National Petroleum Reserve in Alaska Integrated Activity Plan

Environmental Assessment

DOI-BLM-AK-0000-2025-0005-EA

June 2025

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BLM ePlanning Link:
https://eplanning.blm.gov/eplanning-ui/project/2038893/510

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

CHAPTER 1. INTRODUCTION

In accordance with Executive Order (EO) 14153 and Secretary's Order (SO) 3422 (described further in Section 1.1), the Bureau of Land Management (BLM) has prepared this analysis to support further decision-making affecting the management of lands in the National Petroleum Reserve in Alaska (NPR-A). The Naval Petroleum Reserves Production Act (NPRPA) of 1976 (42 United States Code [U.S.C.] 6501 et seq), as amended, excludes the NPR-A from the application of Section 202 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1712), as amended, which is the basis for the BLM's resource management plans. The BLM, therefore, conducts planning of all BLM-managed lands within the NPR-A with an Integrated Activity Plan (IAP). The BLM complies with all applicable laws in the preparation of the IAP, including but not limited to the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act of 1973, the Marine Mammal Protection Act of 1972, and the National Historic Preservation Act of 1966. The NPRPA and its implementing regulations require oil and gas leasing in the NPR-A and the protection of surface values to the extent consistent with the exploration, development, and transportation of oil and gas.

1.1. Background

In 2020, the BLM published the National Petroleum Reserve in Alaska Final IAP Environmental Impact Statement (2020 IAP/EIS) (BLM 2020a). A complete revision of the 2012 NPR-A IAP/EIS (BLM 2012), the 2020 IAP/EIS was developed to determine the appropriate management of all BLM-managed lands in the NPR-A in a manner consistent with existing statutory direction and SO 3352 (since reinstated via SO 3422). SO 3352 directed the development of a schedule to "effectuate the lawful review and development of a revised IAP for the NPR-A that strikes an appropriate statutory balance of promoting development while protecting surface resources."

The 2020 IAP/EIS analyzed four action alternatives (Alternatives B, C, D, and E) and a No Action alternative (Alternative A), the latter of which would provide for management of the NPR-A consistent with the IAP approved in the 2013 IAP Record of Decision (2013 IAP/ROD) (BLM 2013).

On December 31, 2020, the BLM adopted Alternative E as analyzed in the 2020 IAP/EIS, including clarifications and modifications, in the 2020 IAP Record of Decision (2020 IAP/ROD) (BLM 2020b).

On January 20, 2021, EO 13990 – *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* set forth new policy direction for various agency actions (this EO was subsequently revoked in January 2025 via EO 14148). EO 13990 led to the issuance of SO 3398, which, in relevant part, revoked SO 3352, finding it inconsistent with or to present obstacles to the policy set forth in EO 13990. SO 3398 directed the Department of the Interior (Department) to review and revise as necessary all policies and instructions that implemented SO 3352 or that were otherwise inconsistent with the policy set forth in EO 13990. The Department accordingly directed the BLM to conduct an evaluation of the 2020 IAP/EIS, associated subsistence evaluation, and existing biological opinions.

On April 25, 2022, in conjunction with the publication of a determination of NEPA adequacy (DNA) (BLM 2022a), the BLM issued a new ROD (2022 IAP/ROD) (BLM 2022b) adopting the No Action Alternative A, including modifications and clarifications, as analyzed in the 2020 IAP/EIS.

On January 20, 2025, EO 14153 – *Unleashing Alaska's Extraordinary Resource Potential* was issued. Among the provisions laid out in EO 14153, Sections 3(b)(xii and xiv) direct specific actions to be taken concerning the management of the NPR-A under an IAP:

> (xii) place a temporary moratorium on all activities and privileges granted to any party pursuant to the record of decision signed on April 25, 2022, entitled "National Petroleum Reserve in Alaska Integrated Activity Plan Record of Decision," (NEPA No. DOI-BLM-AK-R000-2019-0001-EIS), in order to review such record of decision in light of alleged legal deficiencies and for consideration of relevant public interests and, as appropriate, conduct a new, comprehensive analysis of such deficiencies, interests, and environmental impacts;
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> (xiv) reinstate Secretarial Order 3352 dated May 17, 2017 (National Petroleum Reserve - Alaska), which is referred to in "Final Report: Review of the Department of the Interior Actions that Potentially Burden Domestic Energy," 82 *Fed. Reg.* 50532 (November 1, 2017), and the record of decision signed on December 31, 2020, entitled "National Petroleum Reserve in Alaska Integrated Activity Plan Record of Decision," which is referred to in "Notice of Availability of the National Petroleum Reserve in Alaska Integrated Activity Plan Final Environmental Impact Statement," 85 *Fed. Reg.* 38388 (June 26, 2020);

Secretary's Order (SO) 3422, issued on February 3, 2025, implements the provisions of EO 14153 by reinstating SO 3352 and directing the preparation of an action plan to implement EO 14153. This environmental assessment (EA) now provides information and analysis to support the selection of a new alternative from the 2020 IAP/EIS and issuing a new ROD that substantially aligns with the decisions made in the 2020 IAP/ROD.

1.2. Purpose and Need

The BLM is undertaking this review of the 2020 IAP/EIS to determine the appropriate management of all BLM-managed lands in the NPR-A in a manner consistent with existing statutory direction, EO 14153, and SO 3422. EO 14153 and SO 3422 direct Bureaus within the Department of the Interior to take certain steps with the purpose of unleashing of Alaska's extraordinary resource potential, including within the NPR-A, to allow the United States to fully avail itself of its vast resources for the benefit of the Nation and the American citizens; to efficiently and effectively maximize the development and production of its natural resources; and to expedite the permitting and leasing of energy and natural resource projects.

This EA evaluates new circumstances and information that have arisen since the publication of the 2020 IAP/EIS to ensure that the environmental analysis previously conducted is sufficient or is updated and expanded upon, as appropriate.

1.3. Decision to be Made

Based on the analysis in this EA and that was already presented in the 2020 IAP/EIS, the BLM will determine whether the reasonably foreseeable effects of implementing the proposed land use allocations and management direction originally adopted in the 2020 IAP/ROD would have significant impacts not already disclosed or analyzed in the 2020 IAP/EIS, that might otherwise warrant the preparation of an EIS before a new record of decision can be signed.

1.4. Relationship to Statutes and Regulations

This EA was prepared in compliance with the requirements of NEPA and consistent with the Department of the Interior's NEPA regulations at 43 CFR §§ 46.10-46.450.1.[1]

The BLM prepared the 2020 IAP/EIS in accordance with its responsibilities to manage the NPR-A under the authority and direction of the NPRPA (as amended) and the relevant sections of, FLPMA, and in compliance with the Alaska National Interest Lands Conservation Act (ANILCA). A detailed summary of the federal laws, regulations, and policies relevant to the oil and gas leasing program in the NPR-A is included in Appendix D of the 2020 IAP/EIS.

1.5. Related Environmental Analyses

The Department's regulations and procedures implementing NEPA at 43 CFR 46.120 encourage the use of existing NEPA analysis for assessing the impacts of a proposed action and any alternatives. In considering whether existing environmental analysis adequately assesses the proposed action and alternatives, the agency is directed to evaluate whether new circumstances, new information or changes in the action or its impacts not previously analyzed may result in significantly different environmental effects that bear on the proposed action or its impacts.

The alternatives in this EA were previously analyzed in the 2020 IAP/EIS.[2] In accordance with 43 CFR 46.120, the analysis for this EA tiers to, and incorporates by reference, the 2020 IAP/EIS, evaluates new circumstances and information relevant to environmental concerns, and provides additional analysis where appropriate. Pursuant to 40 CFR 46.140(c), the BLM may issue a finding of no *new* significant impact (FONNSI), if no significant impacts other than those already disclosed and analyzed in an environmental impact statement to which an environmental assessment is tiered are identified.

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[1] Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The BLM verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum. The BLM has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.

[2] The 2020 IAP/EIS may be accessed at https://eplanning.blm.gov/eplanning-ui/project/117408/510.

1.6. Requirements for Further Analysis

NEPA documentation is required before the BLM can authorize actions that affect the environment. Actions that could individually or cumulatively have a significant effect on the environment would be authorized only after completion of an EIS. Actions that are not anticipated to have a significant effect on the environment could be authorized after completion of an environmental assessment. Actions having no new significant effects could be analyzed in an environmental assessment tiering to and/or incorporated by reference in an existing EIS, including this IAP/EIS. Actions that have been shown not to have the potential for individual or cumulative significant impacts can be authorized using categorical exclusions.

The analysis presented in the 2020 IAP/EIS, as updated by the analysis included in this EA, is intended to fulfill NEPA requirements for lease sales conducted at least through December 2045 and potentially thereafter. After the next lease sale, the BLM will evaluate the adequacy of the IAP/EIS in light of new information and circumstances to determine whether it requires supplementation or revision in order to comply with NEPA for future lease sales.

Readers should bear in mind, however, that the first sale, and any subsequent sale, might offer only a portion of the lands identified in the ROD as available, making possible a phased approach to leasing and development. The area offered in the first lease sale would be within the area identified in a new ROD as available and not deferred for leasing. The timing of and the lands offered for lease in the second and subsequent sales, if any, would depend in part on the response to the first sale and the results of any exploration that follows.

Future on-the-ground actions requiring BLM approval, including potential exploration and development proposals, would require further environmental analysis and compliance based on the site-specific proposal. Applicants would be subject to the terms of the lease, including lease stipulations in effect at the time the lease is issued or renewed, and required operating procedures adopted in a new ROD; however, the BLM Authorized Officer may require additional site-specific terms and conditions before authorizing any oil and gas activity based on the project-level NEPA analysis.

1.7. Scoping and Issues

As part of the internal scoping process for this EA, an interdisciplinary team of BLM subject matter experts conducted a review of the 2020 IAP/EIS to determine whether new circumstances, new information, or changes in the impacts of the Proposed Action not previously analyzed may result in significantly different environmental effects than those analyzed in the 2020 IAP/EIS. Based on this review, specialists determined whether the existing analysis remains sufficient for the Proposed Action or if further analysis is needed. A summary of this review of new information and circumstances and the BLM's determinations as to whether or not to carry forward a specific issue for further analysis is included in Appendix A.

No formal public scoping period was held for this analysis. However, prior to issuance of this draft EA, the BLM Alaska State Office received comments pertinent to this review process. The BLM considered all comments received as part of its review of the 2020 IAP/EIS and relevant new information, circumstances, and changes in the impacts of the Proposed Action. Resource areas and issues identified in comments received include:

- updates to reasonably foreseeable oil and gas development activities in the NPR-A

- updates to seismic exploration activity in the NPR-A
- new research and information about caribou
- new research and information about bird populations in the NPR-A
- new research and information about polar bears, and
- new climate research and information.

