat.

Requirement/Standard: Exploratory drilling is prohibited in fish-bearing rivers and streams and other fish-bearing waterbodies. On a case-by-case basis, the BLM Authorized Officer may consider exploratory drilling in floodplains of fish-bearing rivers and streams.

Required Operating Procedure 17

Objective: Minimize surface impacts from exploratory drilling.

Requirement/Standard: Construction of gravel roads and pads will be prohibited for exploratory drilling. Use of a previously constructed road or pad may be permitted if it is environmentally preferred.

Required Operating Procedure 18

Objective: Protect subsistence use and access to subsistence hunting and fishing areas.

Requirement/Standard: All roads must be designed, constructed, maintained, and operated to create minimal environmental impacts and to avoid or minimize impacts on subsistence use and access to subsistence hunting and fishing areas. The BLM Authorized Officer will consult with appropriate entities before approving construction of roads. Subject to approval by the BLM Authorized Officer, the construction, operation, and maintenance of oil and gas field roads is the responsibility of the lessee/operator/contractor, unless the construction, operation, and maintenance of roads are assumed by the appropriate governing entity.

Required Operating Procedure 19

Objective: Protect water quality and the diversity of fish, aquatic invertebrates, and wildlife populations and habitats.

Requirement/Standard:

- a. Permanent oil and gas facilities, including roads, airstrips, and pipelines, are prohibited within 500 feet, as measured from the ordinary high-water mark, of fish-bearing waterbodies, unless further setbacks are stipulated under **Lease Stipulations 1, 2, or 3**. Pipeline and road crossings will be permitted by the BLM Authorized Officer in accordance with PL 115-97, following coordination with the appropriate entities. Temporary winter exploration and construction camps are prohibited on frozen lakes and river ice.

- b. Siting temporary winter exploration and construction camps on river sand and gravel bars is allowed and encouraged. Where trailers or modules must be leveled and the surface is vegetation, they will be leveled using blocking in a way that preserves the vegetation.

Required Operating Procedure 20

Objective: Maintain free passage of marine and anadromous fish, protect subsistence use and access to subsistence hunting and fishing and anadromous fish, and protect subsistence use and access to subsistence and non-subsistence hunting and fishing.

Requirement/Standard:

- a. Causeways and docks are prohibited in river mouths and deltas. Artificial gravel islands and permanent bottom-founded structures are prohibited in river mouths and active stream channels on river deltas.
- b. Causeways, docks, artificial islands, and bottom-founded drilling structures will be designed to ensure free passage of marine and anadromous fish and to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics. A monitoring program, developed in coordination with appropriate entities (e.g., USFWS, NMFS, State of Alaska, or NSB), will be required to address the objectives of water quality and free passage of fish.

Required Operating Procedure 21

Objective: Minimize impacts of the development footprint.

Requirement/Standard: Facilities will be designed and located to minimize the development footprint and impacts on other purposes of the Arctic Refuge. Issues and methods that are to be considered, as appropriate, are as follows:

- a. Using extended-reach drilling for production drilling to minimize the number of pads and the network of roads between pads;
- b. Sharing facilities with existing development;
- c. Collocating all oil and gas facilities with drill pads, except airstrips, docks, base camps, and STPs;
- d. Using gravel-reduction technologies, e.g., insulated or pile-supported pads;
- e. Using approved impermeable liners under gravel infrastructure to minimize the potential for hydrocarbon and other hazardous materials spills to migrate to underlying ground;
- f. Harvesting the tundra organic layer within gravel pad footprints for use in rehabilitation;
- g. Coordinating facilities with infrastructure in support of adjacent development;
- h. Locating facilities and other infrastructure outside areas identified as important for wildlife habitat, subsistence uses, and recreation;
- i. Where aircraft traffic is a concern, balancing gravel pad size and available supply storage capacity with potential reductions in the use of aircraft to support oil and gas operations;
- j. Facilities and infrastructure will be designed to minimize alteration of sheet flow/overland flow; and
- k. Where gravel is brought in from outside of the Coastal Plain, require the use of certified weed-free gravel.

Required Operating Procedure 22

Objective: Reduce the potential for ice-jam flooding, damage from aufeis, impacts on wetlands and floodplains, erosion, alteration of natural drainage patterns, and restriction of fish passage.

Requirement/Standard:

- a. To allow for sheet flow and floodplain dynamics and to ensure passage of fish and other organisms, single-span bridges are preferred over culverts, if technically feasible. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.
- b. To ensure that crossings provide for fish passage, all proposed crossing designs will adhere to the best management practices outlined in Fish Passage Design Guidelines, developed by the USFWS Alaska Fish Passage Program, McDonald & Associates (1994),³ Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings (USFS 2008),⁴ and other generally accepted best management procedures prescribed by the BLM Authorized Officer, in consultation with the USFWS.
- c. In addition to the best management practices outlined in the aforementioned documents for stream simulation design, the design engineer will ensure that crossing structures are designed for aufeis, permafrost, sheet flow, additional freeboard during breakup, and other unique conditions of the arctic environment.

Required Operating Procedure 23

Objective: Minimize disruption of caribou movement and subsistence use.

Requirement/Standard: Pipelines and roads will be designed to allow the free movement of caribou and the safe, unimpeded passage of those participating in subsistence activities. Listed below are the accepted design practices.

- a. Aboveground pipelines will be elevated a minimum of 7 feet, as measured from the ground to the bottom of the pipeline at vertical support members (VSMs).
- b. In areas where facilities or terrain would funnel caribou movement or impede subsistence or public access, ramps of appropriate angle and design over pipelines, buried pipelines, or pipelines buried under roads may be required by the BLM Authorized Officer, in coordination with the appropriate entity.
- c. A minimum distance of 500 feet between pipelines and roads will be maintained. Where it is not feasible, alternative pipeline routes, designs, and possible burial under the road for pipeline road crossings will be considered by the BLM Authorized Officer.
- d. Aboveground pipelines will have a nonreflective finish.

³G. N. McDonald & Associates. 1994. Stream Crossing Design Procedure for Fish Streams on the North Slope Coastal Plain. Prepared by G. N. McDonald & Associates, Anchorage, Alaska. Prepared for BP Exploration (Alaska) Inc., Anchorage, Alaska, and Alaska Department of Environmental Conservation, Juneau.

⁴U.S. Forest Service. 2008. Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings. U.S. Department of Agriculture, Forest Service National Technology and Development Program. 7700—Transportation Management 0877 1801—SDTDC. San Dimas, California.

- e. When laying out oil and gas field developments, lessees will orient infrastructure to avoid impeding caribou migration and to avoid corralling effects.
- f. Before the construction of permanent facilities is authorized, the lessee will design and implement and report a study of caribou movement, unless an acceptable study specific to the PCH and CAH has been completed within the last 10 years and approved by the BLM Authorized Officer.
- g. A vehicle use management plan will be developed by the lessee/operator/contractor and approved by the BLM Authorized Officer, in consultation with the appropriate federal, state, and NSB regulatory and resource agencies. The management plan will minimize or mitigate displacement during calving and would avoid, to the extent feasible, delays to caribou movements and vehicle collisions during the midsummer insect season, with traffic management following industry practices. By direction of the BLM Authorized Officer, traffic may be stopped throughout a defined area for up to 4 weeks, to prevent displacement of calving caribou. If required, a monitoring plan can include collection of data on vehicle counts and caribou interaction.

Required Operating Procedure 24

Objective: Minimize the impact of mineral materials mining on air, land, water, fish, and wildlife resources.

Requirement/Standard: Gravel mine site design, construction, and reclamation will be done in accordance with a plan approved by the BLM Authorized Officer. The plan will take into consideration the following:

- a. Locations inside or outside the active floodplain, depending on potential site-specific impacts;
- b. Design and construction of gravel mine sites in active floodplains to serve as water reservoirs for future use;
- c. Potential use of the site for enhancing fish and wildlife habitat; and
- d. Potential storage and reuse of sod/overburden for the mine site or at other disturbed sites on the North Slope.

Required Operating Procedure 25

Objective: Avoid human-caused changes in predator populations on ground-nesting birds.

Requirement/Standard:

- a. Lessee/operator/contractor will use best available technology to prevent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes. The lessee/operator/contractor will provide the BLM Authorized Officer with an annual report on the use of oil and gas facilities by ravens, raptors, and foxes as nesting, denning, and shelter sites.
- b. Feeding of wildlife and allowing wildlife to access human food or odor-emitting waste is prohibited.

Required Operating Procedure 26

Objective: Reduction of risk of attraction and collisions between migrating birds and oil and gas and related facilities during low light conditions.

Requirement/Standard: All structures will be designed to direct artificial exterior lighting, from August 1 to October 31, inward and downward, rather than upward and outward, unless otherwise required by the Federal Aviation Administration.

Required Operating Procedure 27

Objective: Minimize the impacts on bird species from direct interaction with oil and gas facilities.

Requirement/Standard:

- a. To reduce the possibility of birds colliding with aboveground utility lines (power and communication), such lines will either be buried in access roads or will be suspended on VSMs, except in rare cases, limited in extent. Exceptions are limited to the following situations:
 - i. Overhead power or communication lines may be allowed when located entirely within the boundaries of a facility pad;
 - ii. Overhead power or communication lines may be allowed when engineering constraints at the specific and limited location make it infeasible to bury or connect the lines to a VSM; or
 - iii. Overhead power or communication lines may be allowed in situations when human safety would be compromised by other methods.

If exceptions are granted allowing overhead wires, overhead wires will be clearly marked along their entire length to improve visibility to low-flying birds. Such markings will be developed through consultation with the USFWS.

- b. To reduce the likelihood of birds colliding with them, communication towers will be located, to the extent practicable, on existing pads and as close as possible to buildings or other structures and on the east or west side of buildings or other structures. Towers will be designed to reduce bird strikes and raptor nesting. Support wires associated with communication towers, radio antennas, and other similar facilities, will be avoided to the extent practicable. If support wires are necessary, they will be clearly marked along their entire length to improve visibility to low-flying birds. Such markings will be developed through consultation with the USFWS.

Required Operating Procedure 28

Objective: Use ecological mapping as a tool to assess wildlife habitat before developing permanent facilities to conserve important habitat types.

Requirement/Standard: An ecological land classification map of the area will be developed before approval of facility construction. The map will integrate geomorphology, surface form, and vegetation at a scale and level of resolution and position accuracy adequate for detailed analysis of development alternatives. The map will be prepared in time to plan an adequate number of seasons of ground-based wildlife surveys needed, if deemed necessary by the BLM Authorized Officer, before the exact facility location and facility construction is approved.

Required Operating Procedure 29

Objective: Protect cultural and paleontological resources.

Requirement/Standard: The lessee/operator/contractor will conduct a cultural and paleontological resources survey before any ground-disturbing activity, based on a study designed by the lessee/operator/contractor and approved by the BLM Authorized Officer. If any potential cultural or paleontological resource is found, the lessee/operator/contractor will notify the BLM Authorized Officer and will suspend all operations in the immediate area until she or he issues a written authorization to proceed.

Required Operating Procedure 30

Objective: Prevent or minimize the loss of nesting habitat for cliff-nesting raptors.

Requirement/Standard:

- a. Removing greater than 100 cubic yards of bedrock outcrops, sand, or gravel from cliffs shall be prohibited.
- b. Any extraction of sand or gravel from an active river or stream channel will be prohibited, unless preceded by a hydrological study that indicates no potential impact on the integrity of the river bluffs.

Required Operating Procedure 31

Objective: Prevent or minimize the loss of raptors due to electrocution by power lines.

Requirement/Standard: Comply with the most up-to-date, industry-accepted, suggested practices for raptor protection on power lines. Current accepted standards were published in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*, by the Avian Power Line Interaction Committee (APLIC 2012)⁵ and are updated as needed.

Required Operating Procedure 32

Objective: Avoid and reduce temporary impacts on productivity from disturbance near Steller's or spectacled eider nests.

Requirement/Standard: Ground-level vehicle or foot traffic within 200 meters (656 feet) of occupied Steller's or spectacled eider nests, from June 1 through July 31, will be restricted to existing thoroughfares, such as pads and roads. Construction of permanent facilities, placement of fill, alteration of habitat, and introduction of high noise levels within 200 meters (656 feet) of occupied Steller's or spectacled eider nests will be prohibited. Between June 1 and August 15, support/construction activity must occur off existing thoroughfares, and USFWS-approved nest surveys must be conducted during mid-June before the activity is approved.

Collected data will be used to evaluate whether the action could occur based on a 200-meter (656-foot) buffer around nests or if the activity will be delayed until after mid-August once ducklings are mobile and have left the nest site.

The BLM will also work with the USFWS to conduct nest surveys or oil spill response training in riverine, marine, and intertidal areas that is within 200 meters (656 feet) of shore outside sensitive nesting/brood-rearing periods. The protocol and timing of nest surveys for Steller's or spectacled eiders will be determined in cooperation with and must be approved by the USFWS. Surveys will be supervised by biologists who have previous experience with Steller's or spectacled eider nest surveys.

Required Operating Procedure 33

Objective: Provide information to be used in monitoring and assessing wildlife movements during and after construction.

⁵Avian Power Line Interaction Committee. 2012. *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. Edison Electric Institute and APLIC. Washington, DC.