1.7.1. Issue(s) Identified for Detailed Analysis

The BLM identified the following issues for detailed analysis based on applicable law, information gathered during scoping, and review of the Proposed Action.

- Issue 1: How would future potential development of leases in the NPR-A under the Proposed Action contribute to GHG emissions, specifically downstream GHG emissions that would result from changes in consumption of oil and gas abroad (i.e. foreign consumption) due to the foreseeable production of NPR-A oil and gas? [3]

CHAPTER 2. ALTERNATIVES

As noted in Section 1.5 above, this EA tiers to and incorporates by reference the 2020 IAP/EIS.

The 2020 IAP/EIS analyzed a range of five alternatives in detail - Alternatives A [No Action], B, C, D, and E [which was the Preferred Alternative]. Each Alternative allocates lands available for leasing, subject to no surface occupancy (NSO) or timing limitations (TL); identifies lands open to onshore infrastructure development; defines special area boundaries;[4] and describes protective measures (lease stipulations and required operating procedures [ROPs]) that would apply to both oil and gas and non-oil and gas activities requiring authorization from the BLM.

Of the alternatives analyzed in the 2020 IAP/EIS, this EA carries forward Alternative A (No Action) and Alternative E (Proposed Action) for detailed analysis in consideration of new information, circumstances, or impacts not previously analyzed. This additional analysis is necessary to support informed decision-making under the direction provided in EO 14153 and SO 3422.

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[3] This EA was largely drafted before the Supreme Court's decision in *Seven County Infrastructure Coalition v. Eagle County*, 2025 U.S. LEXIS 2068 (May 29, 2025) (*Seven County*). As a result, the EA includes more analysis than NEPA requires. The environmental effects of GHG emissions that may result from any changes to international oil and gas consumption that may be influenced by the production of oil and gas from NPR-A leases are separate in time and place from this IAP decision. Such downstream emissions would be from future projects that may be built as a result of or in the wake of the immediate action under consideration (the IAP). NEPA does not require the agency to evaluate the effects of an action arising from an entirely separate project (i.e. decisions made by other actors in response to the entrance of NPR-A produced oil and gas into the global market). However, as the BLM had already completed this analysis when the Court issued the *Seven County* decision, the BLM has decided to retain this extraneous analysis rather than take the time and resources to remove it.

[4] In accordance with Section 104(b) of the Naval Petroleum Reserves Production Act (42 United States Code 6504(a)), special area boundaries reflect those areas containing significant subsistence, recreational, fish and wildlife, or historic or scenic values. In such areas, unique management prescriptions are necessary to ensure maximum protection of the values, consistent with the requirements for exploration of the Reserve. Given that the identification of areas where such significant values exist is a fact-based inventory determination, the special area boundaries did not vary among the action alternatives.

2.1. No Action Alternative

Under the No Action Alternative, the BLM would continue current management as approved in the 2022 IAP/ROD. The 2022 IAP/ROD re-implements management originally approved in the 2013 IAP/ROD and analyzed as Alternative A in the 2020 IAP/EIS, including best management practices (BMPs)/ROPs and lease stipulations. No changes to the plan as adopted in the 2022 IAP/ROD are proposed as part of this analysis.

Under this alternative, approximately 11.8 million acres, or 52 percent of the NPR-A's subsurface estate, would remain available for oil and gas leasing.

Approximately 11 million acres would remain closed to oil and gas leasing under this alternative, including the area around Teshekpuk Lake, most lands in special areas and some Beaufort Sea waters in and near Dease Inlet and Utqiagvik. New infrastructure would be prohibited on approximately 8.3 million acres.

Special areas under Alternative A are the Teshekpuk Lake Special Area, Colville River Special Area, Utukok River Uplands Special Area, Kasegaluk Lagoon Special Area, and Peard Bay Special Area.

Additional information about the approved plan under 2022 IAP/ROD is available at: https://eplanning.blm.gov/public_projects/117408/200284263/20058238/250064420/2022_NPRA_IAP_ROD_508.pdf.

2.2. Proposed Action

The 2020 IAP/ROD adopted Alternative E as analyzed in the 2020 IAP/EIS including ROPs and lease stipulations and those modifications and clarifications set forth in the 2020 IAP/ROD. The BLM proposes to issue a new ROD to adopt a new IAP that reflects Alternative E as originally adopted in the 2020 IAP/ROD for the appropriate management of all BLM-managed lands in the NPR-A. No changes to the provisions of the 2020 IAP/ROD are proposed as part of this analysis.

Compared to the No Action alternative, the Proposed Action focuses on allowing for the possibility of expanded development while managing its potential effects. Under this alternative, approximately 18.7 million acres, or 82 percent of the NPR-A's subsurface estate, would be available for oil and gas leasing. New infrastructure would be prohibited on approximately 4.3 million acres.

Special areas under Alternative E are the Teshekpuk Lake Special Area, Utukok River Uplands Special Area, Kasegaluk Lagoon Special Area, and Peard Bay Special Area.

All of the Teshekpuk Lake Special Area would be available for leasing, with potential impacts on caribou calving habitat and important bird habitat primarily mitigated through NSO stipulations and TLs, among other operational measures. The extent of NSO coverage here means that some areas, while technically available for leasing, would not be within reach of current directional drilling technology; however, keeping those areas available for leasing allows for advances in future technology. The Utukok River Uplands Special Area would have a core area that is unavailable for leasing and new infrastructure, a corridor where leasing and infrastructure is allowed subject to a TL, and a caribou migration corridor along the southern boundary that is available for leasing subject to NSO stipulations and allows for essential road and pipeline crossings.

A new ROD would authorize lease sales but would not directly authorize any on-the-ground activity associated with the exploration or development of oil and gas resources, or other land authorizations, in the NPR-A. On-the-ground activities would require separate decisions following additional, project-specific NEPA analysis.

Additional information about the approved plan under 2020 IAP/ROD is available at: https://eplanning.blm.gov/public_projects/117408/200284263/20032151/250038350/NPR-A%20IAP%20Record%20of%20Decision.pdf.

2.3. Comparison of Alternatives

Table 2.1. Quantitative Summary of Alternatives Analyzed in Detail

Land Allocation	No Action (acres)	Proposed Action (acres)
Closed to fluid mineral leasing	10,991,000	4,173,000
Open to fluid mineral leasing	11,763,000	18,581,000
Subject to no surface occupancy (NSO)	2,489,000	5,891,000
Subject to controlled surface use	0	438,000
Subject to timing limitations (TLs)	0	3,187,000
Subject only to standard terms and conditions	9,274,000	9,065,000
Teshekpuk lake deferral area	0	132,000
Unavailable for new infrastructure	8,312,000	4,315,000
Unavailable, except for essential pipeline	443,000	577,000
Unavailable, except for essential road and pipeline crossings	2,691,000	4,222,000
Unavailable, except for essential coastal infrastructure	259,000	287,000
Available to new infrastructure	10,815,000	13,119,000
Pipeline corridor	0	0
Sand and gravel mining prohibited (mineral materials disposal)	0	61,000
Sand and gravel mining (mineral materials disposal) authorized through the normal review	22,754,000	22,693,000
Special Areas	13,343,000	11,244,000
Visual Resource Management Class II	8,353,000	9,427,000
Visual Resource Management Class III	5,805,000	1,172,000
Visual Resource Management Class IV	8,362,000	11,927,000
Suitable Wild and Scenic River segments recommended for designation	0	0

For additional information and comparison between the No Action Alternative and the Proposed Action, refer to Chapter 2 of the 2020 IAP/EIS (Alternative A and Alternative E) and Appendix A – *Maps* of the 2020 IAP/EIS.

2.4. Alternatives Considered but Eliminated from Detailed Analysis

No other alternatives were considered for further analysis in this EA.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1. Issue 1: Climate and Meterology

> Issue Statement: How would future potential development of leases in the NPR-A under the Proposed Action contribute to GHG emissions, specifically downstream GHG emissions that would result from changes in consumption of oil and gas abroad due to the foreseeable production of NPR-A oil and gas?

Issuance of oil and gas leases under the IAP would have no direct impacts on the environment because by itself a lease does not authorize any on the ground oil and gas activities; however a lease does grant the lessee certain rights to drill for and extract oil and gas subject to further environmental review and reasonable regulation, including applicable laws, terms, conditions, and stipulations of the lease. The impacts of such future exploration and development activities that may occur because of the issuance of leases are considered potential indirect impacts of leasing. Such activities, including seismic and drilling exploration, construction, development, and production activities as well as the transportation, processing, storage, distribution, and downstream combustion of oil and gas in and from the NPR-A, could result in the emission of GHG.

The following analysis updates and expands upon the existing analysis of impacts to climate (via GHG emissions) as described in the 2020 IAP/EIS for the Proposed Action (Alternative E) and the No Action alternative (Alternative A). This analysis presents the potential life-cycle of GHG emissions associated with potential post-lease oil and gas activities in the NPR-A by using the best-available data. Actual development on any specific lease is likely to vary from what is analyzed in this EA and will be evaluated through a site-specific NEPA analysis when an operator submits an application or proposal to the BLM.

3.1.1. Methodology and Assumptions

Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are the three most common greenhouse gases associated with oil and gas extraction and consumption (i.e., end use). The potential impacts of post-lease oil and gas activities on climate largely are the result of the GHG emissions deriving from these activities.

This analysis evaluates the potential climate change impacts of the Proposed Action and No Action alternative by estimating and analyzing the projected potential GHG emissions from oil and gas development that could occur under the high and low theoretical development scenarios for Alternative A and Alternative E, as presented in the Reasonably Foreseeable Development Scenario (RFDS) in Appendix B of the 2020 IAP/EIS (BLM 2020a). For the purposes of this analysis, the BLM has grouped oil and gas extraction and consumption activities under the

general term “development”, which is further broken down into phases (explained further below). Emissions are estimated using the BLM’s Lease Sale Emissions Tool.

This analysis contemplates four general phases of post-lease development processes that would generate GHG emissions: 1) well development (well site construction, well drilling, and well completion), 2) well production operations (extraction, separation, gathering), 3) mid-stream (refining, processing, storage, and transport/distribution), and 4) end-use (combustion or other uses) of the fuels produced. The majority of GHG emissions are contributed by the downstream combustion of produced oil. This analysis also considers the GHG emissions that could result from changes in foreign oil consumption due to the impact of the produced oil on the global oil market. Collectively, these sources constitute the indirect GHG emissions estimated and analyzed for the No Action and Proposed Action.

Other sources of GHG emissions that could result from post-lease development include emissions from permafrost degradation from surface disturbing activities, and exploration activities including drilling, mud degassing, well testing, and seismic survey; however, the emissions from such activities would comprise a very small fraction of the total GHG emissions produced from post-lease activities. For this reason, the emissions from these sources are not included in the quantifications of GHG emissions presented in this analysis.