Requirement/Standard: A representation, in the form of ArcGIS-compatible shapefiles, of the footprint of all new infrastructure construction will be provided to the BLM Authorized Officer, the USFWS Arctic Refuge Manager, State of Alaska, and NSB by the operator. During the planning and permitting phase, GIS shape files representing proposed footprint locations will be provided. Within 6 months of construction completion, shapefiles of all new infrastructure footprints will be provided.

Infrastructure includes all gravel roads and pads, facilities built on pads, pipelines, and independently constructed power lines (as opposed to those incorporated in pipeline design). Gravel pads will be included as polygon features. Roads, pipelines, and power lines may be represented as line features but must include ancillary data to denote such data as width and number of pipes. Poles for power lines may be represented as point features. Ancillary data will include construction beginning and ending dates.

USE OF AIRCRAFT FOR PERMITTED ACTIVITIES

Required Operating Procedure 34

Objective: Minimize the effects of low-flying aircraft on wildlife, subsistence activities, local communities, and recreationists of the area, including hunters and anglers.

Requirement/Standard: The operator will ensure that operators of aircraft used for permitted oil and gas activities and associated studies maintain altitudes according to the following guidelines (**Note:** This ROP is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objectives of the lease stipulations and ROPs; however, such flights will be restricted to the minimum necessary to collect such data and should consider other technologies, such as remote sensing and drones, in order to minimize impacts from aircraft):

- a. Land users will submit an aircraft use plan as part of an oil and gas exploration or development proposal, which includes a plan to monitor flights and includes a reporting system for subsistence hunters to easily report flights that disturb subsistence harvest. The plan will address strategies to minimize impacts on subsistence hunting and associated activities, including the number of flights, type of aircraft, and flight altitudes and routes, and will also include a plan to monitor flights. Proposed aircraft use plans will be reviewed by the appropriate Alaska Native or subsistence organization. Consultations with these same agencies will be required if unacceptable disturbance is identified by subsistence users. Adjustments, including possible suspension of all flights, may be required by the BLM Authorized Officer, if resulting disturbance is determined to be unacceptable. The number of takeoffs and landings to support oil and gas operations with necessary materials and supplies will be limited to the maximum extent practical.
- b. Use of aircraft, especially rotary wing aircraft, will be kept to a minimum near known subsistence camps and cabins or during sensitive subsistence hunting periods (e.g., spring goose hunting and summer caribou) and when recreationists are present.
- c. Operators of aircraft used for permitted activities will maintain an altitude of at least 1,500 feet above ground level (except for takeoffs and landings) within 0.5 miles of cliffs identified as raptor nesting sites, and over caribou calving range, unless doing so would endanger human life or violate safe flying practices. An exception to flight altitudes may be approved by the Authorized Officer after coordination and review of the aircraft use plan to accommodate requirements to fly lower for some required activities (e.g., archaeological clearance).
- d. Minimize the number of helicopter landings in caribou calving ranges from May 20 through June 20.

- e. Pursuing running wildlife is hazing. Hazing wildlife by aircraft pilots is prohibited, unless otherwise authorized. If wildlife begins to run as an aircraft approaches, the aircraft is too close, and the operator must break away.
- f. Avoid operation of aircraft over snow goose staging areas between August 15 and September 30. Necessary overflights during this timeframe shall avoid areas of heavy snow goose concentrations.
- g. When polar bears are present:
 - i. Operators of support aircraft shall conduct their activities at the maximum distance possible from concentrations of polar bears.
 - ii. Aircraft will not operate at an altitude lower than 457 meters (1,500 feet) within 805 meters (0.5 miles) of polar bears observed on ice or land. Helicopters may not hover or circle above such areas or within 805 meters (0.5 miles) of such areas. When weather conditions do not allow a 457-meter (1,500-foot) flying altitude, operators will take precautions to avoid flying directly over or within 805 meters (0.5 miles) of these areas.
 - iii. Plan all aircraft routes to minimize any potential conflict with known subsistence polar bear hunting activity.

Oil and Gas Field Abandonment

Required Operating Procedure 35

Objective: Ensure ongoing and long-term reclamation of land to its previous condition and use.

Requirement/Standard: Before final abandonment, land used for oil and gas infrastructure—including well pads, production facilities, access roads, and airstrips—will be reclaimed. The leaseholder will develop and implement a BLM-approved abandonment and reclamation plan. The plan will describe short-term stability, visual, hydrological, and productivity objectives and steps to be taken to ensure eventual rehabilitation to the land's previous hydrological, vegetation, and habitat functions. The BLM Authorized Officer may grant exceptions to satisfy stated environmental or public purposes.

Subsistence Consultation for Permitted Activities

Required Operating Procedure 36

Objective: Provide opportunities for subsistence users to participate in planning and decision-making to prevent unreasonable conflicts between subsistence uses and other activities.

Requirement/Standard: The lessee/operator/contractor will coordinate directly with affected communities, using the following guidelines:

- a. Before submitting an application to the BLM, the applicant will work with directly affected subsistence communities, the Native Village of Kaktovik, NSB, and the North Slope and Eastern Interior Alaska Subsistence Regional Advisory Councils. They will discuss the siting, timing, and methods of their proposed operations to help discover local traditional and scientific knowledge. This is to minimize impacts on subsistence uses. Through this coordination, the applicant will make every reasonable effort, including such mechanisms as conflict avoidance agreements and mitigating measures, to ensure that proposed activities will not result in unreasonable interference with subsistence activities. In the event that no agreement is reached between the parties, the BLM

Authorized Officer will work with the involved parties and determine which activities would occur, including the time frames.

- b. Applicants will submit documentation of coordination as part of operation plans to the North Slope and Eastern Interior Alaska Subsistence Regional Advisory Councils for review and comment. Applicants must allow time for the BLM to conduct formal government-to-government consultation with Native Tribal governments if the proposed action requires it.
- c. A plan will be developed that shows how the activity, in combination with other activities in the area, will be scheduled and located to prevent unreasonable conflicts with subsistence activities. The plan will also describe the methods used to monitor the effects of the activity on subsistence use. The plan will be submitted to the BLM Authorized Officer as part of the plan of operations. The plan will address the following items:
 - i. A detailed description of the activities to take place (including the use of aircraft);
 - ii. A description of how the applicant will minimize or address any potential impacts identified by the BLM Authorized Officer during the coordination process;
 - iii. A detailed description of the monitoring to take place, including process, procedures, personnel involved, and points of contact both at the work site and in the local community;
 - iv. Communication elements to provide information on how the applicant will keep potentially affected individuals and communities up-to-date on the progress of the activities and locations of possible, short-term conflicts (if any) with subsistence activities; communication methods can include holding community open house meetings, workshops, newsletters, and radio and television announcements;
 - v. Procedures necessary to facilitate access by subsistence users to conduct their activities;
 - vi. Barge operators requiring a BLM permit are required to demonstrate that barging activities will not have unmitigable adverse impacts, as determined by NMFS, on the availability of marine mammals to subsistence hunters; and
 - vii. All operators of vessels over 50 feet in length engaged in operations requiring a BLM permit must have an automatic identification system transponder system on the vessel.
- d. Permittees who propose transporting facilities, equipment, supplies, or other materials by barge to the Coastal Plain in support of oil and gas activities in the Arctic Refuge will notify and coordinate with the Alaska Eskimo Whaling Commission, the appropriate local community whaling captains' associations, and the NSB to minimize impacts from the proposed barging on subsistence whaling.
- e. For polar bears:

Operators must minimize adverse impacts on the availability of polar bears for subsistence uses.