Emissions inventories conducted at a programmatic scale (as is done here) are imprecise due to uncertainties including the type of mineral development (oil, gas, or both), scale and duration of potential development, types of equipment (drill rig engine tier rating, horsepower, fuel type), and the mitigation measures that a future operator may propose in their development plan. Due to these uncertainties, for the purposes of this analysis, the BLM applies several assumptions to estimate emissions.

The number of estimated wells per parcel are based on the 2020 IAP/EIS RFDS, which considered past lease development combined with per-well drilling, development, and operating data from representative wells in the area. The amount of oil or gas that may be produced on any given lease, if developed, is unknown. For purposes of estimating well development and production emissions, it is assumed that potential wells would produce oil in similar amounts to the Willow project (BLM 2023). The Willow Project is used as a surrogate project in this analysis as it is a detailed example of a large development on Alaska’s North Slope and is within the NPR-A’s high development potential zone.

Well development emissions occur over a short period and may include emissions from heavy equipment and vehicle exhaust, drill rig engines, completion equipment, pipe venting, and well treatments such as hydraulic fracturing. Production operation emissions may result from storage tank breathing and flashing, truck loading, pump engines, heaters and dehydrators, pneumatic instruments or controls, flaring, fugitives (equipment leaks, etc.), and vehicle exhaust. Well production operations, mid-stream, and end-use emissions occur over the entire production life of a well. Based on the 2020 IAP/EIS RFDS, production activities are anticipated to occur year-round for 10 to 70 years.

While the BLM has no authority to direct or regulate the end-use of produced oil, for this analysis, the BLM assumes all produced oil will be combusted (such as for domestic heating or energy production). The BLM acknowledges that there may be additional sources of GHG emissions along the distribution, storage, and processing chains (commonly referred to as

midstream operations) associated with production from the lease parcels. These sources may include emissions of methane (a more potent GHG than CO_2 in the short term) from pipeline and equipment leaks, storage, and maintenance activities. These sources of emissions are highly speculative. Therefore, for this analysis, the BLM assumes that mid-stream emissions associated with production under the high and low theoretical development scenarios would be similar to the national level emissions identified by the Department of Energy's National Energy Technology Laboratory (NETL 2009, 2019). Additional detailed discussion of the methodology for estimating midstream emissions is included in Section 6.5 of the 2023 *BLM Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends* (Annual GHG Report) (BLM 2024a)[5], herein incorporated by reference.

Oil produced in the program area would enter the U.S. energy market and influence the production and consumption of other energy sources, including domestic and imported oil, natural gas, coal, biofuels, and renewables. Increased production may place downward pressure on oil prices, making U.S. oil more competitive in international markets and potentially increasing exports. Because oil is a globally traded commodity, lower prices may also stimulate additional foreign consumption of oil, whether sourced from the United States or other producers. BLM uses the Energy Substitution Model (EnergySub) model to evaluate these types of potential market responses.

EnergySub is benchmarked to long-run energy projections developed by the Energy Information Administration (EIA) and uses price elasticities and adjustment parameters that reflect interactions across a range of energy sources and sectors. The model is designed to assess potential market impacts resulting from changes in energy supply. It estimates a new market equilibrium in response to production of oil from the NPR-A, including how much energy from substitute sources would be displaced and how foreign oil consumption may change in a global market.

Energy substitution modeling was conducted through the year 2053 under the Proposed Action Alternative. EnergySub modeling was not conducted for the No Action because the effects associated with continued management consistent with the IAP adopted in the 2022 IAP/ROD are already represented in the long-run energy projections that form the baseline against which changes are measured. Since EIA only produces energy projections through 2050, EnergySub extrapolated data on baseline market conditions from the years 2051-2053 to support a 25-year analysis. Using a 25-year time period allows BLM to balance looking far enough ahead to understand long-term impacts while keeping the results reliable and meaningful. The energy substitution effects estimated by EnergySub reflect the share of energy use that shifts away from other sources and net changes in overall energy demand that may occur in response to increased oil production. Changes in foreign oil consumption are reported in terms of millions of barrels of oil and include oil from both U.S. and non-U.S. sources. Additional information on EnergySub,

[5] The Annual GHG Report also includes further discussion of climate science, as well as the reasonably foreseeable and cumulative GHG emissions associated with BLM's oil and gas leasing actions and methodologies (BLM 2024). This report presents the estimated emissions of greenhouse gases attributable to development and consumption of fossil fuels produced on lands and mineral estate managed by the BLM. The Annual GHG Report is incorporated by reference as an integral part of this analysis and is available at https://www.blm.gov/content/ghg/.

including its assumptions, baseline calibration, and market equilibrium calculations, is included in Appendix S of the Coastal Plain Final Supplemental EIS (BLM 2024b) and is hereby incorporated by reference in this EA.

The Global Liquid Energy Environmental Model (GLEEM), developed by the Bureau of Ocean Energy Management (BOEM), is a comprehensive tool used to estimate the net global greenhouse gas (GHG) emissions associated with offshore oil and gas leasing decisions. It takes a full life-cycle approach, accounting for emissions from extraction, processing, transportation, and end-use combustion of oil. The percentages of substitutions and changes in foreign oil consumption from EnergySub are each used as inputs to GLEEM to estimate GHG emissions that would result from these rates. The net GHG emissions are then calculated by subtracting the GHG emissions from the displaced energy sources from the gross emissions under the Proposed Action. Note that GLEEM is updated to include additional oil refinery emissions and assumes that all produced oil is combusted.

3.1.1.1. *Emission Control Measures Considered*

Emission controls (e.g., vapor recovery devices, no-bleed pneumatics, leak detection and repair, etc.) can substantially limit the amount of GHGs emitted to the atmosphere, while offsets (e.g., sequestration, low carbon energy substitution, plugging abandoned or uneconomical wells, etc.) can remove GHGs from the atmosphere or reduce emissions in other areas. Chapter 10 of the Annual GHG Report (BLM 2024a) provides a more detailed discussion of GHG mitigation strategies.

The EPA is the Federal agency charged with regulation of air pollutants and establishing standards for protection of human health and the environment. The EPA has issued regulations that will reduce GHG emissions from any development related to the proposed leasing action. These regulations include the New Source Performance Standard for Crude Oil and Natural Gas Facilities (40 CFR 60.5360a – 60.5439a), and the Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022 (40 CFR 60.5360b-60.5439b). These regulations impose emission limits, equipment design standards, and monitoring requirements on oil and gas facilities and a waste emissions charge on methane emissions that exceed 25,000 metric tonnes of CO2e for applicable petroleum and natural gas facilities currently required to report under the Greenhouse Gas Reporting Rule.

In December of 2023, the EPA released a separate rule under the Clean Air Act (CAA) to reduce methane and other harmful air pollutants from new and existing oil and gas operations nationwide, which includes the Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after December 6, 2022, (40 CFR 60.5360b-60.5439b); and Emissions Guidelines for Greenhouse Gas Emissions from Existing Crude Oil and Natural Gas Facilities (40 CFR 60.5360c-60.5439c). These regulations impose emission limits, equipment design standards, and monitoring requirements on oil and gas facilities and a waste emissions charge on CH4 emissions that exceed 25,000 metric tonnes of CO2e for applicable petroleum and natural gas facilities currently required to report under the GHG Reporting Rule. A detailed discussion of existing regulations and Executive Orders that apply to BLM management of federal lands as well as current Federal and state

regulations that apply to oil and gas development and production can be found in Chapter 2 of the Annual GHG Report (BLM 2024a). Section 2.5 of the Annual GHG Report, Executive Orders (EOs), has not been incorporated by reference as the EOs discussed therein have been rescinded as of January 20, 2025.

The majority of GHG emissions resulting from federal fossil fuel authorizations occur outside of the BLM's authority and control. These emissions generally occur off-lease during the transport, distribution, refining, and end-use of the produced federal minerals. The BLM's regulatory authority is limited to those activities authorized under the terms of the lease, which primarily occur in the "upstream" portions of natural gas and petroleum systems (i.e., the well-development and well-production phases). This decision authority is applicable when development is proposed on public lands and the BLM assesses the specific location, design and plan of development.

As part of its Annual GHG Report, the BLM developed Best Management Practices (BMPs) designed to reduce emissions from field production and operations. BMPs may include limiting emissions from stationary combustion sources, mobile combustion sources, fugitive sources, and process emissions that may occur during development of the lease parcel. Analysis and approval of future development within the NPR-A may include the application of BMPs within BLM's authority, included as Conditions of Approval, to reduce or mitigate GHG emissions. Additional measures proposed at the project development stage may also be incorporated as applicant-committed measures by the project proponent or added to necessary air quality permits. Additional information on mitigation strategies, including emissions controls and offset options, are provided in Chapter 10 of the Annual GHG Report (BLM 2024a).

3.1.1.2. *Social Cost of Greenhouse Gases*

NEPA does not require an agency to quantify project impacts through a specific methodology, such as estimating the "social cost of carbon," "social cost of methane," or "social cost of greenhouse gases." A protocol to estimate what is referenced as the "social cost of carbon" (SCC) associated with GHG emissions was developed by a federal Interagency Working Group on the Social Cost of Greenhouse Gases (IWG).

EO 14154 - *Unleashing American Energy* (Jan. 20, 2025) disbanded the IWG and withdrew any guidance, instruction, recommendation, or document issued by the IWG. Section 6(c) of EO 14154 states:

> The calculation of the "social cost of carbon" is marked by logical deficiencies, a poor basis in empirical science, politicization, and the absence of a foundation in legislation. Its abuse arbitrarily slows regulatory decisions and, by rendering the United States economy internationally uncompetitive, encourages a greater human impact on the environment by affording less efficient foreign energy producers a greater share of the global energy and natural resource market. Consequently, within 60 days of the date of this order, the Administrator of the EPA shall issue guidance to address these harmful and detrimental inadequacies, including consideration of eliminating the "social cost of carbon" calculation from any Federal permitting or regulatory decision.

EO 14154 further directs agencies to ensure consistency with the guidance in OMB Circular A-4 of September 17, 2003, when estimating the value of changes in greenhouse gas emissions from agency actions.

The BLM has not included any estimates for the SCC for this analysis for multiple reasons. First, this action is not a rulemaking. Rulemakings are the administrative actions for which the IWG originally developed the SCC protocol. Second, EO 14154 clarifies that the IWG has been disbanded and its guidance has been withdrawn.

Further, NEPA does not require agencies to conduct a cost-benefit analysis. Including an SCC analysis without a complete cost-benefit analysis, which would include the social benefits of the proposed action to society as a whole and other potential positive benefits, would be unbalanced, potentially inaccurate, and not useful to foster informed decision-making. Any increased economic activity—in terms of revenue, employment, labor income, total value added, and output—that is expected to occur as a result of the proposed action is simply an economic impact, not an economic benefit, inasmuch as any such impacts might be viewed by another person as a negative or undesirable impact due to a potential increase in the local population, competition for jobs, and concerns that changes in population will change the quality of the local community. "Economic impact" is distinct from "economic benefit," as understood in economic theory and methodology, and the socioeconomic impact analysis required under NEPA is distinct from a cost-benefit analysis, which NEPA does not require. In addition, many benefits and costs from agency actions cannot be monetized and, even if monetizable, cannot meaningfully be compared directly to SCC calculations for a number of reasons, including because of differences in scale (local impacts vs global impacts).