 - viii. Community consultation. Applicants must consult with potentially affected communities and appropriate subsistence user organizations to discuss potential conflicts with subsistence polar bear hunting caused by the location, timing, and methods of operations and support activities.
 - ix. Plan of Cooperation (POC). If conflicts arise, the applicant must address conflict avoidance issues through a POC, where an operator will be required to develop and implement a USFWS-approved POC.

Required Operating Procedure 37

Objective: Avoid conflicts between subsistence activities and seismic exploration.

Requirement/Standard: In addition to the coordination process described in **ROP 36** for permitted activities, before seismic exploration begins, applicants will notify the local search and rescue organizations in proposed seismic survey locations for that operational season. For the purpose of this standard, a potentially affected cabin or campsite is defined as one used for subsistence purposes and located within the boundary of the area subject to proposed geophysical exploration or within 1 mile of actual or planned travel routes used to supply the seismic operations.

- a. Because of the large land area covered by typical geophysical operations and the potential to affect a large number of subsistence users during the exploration season, the permittee/operator will notify all potentially affected subsistence use cabin and campsite users.
- b. The official recognized list of subsistence users of cabins and campsites is the NSB's most current inventory of cabins and campsites, which have been identified by the subsistence users' names.
- c. A copy of the notification letter, a map of the proposed exploration area, and the list of potentially affected users will also be provided to the office of the appropriate Native Tribal government.
- d. The BLM Authorized Officer will prohibit seismic work within 1 mile of any known subsistence use cabin or campsite, unless an alternate agreement between the owner or user is reached through the consultation process and presented to the BLM Authorized Officer.
- e. Each week, the permittee will notify the appropriate local search and rescue of the operational location in the Coastal Plain. This notification will include a map indicating the extent of surface use and occupation, as well as areas previously used or occupied during the operation. The purpose of this notification is to give hunters up-to-date information regarding where seismic exploration is occurring and has occurred, so that they can plan their hunting trips and access routes accordingly. A list of the appropriate search and rescue offices to be contacted can be obtained from the coordinator of the North Slope and Eastern Interior Alaska Subsistence Regional Advisory Councils in the BLM's Arctic District Office.

Required Operating Procedure 38

Objective: Minimize impacts from non-local hunting, trapping, and fishing activities on subsistence resources.

Requirement/Standard: Hunting, trapping, and fishing by lessees/operators/contractors are prohibited when persons are on work status. This is defined as the period during which an individual is under the control and supervision of an employer. Work status is terminated when workers' shifts ends, and they return to a public airport or community (e.g., Kaktovik, Utqiagvik, or Deadhorse). Use of operator/permittee facilities, equipment, or transport for personnel access or aid in hunting, trapping, and fishing is prohibited.

Required Operating Procedure 39

Objective: Prevent disruption of subsistence use and access.

Requirement/Standard: Before starting exploration or development, lessees/operators/contractors are required to develop a subsistence access plan, in coordination with the Native Village of Kaktovik and the City of Kaktovik, to be approved by the BLM Authorized Officer.

ORIENTATION PROGRAMS ASSOCIATED WITH PERMITTED ACTIVITIES

Required Operating Procedure 40

Objective: Minimize cultural and resource conflicts.

Requirement/Standard: All personnel involved in oil and gas and related activities will be provided with information concerning applicable lease stipulations, ROPs, standards, and specific types of environmental, social, traditional, and cultural concerns that relate to the region. The operator will ensure that all personnel involved in permitted activities will attend an orientation program at least once a year. The proposed orientation program will be submitted to the BLM Authorized Officer for review and approval and will accomplish the following:

- a. Provide sufficient detail to notify personnel of applicable lease stipulations and ROPs and to inform individuals working on the project of specific types of environmental, social, traditional, and cultural concerns that relate to the region.
- b. Address the importance of not disturbing archaeological and biological resources and habitats, including endangered species, fisheries, bird colonies, and marine mammals, and provide guidance on how to avoid disturbance, including on the preparation, production, and distribution of information cards on endangered or threatened species.
- c. Be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which personnel would be operating.
- d. Include information concerning avoidance of conflicts with subsistence and pertinent mitigation.
- e. Include information for aircraft personnel concerning subsistence activities and areas and seasons that are particularly sensitive to disturbance by low-flying aircraft; of special concern is aircraft use near traditional subsistence cabins and campsites, flights during spring goose hunting and fall caribou and moose hunting seasons, and flights near potentially affected communities.
- f. Provide that individual training is transferable from one facility to another, except for elements of the training specific to a site.
- g. Include on-site records of all personnel who attend the program for so long as the site is active, though not to exceed the 5 most recent years of operations; this record will include the name and dates of attendance of each attendee.
- h. Include a module discussing bear interaction plans to minimize conflicts between bears and humans.
- i. Provide a copy of 43 CFR 3163 regarding noncompliance assessment and penalties to on-site personnel.
- j. Include training designed to ensure strict compliance with local and corporate drug and alcohol policies; this training will be offered to the NSB Health Department for review and comment.
- k. Include employee training on how to prevent transmission of communicable diseases, including sexually transmitted diseases, to the local communities; this training will be offered to the NSB Health Department for review and comment.

In order to limit disturbance around known polar bear dens:

Monitoring requirements.

- a. Develop and implement a site-specific, USFWS-approved marine mammal monitoring and mitigation plan to monitor and evaluate the effectiveness of mitigation measures and the effects of activities on polar bears, and the subsistence use of this species.
- b. Provide trained, qualified, and USFWS-approved onsite observers to carry out monitoring and mitigation activities identified in the marine mammal monitoring and mitigation plan.
- c. For offshore activities, provide trained, qualified, and USFWS-approved observers on board all operational and support vessels to carry out monitoring and mitigation activities identified in the marine mammal monitoring and mitigation plan.
- d. Cooperate with the USFWS and other designated federal, state, and local agencies to monitor the impacts of Industry activities on polar bears. Where information is insufficient to evaluate the potential effects of activities on polar bears, and the subsistence use of this species, operators may be required to participate in joint monitoring and/or research efforts to address these information needs and ensure the least practicable impact on these resources.