Finally, purported estimates of SCC would not measure the actual environmental impacts of a proposed action and may not accurately reflect the effects of GHG emissions. Estimates of SCC attempt to identify economic damages associated with an increase in carbon dioxide emissions—typically expressed as a one metric ton increase in a single year—and typically includes, but is not limited to, potential changes in net agricultural productivity, human health, and property damages from increased flood risk over hundreds of years. The estimate is developed by aggregating results across models, over time, across regions and impact categories, and across multiple scenarios. The dollar cost figure arrived at based on consideration of SCC represents the value of damages avoided if, ultimately, there is no increase in carbon emissions. But SCC estimates are often expressed in an extremely wide range of dollar figures, depending on the particular discount rates used for each estimate, and would provide little benefit in informing the Bureau's decision. For these reasons, the Department has also rescinded its memorandum of October 16, 2024, entitled, "Updated Estimates of the Social Cost of Greenhouse Gases," which had directed Interior bureaus to calculate SCC using the methodology contained in the Environmental Protection Agency's Final Rule of March 8, 2024, 89 Fed. Reg. 16,820.

To summarize, the BLM is not evaluating SCC for this Proposed Action because: (1) the BLM is not engaged in a rulemaking for which the now-rescinded SCC protocol was originally developed; (2) the IWG has been disbanded and all technical supporting documents and associated guidance have been withdrawn; (3) NEPA does not require agencies to prepare SCC estimates or cost-benefit analyses; (4) costs attributed to GHGs are often so variable and uncertain that they are unhelpful for analysis; and (5) the full social benefits of carbon-based

energy production have not been monetized, and quantifying only the costs of GHG emissions, but not the benefits, would yield information that is both potentially inaccurate and not useful.

3.1.2. Affected Environment

The Earth's climate system is very complex as there are many factors that can influence global atmospheric conditions. In general, cumulative GHG concentrations can influence the global climate by increasing the amount of solar energy retained by land, water bodies, and the atmosphere. GHGs can have long atmospheric lifetimes, which allows them to become well mixed and uniformly distributed over the entirety of the Earth's surface no matter their point of origin.

A discussion of past, current, and projected future climate change impacts is included in Chapters 4, 8, and 9 of the Annual GHG Report (BLM 2024a). These chapters describe currently observed climate impacts globally, nationally, and in each State, and present a range of projected impact scenarios depending on future cumulative GHG emission levels. This information is herein incorporated by reference.

A description of the current climatic conditions within the NPR-A, including a description of the effects of climate change, are described in Section 3.2.1 – *Climate and Meteorology* and Appendix G – *Climate and Meteorology* in the 2020 IAP/EIS, herein incorporated by reference. Additional information, herein incorporated by reference, concerning observed and projected climate trends and impacts in the Arctic and on the North Slope is included in Section 3.2.1 – *Affected Environment* of the Willow Project Final Supplemental EIS (BLM 2023).

The incremental contribution to cumulative global GHGs from a single proposed land management action cannot be accurately translated into its potential effect on global climate change or any localized effects in the area specific to the action. Currently, global climate models are unable to forecast local or regional effects on resources resulting from a specific subset of emissions. However, there are general projections, including several focused on the Arctic region, regarding potential impacts on natural resources and plant and animal species that may be attributed to climate change resulting from the accumulation of GHG emissions over time (BLM 2024a). In this EA, the BLM uses GHG emissions as a proxy for impacts and provides context with other proxies such as GHG equivalents.

For the purposes of this EA, the projected emissions from the proposed leasing action can be compared to modeled emissions that have been shown to have definitive or quantifiable contribution to cumulative GHG levels. Table 3.1 shows the total estimated GHG emissions from fossil fuels at the global, national, and state scales over the last five years. Emissions are shown in million metric tons (MMT) per year of carbon dioxide equivalent (CO_2e). Chapter 3 of the Annual GHG Report contains additional information on GHGs and an explanation of CO_2e (BLM 2024a). State and national energy-related CO_{2e} emissions include emissions from fossil fuel use across all sectors (residential, commercial, industrial, transportation, and electricity generation) and are released at the location where the fossil fuels are consumed.

Additional information on current state, national, and global GHG emissions as well as the methodology and parameters for estimating emissions from BLM fossil fuel authorizations and cumulative GHG emissions is included in the Annual GHG Report (see Chapters 5,6, and 7) (BLM 2024a).

Table 3.1. Annual Global and U.S. Fossil Fuel GHG Emissions 2017 - 2021 (MMT CO_{2e})

Scale	2018	2019	2020	2021	2022
Global	37,716.2	37,911.4	35,962.9	37,500	38,522
U.S.	4,988.2	4,852.6	4,341.7	4,654.3	4,699.4
Alaska	30.4	30.3	30.3	32.4	34.6

Source: Annual GHG Report (BLM 2024a), Chap. 5, Table 5-1 (Global and U.S.) and GHG DB state (AK).
MMT = million metric tons

Black carbon, a byproduct of incomplete combustion, can also influence climate, although it is not a GHG and has a shorter lifetime. As discussed in Section G.3 of Appendix G of the 2020 IAP/EIS, black carbon affects the climate by absorption and scattering solar radiation and by influencing cloud properties. Black carbon emitted onto ice and snow can increase melting and worsen warming, and darker and more absorbent land and water surfaces are exposed as a result. In cloud droplets, black carbon decreases the cloud albedo, which heats and dissipates the clouds. There is considerable uncertainty regarding the effect of black carbon on climate, as black carbon can warm or cool the atmosphere, but the net effect is believed to be one of warming at +1.1 watts per square meter (Bond, Doherty et al. 2013). The IPCC (2021) reports that there is "high confidence" that snow melt in the Arctic is enhanced by deposition of black carbon (and other light absorbing particles) on snow. Black carbon is a component of the $PM_{2.5}$ emissions analysis included in Section 3.2.2 – *Air Quality* in the 2020 IAP/EIS, herein incorporated by reference.

3.1.3. Environmental Effects

3.1.3.1. *Impacts of No Action*

Under the No Action Alternative, the BLM would continue management of the NPR-A consistent with the IAP as adopted in the 2022 IAP/ROD; approximately 52 percent of NPR-A's subsurface would be available for oil and gas leasing. Consistent with the theoretical development scenario in the RFDS (Appendix B of the 2020 IAP/EIS), peak production under the low development scenario could reach 61,529 barrels of oil per day (BOPD) and 256,369 BOPD under the high development scenario. Total lifetime production from new developments under this alternative could reach 1.35 billion barrels of oil (BBO).

The GHG emissions and impacts from this alternative were previously described under Alternative A as analyzed in the 2020 IAP/EIS. For the purposes of this EA, the GHG emissions have been recalculated using the BLM Lease Sale Emissions Tool as described above.

Table 3.2 lists the estimated indirect GHG emissions, using the 100-yr global warming potentials (GWP) [6], from well development and production operations and mid-stream and end-use in

[6] The 100-year GWP is a way to compare how much different greenhouse gases (like methane or nitrous oxide) heat the Earth compared to carbon dioxide (CO_2) over 100 years. The 100-year GWP metric aligns with the long-term nature of climate change and the standard approach used by the IPCC, as well as U.S. federal agencies in GHG inventories and regulatory impact analyses.

MMT for the NPR-A theoretical high and low development scenarios under the No Action alternative. The emissions totals are calculated for the 70-year period anticipated to fully realize the theoretical development scenarios. In summary, potential GHG emissions from the No Action alternative could result in GHG emissions ranging between 161 and 700 MMT CO_2e over a 70-year lifetime.

Table 3.2. Estimated Lifetime Emissions from Well Development, Well Production Operations, Mid-stream, and End-use Combustion under the No Action Alternative (MMT)

Activity	Low Development Scenario Emissions Estimate				High Development Scenario Emissions Estimate			
	CO2	CH4	N2O	CO2e (100-yr)	CO2	CH4	N2O	CO2e (100-yr)
Well Development	0.01	0.00	0.00	0.01	0.18	0.00	0.00	0.18
Production Operations	3.09	0.00	0.00	3.13	41.22	0.02	0.00	41.77
Mid-Stream	17.49	0.02	0.00	18.13	72.89	0.08	0.00	75.55
End-Use	139.52	0.01	0.00	139.99	581.33	0.02	0.00	583.31
Total	160.12	0.03	0.00	161.27	695.62	0.12	0.01	700.81

To put the estimated GHG emissions under the No Action alternative in a relatable context, potential emissions that could result from development of the lease parcels for this sale can be compared to other common activities that generate GHG emissions. The EPA GHG equivalency calculator (EPA 2022) can be used to express the lifetime GHG emissions on a scale relatable to everyday life (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator). For instance, emissions over the 70-year lifetime of potential development under the No Action alternative would be equivalent to between 37 and 163 million gasoline-fueled passenger vehicles driven for one year, or the emissions from 33 and 145 million homes electricity use for one year or offset by the carbon sequestration of 161 and 702 million acres of forest land.

3.1.3.2. *Impacts of Proposed Action*

Under the Proposed Action, the BLM would manage the NPR-A consistent with the IAP as adopted in the 2020 IAP/ROD. Under this alternative, approximately 82 percent of NPR-A's subsurface would be available for oil and gas leasing, as compared to the 52 percent which would be available under the No Action alternative. Consistent with the theoretical development scenario in the RFDS (Appendix B in the 2020 IAP/EIS), peak production under the low development scenario could reach 120,000 BOPD and 500,000 BOPD under the high development scenario. Total lifetime production from new developments under this alternative could reach 2.64 BBO.

The GHG emissions and impacts from this alternative were previously described under Alternative E as analyzed in the 2020 IAP/EIS. For the purposes of this EA, the GHG emissions have been recalculated using the BLM Lease Sale Emissions Tool as described above.

Table 3.3 lists the estimated peak, average annual, and lifetime indirect GHG emissions under the Proposed Action, using the 100-yr GWP, from well development and production operations and mid-stream and end-use in MMT for the NPR-A theoretical high and low development scenarios.

Table 3.3. Estimated Indirect Emissions on an Annual and Lifetime Basis under the Proposed Action (MMT)

Timeframe	Low Development Scenario Emissions Estimate				High Development Scenario Emissions Estimate			
	CO_2	CH_4	N_2O	CO_{2e} (100-yr)	CO_2	CH_4	N_2O	CO_{2e} (100-yr)
Peak Production	29.41	0.00	0.00	21.73	123.04	0.04	0.00	90.19
Average Year	4.49	0.00	0.00	4.52	19.51	0.02	0.00	19.65
Lifetime	314.08	0.05	0.00	316.34	1,317.77	0.77	0.01	1,375.78

Source: BLM Lease Sale Emissions Tool. Note: CO_{2e} (carbon dioxide equivalent); GHG (greenhouse gas). The global warming potential values used to calculate 100-year CO_{2e} are from the Sixth Assessment Report of the IPCC (2021) and are carbon dioxide = 1; methane = 29.8; and nitrous oxide = 273.

Production under the low and high scenarios was evaluated using EnergySub modeling to estimate how oil production from the NPR-A may displace energy that would have otherwise come from substitute energy sources. As shown in Table 3.4, most of the displaced energy would be from other sources of oil. This is because oil is a key fuel primarily used in the transportation sector, which limits how much it can be replaced by other types of energy. Most of the oil displaced by NPR-A production would be imports, with smaller amounts coming from other domestic onshore and offshore sources. As a result, increased oil production within the NPR-A has the potential to modestly reduce U.S. reliance on imported oil through the period modeled.

In addition to displacing energy from other energy sources, the modeling also shows net increases in overall energy demand. Some of the additional oil supply leads to new consumption, primarily in the transportation sector, because greater availability can lower prices and encourage more use. These induced demand effects indicate that – within the hypothetical context of the model – not all NPR-A oil production displaces existing energy use and some of it contributes to overall growth in energy consumption. At the same time, the availability of additional oil – within the hypothetical context of the model – also suppresses demand for energy from other energy sources such as natural gas, coal, and electricity.

As shown in Table 3.4, modeling showed that substitution rates, including net changes in overall energy demand, would be similar across the Proposed Action's low and high theoretical development scenarios. However, because the high theoretical development scenario results in a larger total volume of oil produced through 2053, the total amount of energy affected is greater. The modeling estimates that overall substitution effects would be approximately 864 million barrels of oil equivalent higher than in the low theoretical development scenario for the Proposed Action. The emissions resultant from substitution effects are calculated using GLEEM and included in Table 3.5.

Table 3.4. Substitution Effects under the Low and High Production Scenarios: 2029-2053

Substitution Effects	Percent of Total Substitution Effects
Displaced Domestic Oil	16.2%
Displaced Oil Imports	65.6%
Displaced Natural Gas	1.6%
Displaced Natural Gas Imports	0.1%
Displaced Coal	0.3%
Displaced Biofuels and Natural Gas Liquids	7.9%
Displaced Electricity from non-Fossil Fuel Sources	0.9%
Net Change in Energy Demand *	7.4%

* Net change in demand reflects overall demand that is induced or suppressed, not the displacement of electricity or energy that would have been consumed from alternative fuel sources.

As described above, production from the program area could place downward pressure on wholesale oil prices, spurring additional U.S. consumption and exports to other countries. Because oil is traded in a global market, changes in U.S. production can influence worldwide supply and demand, which in turn affects global oil prices. Lower prices make oil from both U.S. and non-U.S. sources more affordable for foreign buyers. In response, oil consumption in other countries may increase slightly. During years of peak NPR-A production, foreign oil consumption is estimated to be 10 to 42 million barrels higher compared to baseline projections, which already account for production under the No Action Alternative. Over the full period through 2053, total foreign oil consumption is projected to increase by between 129 and 539 million barrels. The emissions from this foreign oil consumption are calculated using GLEEM and are included in Table 3.5.

Table 3.5 lists the estimated indirect GHG emissions, using the 100-yr GWP, from well development and production operations and mid-stream and end-use combustion in MMT for the NPR-A theoretical high and low development scenarios under the Proposed Action. The emissions totals are calculated for the 70-year period anticipated to fully realize the theoretical development scenarios. This table also includes emissions from the change in foreign oil consumption and the changes in emissions from displaced energy sources using the GLEEM and EnergySub tools described above. In summary, potential GHG emissions from (domestic and foreign oil consumption) the Proposed Action could result in an increase of 204 to 877 MMT CO_2e GHG emissions as compared to the No Action alternative.

Table 3.5. Estimated Emissions from Well Development, Well Production Operations, Mid-stream, End-use Combustion and Changes in Foreign Oil Consumption under the Proposed Action (MMT)

Activity	Low Development Scenario Emissions Estimate			High Development Scenario Emissions Estimate		
	CO_{2e} (100-yr)[a]	**CO_{2e} from Substitution Effects [b]**	**Net CO_{2e} Change[c]**	**CO_{2e} (100-yr)[a]**	**CO_{2e} from Substitution Effects [b]**	**Net CO_{2e} Change[c]**
Well Development	0.03	-	+0.01	0.35	-	+0.18
Production Operations	6.27		+3.13	83.55		+41.77
Mid-Stream	35.55	0.03	+17.39	148.14	0.14	+72.45
End-Use	274.50	1.79	+132.71	1,143.74	7.47	+552.97
Lifetime Total (Domestic Emissions Only)	316.34		+153.25	1,375.78		+667.36
Downstream Combustion Emissions Resulting from Change in Foreign Oil Consumption	50.26	-	+50.26	209.25	-	+209.25
Total (Domestic and Foreign Emissions)	366.60		+203.51	1,585.03		+876.61

[a] Source: BLM Lease Sale Emissions Tool. Numbers may not match exactly due to rounding.
[b] CO2e from displaced energy sources is estimated using the substitution rates modeled by the BLM EnergySub and in GLEEM with of Ocean and Energy Management's (BOEM) Greenhouse Gas Life Cycle Energy Emissions Model (Wolvovsky 2022) with updates. Numbers may not match exactly due to rounding.
[c] The net CO2e change is the difference between the previous columns. The + sign indicates an increase in emissions relative to Alternative A (No Action Alternative).

Development under the Proposed Action would also result in an increase in black carbon emissions which can increase snow and ice melt and lead to other effects on climate. Black carbon is a component of the $PM_{2.5}$ emissions presented for each action alternative in the *Direct and Indirect Impacts* of 2020 NPR-A IAP/EIS Section 3.2.2.

The impact of the Proposed Action is presented as an increase compared to the No Action alternative, taking into account both the rise in emissions from foreign oil consumption and the offsets from displaced energy sources. As with the No Action alternative, this increase is expressed in terms relatable to everyday life. Using the EPA GHG equivalency calculator (EPA 2022) and comparing the results to the No Action alternative, the increase in GHG emissions (domestic and foreign emissions combined) under the Proposed Action are equivalent to 47.5 to 204.5 million more gasoline-fueled passenger vehicles driven for one year, or the emissions from 27.3 to 117.7 million more homes' electricity use for one year or offset by the carbon sequestration of 204 to 879 million more acres of forest land than the No Action alternative, respectively.

3.1.3.3. *Cumulative Effects*

The cumulative GHG emissions include the indirect GHG emissions from post-lease oil and gas

activities in the NPR-A (including downstream combustion from changes in foreign oil consumption) as well as the emissions from existing sources on the North Slope, other reasonably foreseeable future actions (RFFAs) (see Appendix F in the 2020 IAP/EIS) including the GHG emissions which could result from post-lease oil and gas activities under the Coastal Plain Oil and Gas Leasing Program in the Arctic National Wildlife Refuge. The emissions totals for existing sources on the North Slope, other RFFAs, and post-lease oil and gas activities in the Coastal Plain are derived from Section 3.2.1 – *Climate and Meteorology* and Appendix R – *Air Resources Technical Support Document* of the Coastal Plain Oil and Gas Final Supplemental Environmental Impact Statement (BLM 2024) which is hereby incorporated by reference.

The projected net annual average CO_2e emissions (domestic and foreign combined) from the Proposed Action range between 2.91 and 12.52 MMT. The projected annual average CO_2e emissions from the Willow Project under Alternative E, which the BLM announced as the selected alternative in 2023, are approximately 9.3 MMT (BLM 2023a). Together, the cumulative annual average GHG emissions are 37.11 to 61.12 MMT of CO_2e (comprising approximately 6.6 to 21.0 MMT of Coastal Plain gross emissions and approximately 18.3 MMT of other North Slope emissions) which is approximately 0.68 percent to 1.11 percent of the 2022 U.S. GHG inventory (5,489 MMT) (EPA 2024).

The 2023 BLM Specialist Report provides an estimate of the total GHG emissions from the extraction, processing, transportation, and end use of fossil fuels from federal onshore mineral estate across the U.S. along with a summary of projected climate change impacts. It estimates that the total GHG emissions from onshore federal fossil fuels in fiscal year 2022 were approximately 4,699.4 MMT CO2e, with 34.62 MMT of CO2e (0.7 percent) coming from federal fossil fuels in Alaska (BLM 2024a). The report also provides an estimate of the long-term cumulative GHG emissions from onshore federal oil, gas, and coal production from 2025 to 2050 of approximately 24,845 MMT of CO2e (BLM 2024a).

Using these long-term projections of federal fossil fuel emissions, BLM performed a carbon budget analysis to estimate the impact of total federal oil and gas emissions on carbon budgets that limit global warming to 1.5°C or 2°C above pre-industrial levels. BLM used global carbon budget estimates made by the Global Carbon Project which suggest that the world has a 50 percent chance of exceeding 1.5°C in approximately 5.1 years and 2.0°C in approximately 21.51 years at current emission rates (BLM 2024a). Before the depletion of the carbon budgets for limiting global warming to 1.5°C and 2°C, BLM estimates that the total GHG emissions from onshore federal oil and gas activities would be 2,355 and 7,903 million metric tons, respectively, comprising 0.86 percent and 0.69 percent of the respective remaining carbon budgets (Table 9-1, BLM 2024a). BLM estimated that the time to exhaust these remaining carbon budgets without the total federal oil and gas emissions would be 5.16 years under the 1.5°C scenario and 21.53 years under the 2°C scenario, which is 16 and 54 days longer than the times to exhaustion when including federal oil and gas activities, respectively (Table 9-1, BLM 2024a).

Additionally, BLM (2024a) used the Model for the Assessment of Greenhouse Gas Induced Climate Change to estimate the increases in average global surface temperatures from the long-term estimates of total onshore federal fossil fuels (including oil, gas, and coal). BLM estimates that the total long-term fossil fuel emissions would raise average global surface temperatures by

a range of approximately 0.009 to 0.012 °C, depending on the Annual Energy Outlook energy scenario and future climate scenario used.

Table 3.6. Evaluation of the Total Greenhouse Gas Emissions from Federal Oil and Gas with Respect to Global Carbon Budgets Aligned with 1.5°C and 2°C.