Reporting requirements. Operators must report the results of monitoring and mitigation activities to the USFWS.

- a. In-season monitoring reports
 - i. Activity progress reports. Notify the USFWS at least 48 hours prior to the onset of activities; provide the USFWS weekly progress reports of any significant changes in activities and/or locations; and notify the USFWS within 48 hours after ending of activities.
 - ii. Polar bear observation reports. Report all observations of polar bears and potential polar bear dens, during any Industry activity. Information in the observation report must include, but is not limited to: (1) Date, time, and location of observation; (2) Number of bears; (3) Sex and age; (4) Observer name and contact information; (5) Weather, visibility, sea state, and sea-ice conditions at the time of observation; (6) Estimated closest distance of bears from personnel and facilities; (7) Industry activity at time of sighting; (8) Possible attractants present; (9) Bear behavior; (10) Description of the encounter; (11) Duration of the encounter; and (12) Mitigation actions taken.
- b. Notification of Letters of Authorization incident report. Report all bear incidents during any Industry activity. Reports must include: (1) All information specified for an observation report; (2) A complete detailed description of the incident; and (3) Any other actions taken.
- c. Final report. The results of monitoring and mitigation efforts identified in the marine mammal monitoring and mitigation plan must be submitted to the USFWS for review within 90 days of the expiration of an authorization. Information in the final report must include: (1) Copies of all observation reports submitted under an authorization; (2) A summary of the observation reports; (3) A summary of monitoring and mitigation efforts, including areas, total hours, total distances, and distribution; (4) Analysis of factors affecting the visibility and detectability of polar bears during monitoring; (5) Analysis of the effectiveness of mitigation measures; (6) Analysis of the distribution, abundance, and behavior of polar bears observed; and (7) Estimates of take in relation to the specified activities.

SUMMER VEHICLE TUNDRA ACCESS

Required Operating Procedure 41

Objective: Protect stream banks and water quality; minimize compaction and displacement of soils; minimize the breakage, abrasion, compaction, or displacement of vegetation; protect cultural and paleontological resources; maintain populations of and adequate habitat for birds, fish, and caribou and other terrestrial mammals; and minimize impacts on subsistence activities.

Requirement/Standard: On a case-by-case basis, the BLM Authorized Officer, in consultation with the USFWS, may permit low-ground-pressure vehicles to travel off gravel pads and roads during times other than those identified in ROP 11. Permission for such use will be granted only after an applicant has completed the following:

- a. Submitted studies satisfactory to the BLM Authorized Officer of the impacts on soils and vegetation of the specific low-ground-pressure vehicles to be used; these studies will reflect use of such vehicles under conditions like those of the route proposed and will demonstrate that the proposed use will have no more than minimal impacts on soils and vegetation. Alternatively, the most current list of summer off-road vehicles approved by the State may be used to fulfill this requirement.
- b. Submitted surveys satisfactory to the BLM Authorized Officer of subsistence uses of the area as well as of the soils, vegetation, hydrology, wildlife, and fish (and their habitats), paleontological and archaeological resources, and other resources, as required by the BLM Authorized Officer.
- c. Designed or modified the use proposal to minimize impacts to the BLM Authorized Officer's satisfaction; design steps to achieve the objectives and based on the studies and surveys may include timing restrictions (generally it is considered inadvisable to conduct tundra travel before August 1 to protect ground-nesting birds), shifting work to winter, rerouting, and not proceeding when certain wildlife are present or subsistence activities are occurring.

GENERAL WILDLIFE AND HABITAT PROTECTION

Required Operating Procedure 42

Objective: Minimize disturbance of wildlife or alteration and hinderance of wildlife movements through the Coastal Plain.

Requirement/Standard:

- a. Following wildlife with ground vehicles or aircraft is prohibited. Particular attention will be given to avoid disturbing caribou.
- b. Avoid and minimize the disturbance to loafing and nesting birds to the extent practicable.

Required Operating Procedure 43

Objective: Prevent the introduction or spread of nonnative, invasive species in the Coastal Plain.

Requirement/Standard:

- a. Certify that all equipment, supplies (including gravel, lumber, erosion control material), and vehicles (including helicopters, planes, boats, off-road vehicles, trucks, tracked vehicles, and barges) intended for use either off or on roads are free of invasive species before transiting into the Coastal Plain.

- b. Survey annually along roads, drilling platforms, and barge access points for invasive species and begin effective eradication measures on evidence of their introduction.
- c. Before beginning operations into the Coastal Plain, submit a plan, for BLM approval, detailing the methods for 1) cleaning equipment, supplies, and vehicles, including off-site disposal of cleaning fluids or materials and detected organisms, and 2) early detection surveys, and eradication response measures (including post treatment monitoring) for all invasive species, noxious plants and animals, and weeds.

Required Operating Procedure 44

Objective: Minimize loss of populations and habitat for plant species designated as sensitive by the BLM in Alaska.

Requirement/Standard: If a development is proposed in an area that provides potential habitat for a BLM sensitive plant species, the development proponent will conduct surveys at appropriate times of the summer season and in appropriate habitats for the sensitive plant species. The results of these surveys and plans to minimize impacts will be submitted to the BLM with the application for development.

Required Operating Procedure 45

Objective: Minimize loss of individuals and habitat for mammalian, avian, fish, and invertebrate species designated as sensitive by the BLM in Alaska.

Requirement/Standard: If a development is proposed in an area that provides potential habitat for BLM sensitive species, the development proponent will conduct surveys at appropriate times of the year and in appropriate habitats to detect the presence of BLM sensitive species. The results of these surveys and plans to minimize impacts will be submitted to the BLM with the application for development.

MARINE VESSEL TRAFFIC-ASSOCIATED ACTIVITIES

Required Operating Procedure 46

Objective: Minimize impacts on marine mammals from vessel traffic.

Requirement/Standard:

General vessel traffic

- a. Operational and support vessels will be staffed with dedicated PSOs to alert crew of the presence of marine mammals and to initiate adaptive mitigation responses.
- b. When weather conditions require, such as when visibility drops, support vessel operators must reduce speed and change direction, as necessary (and as operationally practicable), to avoid the likelihood of injuring marine mammals.
- c. The transit of operational and support vessels is not authorized before July 1. This operating condition is intended to allow marine mammals the opportunity to disperse from the confines of the spring lead system and minimize interactions with subsistence hunters. Exemption waivers to this operating condition may be issued by the NMFS and USFWS on a case-by-case basis, based on a review of seasonal ice conditions and available information on marine mammal distributions in the area of interest.