Metric	1.5 °C	2 °C
Remaining Carbon Budget (MMT1 CO2)	275,000	1,150,000
Time to Exhaust Remaining Budget (years)	5.11	21.38
Federal Oil and Gas Emissions During Budget Timeframe (MMT CO2)	2,355	7,903
Federal Oil and Gas Fraction of Carbon Budget (%)	0.86	0.69
Time to Exhaust Budget without Federal Oil and Gas Emissions (years)	5.16	21.13
Additional Time to Exhaust Budget without Federal Oil and Gas Emissions (days)	16	54
Estimated Global Surface Warming Attributable to Federal Minerals (°C)	0.0024	0.0068

Source: BLM 2024a, Table 9-1
1 MMT = million metric ton

The potential cumulative climate impacts of global development and associated GHG emissions have also been summarized above in Observed and Projected Climate Trends and Impacts in the Arctic and North Slope and discussed extensively in the literature, including several reports by the IPCC and numerous scientific journals; hence, they are not repeated here (e.g., IPCC 2023 and references therein; BLM 2024a).

CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION

4.1. Public Involvement

Major steps in the public involvement for the 2020 IAP/EIS are summarized in Section 4 of the 2020 IAP/ROD (BLM 2020b: 19-20).

For this EA process, the BLM released the EA for public review on June 17, 2024, for a 14-day comment period.

In consideration of their known interest in the NPR-A and its resources, the BLM sent letters to the following entities on May 14, 2025, notifying them that the BLM was undertaking a review of the 2020 IAP/EIS:

- Alaska Eskimo Whaling Commission
- Arctic Slope Native Association
- Voice of the Arctic
- North Slope Borough Mayor
- NPR-A Working Group
- City of Anaktuvuk Pass
- City of Atqasuk
- City of Kaktovik
- City of Nuiqsut

- City of Point Hope
- City of Point Lay
- City of Utqiagvik
- City of Wainwright

4.2. Consultation with Alaska Native Tribes and Alaska Native Corporations

The BLM consulted with federally recognized tribal governments during this review of the 2020 IAP/EIS. Consistent with the Department of the Interior policy on government-to-government consultation with tribes, the BLM first sent a letter of notification and inquiry to the following tribes and Alaska Native Corporations on May 14, 2025:

- Village of Anaktuvuk Pass (Naqsragmiut Tribe)
- Arctic Slope Regional Corporation
- Atqasuk Inupiat Corporation
- Cully Corporation
- Inupiat Community of the Arctic Slope
- Kaktovik Inupiat Corporation
- Kuukpik Corporation
- Nunamiut Corporation
- Native Village of Atqasuk
- Native Village of Barrow
- Native Village of Kaktovik
- Native Village of Nuiqsut
- Native Village of Point Hope
- Native Village of Point Lay
- Native Village of Wainwright
- Olgoonik Corporation
- Tikigaq Corporation
- Uqpeagvik Corporation

4.3. Consultation Pursuant to Section 7 of the Endangered Species Act

Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration-Fisheries (NOAA Fisheries), as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under ESA or destroy or adversely modify their critical habitat.

For this Proposed Action, the BLM consulted with the USFWS on four species and their associated units of designated critical habitat that are protected under the provisions set forth in the ESA. All four species are listed as Threatened: spectacled eiders (*Somateria fisheri*), Steller's eider (*Polysticta stelleri*), polar bears (*Ursus maritimus*), and Northern sea otters (*Enhydra lutris kenyoni*), Southwest Alaska Distinct Population Segment (DPS).

The BLM consulted with NOAA-Fisheries on the bowhead whale (*Balaena mysticetus)*, blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*) and its critical habitat, North Pacific right whale (*Eubalaena*

japonica) and its critical habitat, sperm whale (*Physeter macrocephalus*), bearded seal (*Erignathus barbatus)* Beringia Distinct Population Segment (DPS), Arctic subspecies of ringed seal (*Phoca hispida hispida*), Steller sea lion (*Eumetopias jubatus*) Western DPS and its critical habitat.

4.4. Consultation Pursuant to Section 106 of the National Historic Preservation Act

In accordance with Section 106 of the National Historic Preservation Act, the BLM requested to consult with the Alaska State Historic Preservation Officer (SHPO) to determine how proposed activities could affect cultural resources listed on or eligible for listing on the National Register of Historic Places. On May 30, 2025, the BLM received notification from SHPO concurring with the BLM's determination that the Proposed Action is administrative and does not have the potential to affect historic properties, and will not impose conditions, alterations, or restrictions on the application of the BLM Programmatic Agreement or the standard 36 CFR 800 regulations by BLM.

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Appendix A:
2020 IAP/EIS Resource Review

TABLE OF CONTENTS

A-1. Introduction

As part of the internal scoping process for this EA, an interdisciplinary team of BLM subject matter experts conducted a review of the 2020 IAP/EIS (BLM 2020a) to determine whether new circumstances, new information, or changes in the impacts of the Proposed Action not previously analyzed may result in significantly different environmental effects than those analyzed in the 2020 IAP/EIS. Based on this review, specialists determined whether the existing analysis remains sufficient for the Proposed Action or if further analysis is needed to supplement the 2020 IAP/EIS.

In its review of the 2020 IAP/EIS, the BLM first considered whether any new information or circumstances pertinent to a particular resource issue or area have been made available since the publication of the 2020 IAP/EIS[1]. If no new relevant information or circumstances were identified, then the issue was dismissed from further analysis.

If new information or circumstances were identified, then the BLM considered the following questions:

- *Is the existing analysis valid in light of any new information or circumstances (such as, rangeland health standard assessment, recent endangered species listings, updated lists of BLM-sensitive species)? Can you reasonably conclude that new information and new circumstances would not substantially change the analysis of the proposed action?*

- *Are the direct, indirect, and cumulative effects that would result from implementation of the new proposed action similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document?*

If the BLM found that the new information or circumstances would substantially change the impacts and analytical conclusions under the Proposed Action, then the issue was carried forward for further analysis to determine whether the Proposed Action, in consideration of any new information or circumstances, would have new significant impacts not already disclosed or analyzed in the 2020 IAP/EIS, that might warrant preparation of an EIS before a new record of decision can be signed.

A-2. Results of Review of 2020 IAP/EIS

Table A-1 provides a summary of the results of the BLM's review.

The BLM did not identify any new information, circumstances, or potential changes in the impacts of the Proposed Action pertinent to the following resource areas, issues, or sections of the 2020 IAP/EIS: *Acoustic Environment* (Section 3.2.3); *Renewable Energy* (Section 3.2.4); *Physiography* (Section 3.2.5); *Geology and Minerals* (Section 3.2.6); *Soil Resources* (Section 3.2.9); *Terrestrial Mammals* (Section 3.3.5), except caribou; *Marine Mammals* (Section 3.3.6),

[1] As part of their review, BLM specialists also considered new information and circumstances that have arisen since the publication of the 2020 IAP/EIS which were previously considered in the 2022 DNA for the NPR-A IAP (BLM 2022) and the 2024 DNA for the Teshekpuk Lake Conservation ROW (BLM 2024a).

except polar bear; *Environmental Justice* (Section 3.4.5)[2]; *Wild and Scenic Rivers* (Section 3.4.7); *Wilderness Characteristics* (Section 3.4.8); *Visual Resources* (Section 3.4.9); *Transportation* (Section 3.4.10); *Economy* (Section 3.4.11); and *Public Health* (Section 3.4.12). Accordingly, these resource issues are not carried forward for further analysis in the EA.

For those resources which the BLM identified relevant new information or circumstances, rationale for whether to carry forward the issue for further analysis is provided below.

Table A-1: Summary of the results of BLM's review of the 2020 IAP/EIS

Resource Issue	Location in 2020 IAP/EIS	New Circumstances or Information Identified	Issue Carried Forward for Further Analysis
Climate and Meteorology	Section 3.2.1	Yes	Yes
Air Quality	Section 3.2.2	Yes	No
Acoustic Environment	Section 3.2.3	No	No
Renewable Energy	Section 3.2.4	No	No
Physiography	Section 3.2.5	No	No
Geology and Minerals	Section 3.2.6	No	No
Petroleum Resources	Section 3.2.7	Yes	No
Paleontological Resources	Section 3.2.8	Yes	No
Soil Resources	Section 3.2.9	No	No
Sand and Gravel Resources	Section 3.2.10	Yes	No
Water Resources	Section 3.2.11	Yes	No
Solid and Hazardous Waste	Section 3.2.12	Yes	No
Vegetation	Section 3.3.1	Yes	No
Wetlands and Floodplains	Section 3.3.2	Yes	No
Fish	Section 3.3.3	Yes	No
Birds	Section 3.3.4	Yes	No
Terrestrial Mammals	Section 3.3.5	Yes	No
Marine Mammals	Section 3.3.6	Yes	No

[2] Executive Order 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum, *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility.

Resource Issue	Location in 2020 IAP/EIS	New Circumstances or Information Identified	Issue Carried Forward for Further Analysis
Landownership and Uses	Section 3.4.1	Yes	No
Cultural Resources	Section 3.4.2	Yes	No
Subsistence Uses and Resources and Sociocultural Systems	Sections 3.4.3 and 3.4.4	Yes	No
Environmental Justice	Section 3.4.5	No	No
Recreation	Section 3.4.6	Yes	No
Wild and Scenic Rivers	Section 3.4.7	No	No
Wilderness Characteristics	Section 3.4.8	No	No
Visual Resources	Section 3.4.9	No	No
Transportation	Section 3.4.10	No	No
Economy	Section 3.4.11	No	No
Public Health	Section 3.4.12	No	No

Climate and Meteorology

New information and tools have been made available to facilitate the estimation of GHG emissions from potential post-leasing oil and gas activities which were not available for use in preparing the 2020 IAP/EIS (BLM 2024b). These tools allow for more consistent disclosure of potential emissions from oil and gas activities from federally authorized wells on public lands across the United States. In addition to these new tools, recent court decisions have provided additional guidance on the consideration of the downstream emissions that would result from changes in consumption of oil and gas abroad due to the foreseeable production of NPR-A oil and gas. The BLM did not consider such effects in its 2020 IAP/EIS analysis. Therefore, in consideration of this new information and consistent with recent court guidance, the BLM is carrying forward this issue for further analysis[3] (see Section 3.3 of the EA).

[3] This EA was largely drafted before the Supreme Court's decision in *Seven County Infrastructure Coalition v. Eagle County*, 2025 U.S. LEXIS 2068 (May 29, 2025) (*Seven County*). As a result, the EA includes more analysis than NEPA requires. The environmental effects of GHG emissions that may result from any changes to international oil and gas consumption that may be influenced by the production of oil and gas from NPR-A leases are separate in time and place from this IAP decision. Such downstream emissions would be from future projects that may be built as a result of or in the wake of the immediate action under consideration (the IAP). NEPA does not require the agency to evaluate the effects of an action arising from an entirely separate project (i.e. decisions made by other actors in response to the entrance of NPR-A produced oil and gas into the global market). However, as the BLM had already completed this analysis when the Court issued the *Seven County* decision, the BLM has decided to retain this extraneous analysis rather than take the time and resources to remove it.