- d. Vessels may not be operated in such a way as to separate members of a group of marine mammals from other members of the group.
- e. Operators shall take reasonable steps to alert other vessel operators in the vicinity of marine mammals.
- f. Operators shall report any dead or injured listed marine mammals to NMFS and the USFWS.
- g. Vessels will not allow tow lines to remain in the water when not towing, all closed lops will be cut, and all trash will be retained on board for disposal in secure landfills, thereby reducing the potential for marine mammal entanglement.
- h. The lessees will implement measures to minimize risk of spilling hazardous substances. These measures will include avoiding operation of watercraft in the presence of sea ice to the extent practicable and using fully operational vessel navigation systems composed of radar, chart plotter, sonar, marine communication systems, and satellite navigation receivers, as well as Automatic Identification System for vessel tracking.

Vessels in vicinity of whales

- a. Vessel operators will avoid groups of three or more whales by staying at least 1 mile away. A group is defined as being three or more whales observed within a 1,641-foot (500-meter) area and displaying behaviors of directed or coordinated activity (e.g., group feeding).
- b. All boat and barge traffic will be scheduled to avoid periods when bowhead whales are migrating through the area. Boat, hovercraft, barge, and aircraft will remain at least 12 miles from Cross Island during the bowhead whale subsistence hunting consistent with the conflict avoidance agreement.
- c. The transit of operational and support vessels through the North Slope region is not authorized prior to July 1. This operating condition is intended to allow marine mammals the opportunity to disperse from the confines of the spring lead system and minimize interactions with subsistence hunters. Exemption waivers to this operating condition may be issued by NMFS and USFWS on a case-by-case basis, based upon a review of seasonal ice conditions and available information on marine mammal distributions in the area of interest.
- d. If the vessel approaches within 1 mile of observed whales, except when providing emergency assistance to whalers or in other emergency situations, the operator will take reasonable precautions to avoid potential interaction with the whales by taking one or more of the following actions, as appropriate:
 - i. Reducing vessel speed to less than 5 knots within 900 feet of the whale;
 - ii. Steering around the whale if possible;
 - iii. Operating the vessel to avoid causing a whale to make multiple changes in direction, avoiding sudden or multiple course changes;
 - iv. Checking the waters around the vessel to ensure that no whales are within 164 feet of the vessel prior to engaging the propellers;
 - v. Reducing vessel speed to 9 knots or less when weather conditions reduce visibility to avoid the likelihood of injury to whales;
 - vi. Vessels shall not exceed speeds of 10 knots in order to reduce potential whale strikes; and
 - vii. If a whale approaches the vessel and if maritime conditions safely allow, the engine will be put in neutral and the whale will be allowed to pass beyond the vessel. If the vessel is taken out of gear, vessel crew will ensure that no whales are within 50 meters of the vessel when propellers are re-engaged, thus minimizing risk of marine mammal injury.

- e. Vessels will stay at least 984 feet away from cow-calf pairs, feeding aggregations, or whales that are engaged in breeding behavior. If the vessel is approached by cow-calf pairs, it will remain out of gear a long as whales are within 984 feet of the vessel (consistent with safe operations).
- f. Consistent with NMFS marine mammal viewing guidelines (<https://alaskafisheries.noaa.gov/pr/mm-viewing-guide>), operators of vessels will, at all times, avoid approaching marine mammals within 300 feet. Operators will observe direction of travel and attempt to maintain a distance of 300 feet or greater between the animal and the vessel by working to alter course or slowing the vessel.
- g. Special consideration of North Pacific right whale and their critical habitat:
 - i. Vessel operators will avoid transit through North Pacific right whale critical habitat. If such transit cannot be avoided, operators must post a dedicated PSO on the bridge and reduce speed to 10 knots while in the North Pacific right whale critical habitat. Alternately, vessels may transit at no more than 5 knots without the need for a dedicated PSO.
 - ii. Vessel operators will remain at least 800 meters from all North Pacific right whales and avoid approaching whales head-on, consistent with vessel safety.
 - iii. Operators will maintain a ship log indicating the time and geographic coordinates at which vessels enter and exit North Pacific right whale critical habitat.

Vessels in vicinity of pacific walruses and polar bears

- a. Operators shall take all reasonable precautions, such as reduce speed or change course heading, to maintain a minimum operational exclusion zone of 0.5 mile around groups of feeding walruses.
- b. Except in an emergency, vessel operators will not approach within 0.5 mile of observed polar bears, within 0.5 mile of walrus observed on ice, or within 1 mile of walrus observed on land.
- c. For polar bears:
 - i. Operational and support vessels must be staffed with dedicated marine mammal observers to alert crew of the presence of polar bears and initiate mitigation responses.
 - ii. Vessels must maintain the maximum distance possible from concentrations of polar bears. No vessel shall approach within an 805-meter (0.5-mile) radius of polar bears observed on land or ice.
 - iii. Vessels must avoid areas of active or anticipated polar bear subsistence hunting activity as determined through community consultations.
 - iv. The USFWS may require trained marine mammal monitors on the site of the activity or on board any vessel or vehicles to monitor the impacts of Industry's activity on polar bear.

Vessels in vicinity of seals

- a. Vessels used as part of a BLM-authorized activity will be operated in a manner that minimizes disturbance to wildlife in the coastal area. Vessel operators will maintain a 1-mile buffer from the shore when transiting past an aggregation of seals (primarily spotted seals) when they have hauled out on land, unless doing so would endanger human life or violate safe boating practices.

Vessel transit through steller sea lion critical habitat/near major rookeries and haul outs

- a. Vessels will remain 3 nautical miles (5.5 kilometers) from all Steller sea lion rookery sites listed in paragraph 50 CFR 224.103 (d)(1)(iii). The vessel operator will not purposely approach within 3

nautical miles of any major Steller sea lion rookery or haul out unless doing so is necessary to maintain safe conditions.

A.3.3 Lease Notices

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION AND MARINE MAMMAL PROTECTION ACT

Lease Notice 1. The lease areas may now or hereafter contain plants, animals, or their habitats determined to be threatened or endangered. The BLM will not approve any activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the ESA, as amended (16 United States Code 1531 et seq.), including completion of any required procedure for conference or consultation.⁶

Lease Notice 2. The lease area and/or potential project areas may now or hereafter contain marine mammals. The BLM may require modifications to exploration and development proposals to ensure compliance with Federal laws, including the MMPA. The BLM would not approve any exploration or development activity absent documentation of compliance under the MMPA. Such documentation shall consist of a Letter of Authorization, Incidental Harassment Authorization, and/or written communication from USFWS and/or NMFS confirming that a take authorization is not warranted.

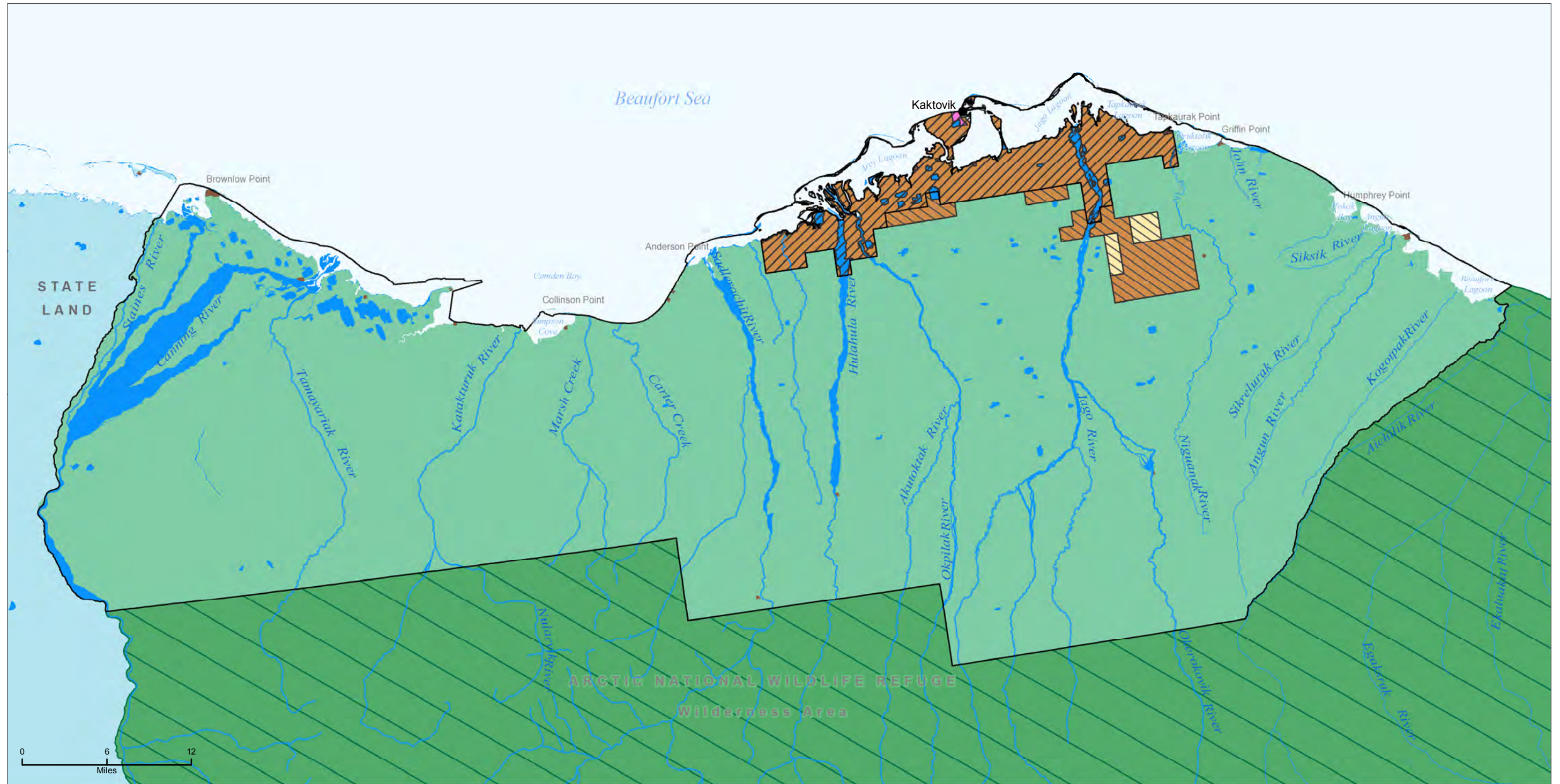
⁶ Lease Notice 1 was developed through the ESA Section 7 Consultation process and has been adjusted to more accurately reflect the requirements of the ESA.

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Appendix B

Maps

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- U.S. Fish and Wildlife Service
- U.S. Fish and Wildlife Service, wilderness area
- Native-conveyed
- Native-selected
- State
- Native allotment
- Air Force

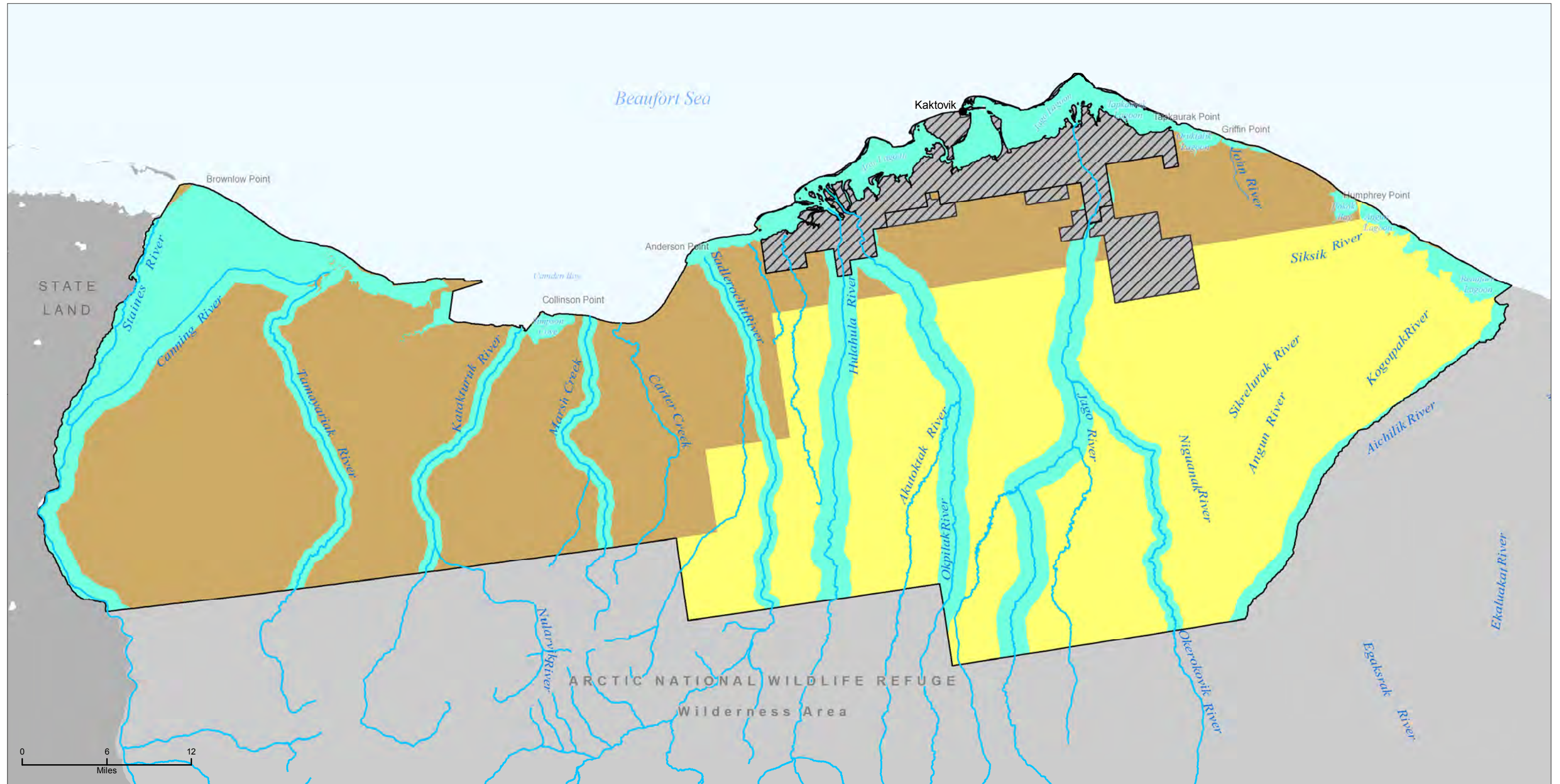
- Public Law 115-97 Coastal Plain
- Outside BLM's oil and gas leasing authority:
 - Excluded from Public Law 115-97 Coastal Plain
 - Native or other mineral ownership