Air Quality

In February 2024, the U.S. Environmental Protection Agency (EPA) finalized a stricter annual primary standard for fine particulate matter ($PM_{2.5}$), lowering it from 12.0 µg/m³ to 9.0 µg/m (EPA 2024). The 24-hour standard (35 µg/m³) remained unchanged.

The 2024 change to the annual PM2.5 NAAQS, lowering the standard from 12.0 µg/m³ to 9.0 µg/m³, would not substantially alter the air quality analysis presented in the 2020/IAP EIS because historical and modeled PM2.5 concentrations in the region have consistently remained well below both the old and new standards. The NPR-A is remote and has limited emission sources, resulting in low background particulate levels. As a result, the revised standard would not likely cause or contribute to any new air quality issues in the planning area and, therefore, no further detailed analysis of this issue is needed.

Petroleum Resources

Since the publication of the 2020 IAP/EIS, oil and gas exploration, development, and production has continued in the NPR-A as well as on non-federal lands and waters adjacent to the NPR-A. As part of its review of the 2020 IAP/EIS, the BLM considered whether there is any new information or circumstances related to oil and gas activities which would substantially change either the 2020 IAP/EIS reasonably foreseeable development scenario (RFDS) (Appendix B) or the reasonably foreseeable future actions (RFFAs) considered (Appendix F). The RFDS and RFFAs[4] inform the analysis of the potential direct, indirect, and cumulative impacts from on-the-ground, post-lease activities, and related infrastructure development for all resources, including *Petroleum Resources* (Section 3.2.7).

The 2020 IAP/EIS summarized a suite of ongoing and anticipated future oil and gas development projects occurring within the NPR-A including Alpine Colville Delta 5, Greater Mooses Tooth 1 and 2, Willow, and exploration in the Umiat oil field. Since publication of the 2020 IAP/EIS, there have been updates on the status of several of these projects. For example, the Willow project, which was undergoing analysis concurrent with the 2020 IAP/EIS has since been approved and construction initiated; first oil from the project is expected to occur in 2029 (BLM 2023a). GMT 2 achieved first production from the Rendezvous pool in 2021; combined production from GMT 1 and GMT 2 is approximately 14,000 barrels of oil equivalent per day (BOEPD) (ConocoPhillips 2024). These project updates would not substantially change the impact analysis in the 2020 IAP/EIS. For all ongoing and potential future oil and gas development projects considered as RFFAs, the 2020 IAP/EIS anticipated the impacts from the full life cycle (i.e., exploration, delineation, development, production, and reclamation) for each project as part of the cumulative effects analysis.

In addition to ongoing work associated with those existing and proposed RFFA projects, oil and gas exploration work has continued within the NPR-A since the publication of the 2020 IAP/EIS. This work includes seismic surveys and the drilling and testing of exploratory wells (BLM 2021a, 2021b, 2021c, 2023b). The BLM is aware of, but has not received formal applications for, a proposed exploration project at West Castle, west of Inigok (Bailey 2020; Casman 2024). Such exploration activities and the potential impacts to resources that could occur as a result

[4] For the purposes of the 2020 IAP/EIS analysis, RFFAs were defined as those actions that are external to the proposed action and are likely (or reasonably certain) to occur within 70 years of the issuance of the IAP, although they may be subject to a degree of uncertainty.

were considered as part of the RFDS for the purposes of impact analysis in the 2020 IAP/EIS. This exploration has helped to delineate and improve geologic understanding of the NPR-A; however, the work thus far conducted has not resulted in any new discoveries which would suggest changes in development potential appreciably different from those presented in previous analysis.

Similarly, while exploration, development, and production has continued on non-federal lands and waters adjacent to the NPR-A since the publication of the 2020 IAP/EIS (AKDNR DOG 2024), this has not resulted in any new information which would substantially change the impact included therein. Oil and gas projects and activities for which there was a higher degree of uncertainty precluding their inclusion in the list of oil and gas exploration, development, and production RFFAs (BLM 2020a p. F-9 – F12) were more broadly considered as part of the reasonably foreseeable future actions for purposes of impact analysis (BLM 2020a, Table F-1). Accordingly, the effects of recent oil and gas activities on non-federal lands adjacent to the NPR-A were both anticipated and reasonably accounted for in the cumulative effects analysis in the 2020 IAP/EIS.

On the basis of the above, the BLM finds that this new information would not substantially change either the RFDS or the RFFAs considered as part of the cumulative effects analysis in the 2020 IAP/EIS and no further analysis is needed.

Paleontological Resources

The Potential Fossil Yield Classification (PFYC) model which was in development when the 2020 IAP/EIS was published remains in draft form (BLM 2025); however, additional data have been added to that model which have helped to further refine and delineate the PFYC assessment for a number of geologic formations that occur within the NPR-A. Although this new information would alter the acreage calculations by PFYC values as presented in Tables 3-13, 3-14, and 3-15 in Section 3.2.8 *Paleontological Resources*, this would not substantially change the impact analysis in the 2020 IAP/EIS. Although future oil and gas activities could impact paleontological resources, further paleontological investigation and review would be required prior to any new construction or ground-disturbing activity regardless of the assigned PFYC classification. For this reason, no further analysis is needed.

Sand and Gravel Resources

Since the publication of the 2020 IAP/EIS, additional exploration of gravel resources within the western portion of the NPR-A has been conducted in support of ongoing and proposed projects. Future gravel resource exploration and development is expected to occur along the western and southern edges of the Willow project area. The results of this exploratory work have not resulted in an appreciably different understanding of the availability or accessibility of gravel resources in the NPR-A than was previously disclosed and analyzed in the 2020 IAP/EIS. Accordingly, this new information about sand and gravel resources within the NPR-A would not substantially change the analysis in the 2020 IAP/EIS and no further analysis is needed.

Water Resources

There has been continued meteorological and hydrological data collection within the planning area since the publication of the 2020 IAP/EIS. Data has been collected by the BLM, USGS,

Michael Baker International, the University of Alaska Fairbanks, and other entities. These data would provide updated information to the 3.2.11 Water Resources Affected Environment and Appendix J in the 2020 IAP/EIS; however, the new data remains consistent with long-term and regional trends previously described and potential impacts to water availability, water quality, and hydrological connectivity under the Proposed Action similarly remain consistent with those previously analyzed (Arp et al. 2020; Gädeke et al. 2022). Accordingly, the BLM has determined that the new information identified would not substantially change the analysis presented in the 2020 IAP/EIS and, therefore, no further detailed analysis is needed.

Solid and Hazardous Waste

Since the publication of the 2020 IAP/EIS, new information and data have been published which would update the 3.2.11 Solid and Hazardous Waste Affected Environment and Appendix I as presented in the 2020 IAP/EIS. New information and data reviewed as part of this effort includes updated records of oil, produced water, seawater, and other hazardous material spills associated with oil and gas development on Alaska's North Slope within the NPR-A (ADEC 2025); the Bureau of Ocean Energy Management (BOEM) updated study titled Oil Spill Occurrence Rates from Alaska North Slope Oil and Gas Exploration, Development, and Production oil spill occurrence estimates for the Alaska North Slope (BOEM 2020; BOEM 2022); updated legacy well remediation data (BLM 2020b); and updates to oil and gas development projects within the NPR-A.

The projected spill count analysis in Appendix I of the 2020 IAP/EIS is based on the historic frequency of spills per billion barrels produced and the lifetime oil production data. While incorporation of new information and data, in particular updated oil, produced water, seawater, and other hazardous spill records would provide additional granularity concerning the historic frequency and volume of spills, the estimated lifetime oil production for the Proposed Action under the RFDS (Appendix B of the 2020 IAP/EIS) remains the same. As such, while the total projected numbers of spills may differ slightly from those presented in the 2020 IAP/EIS with the incorporation of new data points, the analytical findings would not change substantially. Records of spill events associated with oil and gas development on Alaska's North Slope in the NPR-A since 2018 (the most recent year of finalized data used in the 2020 IAP/EIS spill analysis), do not exceed the projected spill counts presented for any Alternative analyzed in the 2020 IAP/EIS.

The chance of small spills occurring during the lifetime of exploration and development in the NPR-A remains high and it is possible that one or more large spills may occur over the life of production. Alternative A [No Action] would have the lowest number of projects spills and Alternative E [Proposed Action] would have the highest number of projected spills. The effects fate and transport of spills in the environment would be the same as analyzed in Appendix I and Section 3.2.12 of the 2020 IAP/EIS.

On this basis, the BLM has determined that no further detailed analysis is needed.

Vegetation

Since the publication of the 2020 IAP/EIS, a new study examining changes in tundra vegetation coverage and distribution between 2010 and 2019 near the communities of Atqasuk and Utqiagvik was published (Harris et al. 2021). This new study adds to an existing body of research examining widespread effects of climate change on arctic tundra vegetation over the

past few decades. As part of its analysis of potential impacts to vegetation due to future oil and gas and non-oil and gas activities within the NPR-A in the 2020 IAP/EIS, the BLM considered the ongoing effects of climate change on vegetation types and land cover. Accordingly, although new information concerning vegetation in the NPR-A is available, it does not project an appreciably different picture of the overall type and distribution of vegetation types within the NPR-A than were previously known and would not substantially change the analysis as presented in the 2020 IAP/EIS. For this reason, no further analysis is needed.

Wetlands and Floodplains

The USFWS National Wetland Inventory mapping has been expanded since 2020 and is now available for most of the NPR-A (USFWS 2024). However, data gaps persist for several areas along the southern edge of the NPR-A which limit the utility of this data set for calculating total acreage by wetland type. The type and magnitude of effects to wetlands and floodplains remain unchanged from those presented in the 2020 IAP/EIS; therefore, no further analysis is needed.

Fish

Since the publication of the 2020 IAP/EIS, new information and data have been published that directly or indirectly focus on hydrological connectivity of waterbodies and potential impacts of water withdrawals on fish/fish habitat within the NPR-A (Arp 2022; Gädeke 2022). This new information would not substantially change the analysis of the Proposed Action, as the 2020 IAP/EIS disclosed that lake water withdrawals can affect the amount of habitat available to overwintering fish, summer habitat accessibility (i.e., connectivity), and habitat characteristics. In addition, new research concerning the recent prevalence of fish mold in broad whitefish was made available (Sformo 2021). This new information adds to the understanding of broad whitefish populations in the NPR-A; however, this would not substantially change the analysis in the 2020 IAP/EIS as impacts to broad whitefish were previously analyzed. As such, no further analysis is needed.