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

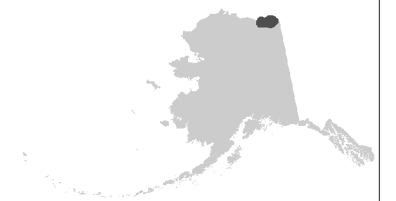
Data Source: BLM GIS 2018
Print Date: 10/21/2019

Map 1-1



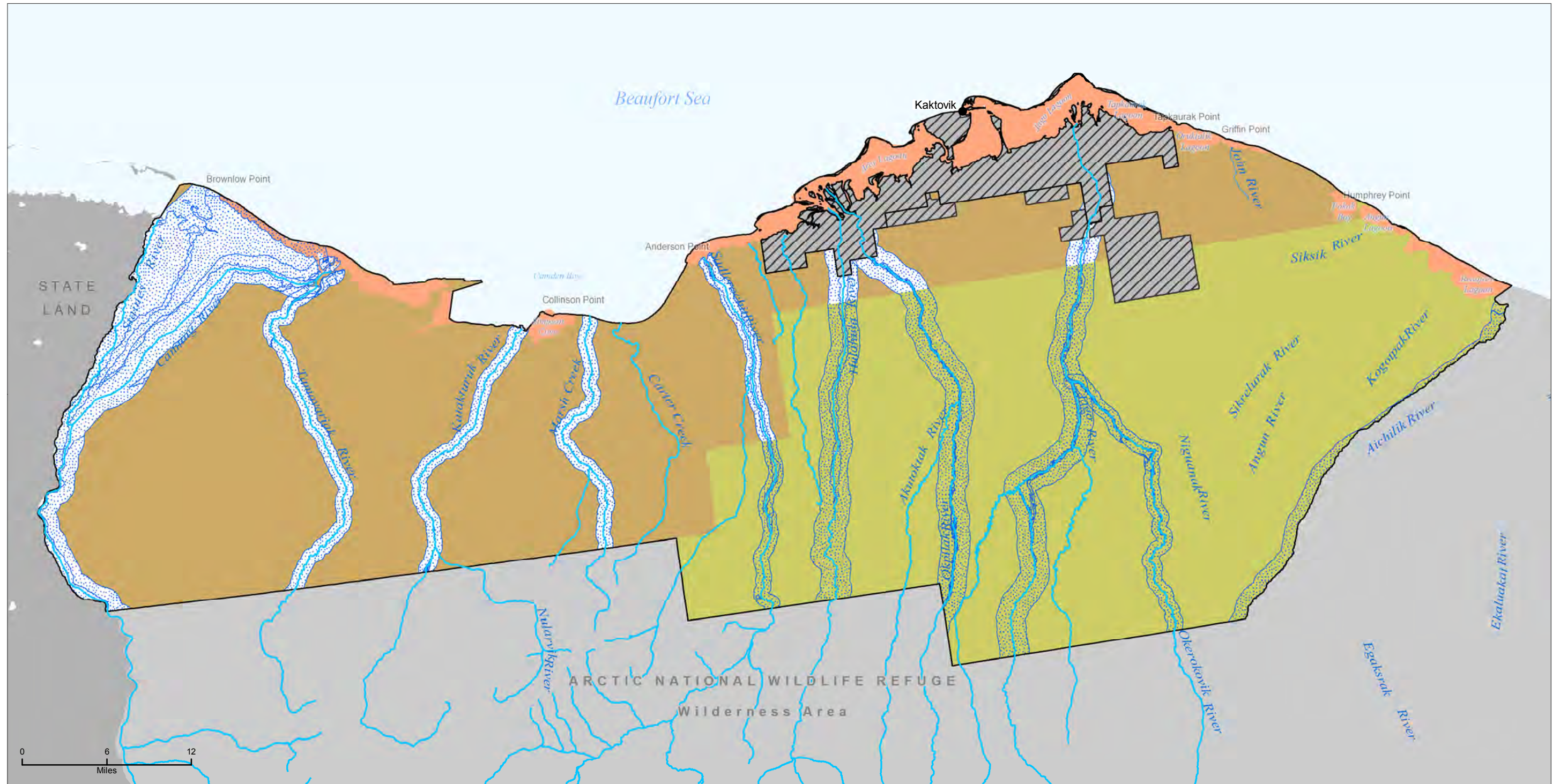
- Not offered for lease sale (none)
- Available for lease sale:
- Subject to no surface occupancy
- Subject to controlled surface use (none)
- Subject to timing limitations
- Subject to only standard terms and conditions

- Public Law 115-97 Coastal Plain
- Excluded from Public Law 115-97 Coastal Plain or outside the BLM's oil and gas leasing authority



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Data Source: BLM GIS 2018,
FWS GIS 2018
Print Date: 10/21/2019



Available for lease sale, subject to no surface occupancy

Lease stipulation 1—rivers and streams

Lease stipulation 4—nearshore marine, lagoon, and barrier island habitat, exploration

Available for lease sale, subject to timing limitations

Lease stipulation 7—Porcupine Caribou calving habitat

Available for lease sale
Subject to only standard terms and conditions

Public Law 115-97 Coastal Plain

Excluded from Public Law 115-97 Coastal Plain or outside the BLM's oil and gas leasing authority



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Data Source: BLM GIS 2018, FWS GIS 2018
Print Date: 10/21/2019