Birds

Aerial and ground surveys of bird populations on the Arctic Coastal Plain, including within the NPR-A, have occurred on a nearly annual basis since the 1980s. In the intervening years between the publication of the 2020 IAP/EIS and this review, the results of several such monitoring and survey efforts have been published. The data gathered through these surveys provide updated population indices and trends for some of the bird species found in the NPR-A (Wilson et al. 2025) as well as additional information on nest abundance, distribution, density and survival of shorebirds (Attanas et al. 2025), yellow-billed loons (Parrett and Bankett 2025; Parrett et al. 2025), and other bird species (Handel et al. 2021; McGuire et al. 2023) in areas where oil and gas development activities are occurring. In addition to the results of regular bird survey and monitoring work in the NPR-A, new research published since the 2020 IAP/EIS of relevance for this review include research on: the movements of black brant while molting in the NPR-A (Patil and Ruthrauff 2025); the effects of fish populations on Pacific loon and yellow-billed loon (Uher-Koch 2020); population density distributions of Pacific black brant and cackling geese in the NPR-A (2022); and the ongoing effects of climate change on shorebirds (Kwon et al. 2019; McGuire et al. 2020; Saalfeld et al. 2021). The 2020 IAP/EIS (Section 3.3.4, Appendices P and Q) includes a robust analysis of the potential impacts to birds that could occur as a result of both oil and gas activities and non-oil and gas activities within the NPR-A. While the new information

and data presented in the aforementioned studies adds to existing understanding of bird species use of the NPR-A, it does not present a substantially different picture from the 2020 IAP/EIS as to either the type or magnitude of potential impacts to birds than previously disclosed. For this reason, no further analysis is needed.

Caribou

As summarized in Section 3.3.5 of the 2020 IAP/EIS, three of the four Arctic caribou herds use the NPR-A: the Central Arctic Herd (CAH), the Western Arctic Herd (WAH), and the Teshekpuk Lake Herd (TCH). Since the publication of the 2020 IAP/EIS, data concerning herd population size and distribution have been made available which would update the conditions described in the affected environment of Section 3.3.5 and in Appendix R.

The Alaska Department of Fish and Game (ADFG) conducted a census of the WAH in 2023 and estimates the herd size to be 152,000, a decline of approximately 38% from the 2019 population estimates presented in the 2020 IAP/EIS. The herd's adult cow survival rate (69%) is below the long-term average of 81% (WACH WG 2024). Reasons for the decline are unknown and likely multifaceted, and wildlife managers have emphasized the need to reduce cow harvest as a means of preventing further decline. Due to the continued decline in population size, the Western Arctic Caribou Working Group recommends that the herd be managed under the *preservative declining* management category (WACH WG 2024). Under this category, survey efforts increase, and the herd is censused annually. The WG also recommends that calf harvest is closed, cow harvest is limited and discouraged, and harvest could be restricted to State residents (WACH WG 2019).

In contrast to the WAH, the population size of both the TCH and CAH have increased since the publication of the 2020 IAP/EIS. The most recent photocensus of the TCH, conducted in 2022, estimated the herd's population at 61,593 caribou as compared to 56,255 in 2017 which was the most recent data set available for the 2020 IAP/EIS (Welch et al. 2025a). The CAH increased from 30,069 caribou in 2019 to 34,642 caribou in 2022 (Welch et al. 2025a).

Although the population sizes for all three herds have changed since the publication of the 2020 IAP/EIS, herd numbers are all within historic ranges, and this new information would not substantially change the impact analysis under the Proposed Action. Caribou populations fluctuate naturally over long periods of time and a variety of factors play into this fluctuation, including changes in seasonal weather conditions, predator populations, range quality and accessibility, and hunting pressure. This variability was acknowledged and taken into consideration in assessing potential impacts on caribou under the Proposed Action in the 2020 IAP/EIS.

Since 2001, there has been a continuous effort to study caribou use in the northeastern NPR-A, used primarily by the TCH and CAH, with an emphasis on collecting baseline data on caribou distribution and movements as part of monitoring the effects of oil and gas development in the region (Welch et al. 2025a; Welch et al. 2025b). These monitoring studies typically employ several methods of data collection including aerial transect surveys and radio telemetry. In the intervening years between the publication of the 2020 IAP/EIS and the current review effort, the data from these studies, in particular the radio telemetry data, has resulted in more granular and

tightly delineated projections of utilization distribution contours of the TCH and CAH.[5] As a result, the geometry of these contours shifts over time due to additional data (Prichard et al. 2019); however, a review of corresponding analysis does not demonstrate an appreciable shift in the movement or distribution patterns of either the TCH or CAH from that which were discussed in the 2020 IAP/EIS (Welch et al 2025a; Welch et al. 2025b). As described in the 2020 IAP/EIS, the area around Teshekpuk Lake continues to be important for caribou calving, and areas along the coast and west of Teshekpuk Lake and Atqasuk are used as insect relief habitat. The majority of the CAH continues to calve east of the NPR-A in an area near the Kuparuk oil field, and also east of the Sagavanirktok River. Similarly, the CAH uses areas along the coast east of Nuiqsut during the mosquito and oestrid fly seasons, before dispersing broadly in late summer and fall (Prichard et al. 2020).

Impacts to terrestrial mammals, including caribou, are summarized in Table 3-26 of the 2020 IAP/EIS. The impact analysis identified displacement of maternal caribou during calving, barriers to movement during biologically sensitive time periods, and increased energetic costs and potentially consequent reductions in survival and productivity as the primary impacts of development on caribou. Caribou ecology, particularly related to development, continues to be an active area of research in northern Alaska. Multiple studies exploring distribution and habitat use near energy development have been published since 2020 (Johnson et al. 2020, Prichard et al. 2020). Joly et al. (2021) published a study on changing caribou migrations in the arctic that addresses the impacts of oil and gas infrastructure, and research on the effects of linear infrastructure on caribou continues to build on past work (Prichard et al. 2022; Severson et al. 2023; and Boulanger et al. 2024). While these studies provide additional information relevant to understanding the effects of oil and gas development on arctic caribou, they do not indicate any appreciable difference in either the type or magnitude of impacts that might occur under the Proposed Action from those previously analyzed in the 2020 IAP/EIS. On this basis, no further analysis is needed.

Polar Bears

Since the publication of the 2020 IAP/EIS, a number of new reports have been published which provide updated data on the population status, distribution, and life history of the Southern Beaufort Sea (SBS) and Chukchi/Bering Seas (CBS) polar bear stocks (e.g., Bromaghin et al. 2021; USFWS 2021a; USFWS 2021b; Patil et al. 2022; USFWS 2023) Consistent with the population trends discussed in the 2020 IAP/EIS, these reports continue to indicate that sea ice decline is the primary stressor affecting polar bears.

Regarding the effects of sea ice loss on polar bears, a suite of studies has been published in the intervening years between the 2020 IAP/EIS and this review that continues to examine this relationship (i.e., Pagano et al. 2021; Rode et al. 2022; Andersen et al. 2024; Wilson and Andersen 2025) and its correlative effects with both oil and gas development and non-oil and gas activities on the North Slope (i.e., Regehr et al. 2023; Wilson et al. 2024; Quigley et al. 2025). These studies build on an existing body of research that suggests that while sea ice loss due to

[5] The utilization distribution contours are calculated using fixed-kernel density estimation analysis of the locations of radio-collared female caribou and enclose stated percentages of all collar locations (high- 50%, medium- 75%, low- 90%). Additional information about how the utilization distribution contours are calculated is described by Prichard et al. (2019).

climate change is the primary threat to SBS and CBS stocks, this threat is further compounded by additional stressors such as human activities occurring on the landscape which, in this area, are largely oil and gas activities. The 2020 IAP/EIS considered this correlation in assessing the potential impacts to polar bears within the NPR-A and in conjunction with other oil and gas development activities on the North Slope. As such, these studies do not present substantially different information from that which was summarized in Section 3.3.6 of the 2020 IAP/EIS. For these reasons, no further analysis is needed.

Landownership and Uses

Since the publication of the 2020 IAP/EIS, there have been two notable changes to landownership and uses within the NPR-A.

Two sections in the eastern half of the NPR-A near the community of Nuiqsut were conveyed to the Kuukpik Corporation thereby reducing the total acreage of federally managed surface and subsurface estate by 1,280 acres. This would not substantially change the analysis in the 2020 IAP/EIS as such conveyances were reasonably anticipated to occur and would not appreciably alter either the type or magnitude of impacts that could occur under the IAP.

In December 2024, in conjunction with a determination of NEPA adequacy (DNA), the BLM issued the Teshekpuk Lake Conservation ROW (TLCROW) (BLM 2024a). The TLCROW was developed in coordination with the Nuiqsut Trilateral, Inc. (NTI), a non-profit corporation formed by the City of Nuiqsut, Native Village of Nuiqsut, and Kuukpik Corporation, as a follow-on action resulting from Mitigation Measure 27 from the Willow Master Development Plan Record of Decision (BLM 2023c). The TLCROW grants NTI certain time-limited rights to enforce restrictions on oil and gas development within the ROW area, which corresponds in part to key habitat of the Teshekpuk Lake Caribou Herd.

The ROW generally prohibits new oil and gas leasing and construction of surface infrastructure related to exploration, development, mining or extraction of oil, gas, or other mineral resources, or sand and gravel in pursuit of oil, gas, or other mineral resources, from the surface or subsurface of the TLCROW area, including construction of any pipelines or roads in support of oil and gas development, unless NTI decides it is acceptable to waive these restrictions. The conservation ROW would terminate when the BLM issues a determination that all post-production reclamation activities associated with the Willow Project are complete and deemed substantially effective in restoring the caribou habitat and the population and health of the TLCH adversely impacted by the Willow Project.

Although the issuance of the TLCROW was not anticipated during the preparation of the 2020 IAP/EIS, its implementation would not substantially change the analysis therein. The TCLROW conditions potential future oil and gas activities within the conservation area but does not constitute a land use allocation and therefore does not pose a direct conflict to either the leasing allocations or limitations on new infrastructure as analyzed under the Proposed Action or the No Action alternative. Should there be future interest in oil and gas leasing, exploration, development, or production activities within the TLCROW, any such proposal would be subject to the provisions of the ROW as well as any applicable lease stipulations or required operating procedures under the IAP.

Cultural Resources

Since the publication of the 2020 IAP/EIS, there has been continued archaeological survey conducted within the NPR-A which has resulted in the identification of approximately 30 additional cultural resources within the planning area. Although this new information would result in an overall increase in the total number of known cultural resources within the NPR-A, this new information does not substantially alter the understanding of either the archaeological and historical profile of cultural resources within the NPR-A or their relative distribution throughout the region. The potential direct, indirect, and cumulative effects to cultural resources analyzed in the 2020 IAP/EIS remain unchanged.

The BLM would still require further archaeological survey and assessment of effects prior to any new construction or other ground-disturbing activities.

Subsistence Uses and Sociocultural Systems

Subsistence and sociocultural systems were considered collectively as part of this review as impacts to subsistence uses also have sociocultural considerations. Since the publication of the 2020 NPR-A IAP EIS, six additional caribou harvest studies have been conducted in the community of Nuiqsut within the NPR-A.

Hunting characteristics over the last decade have been similar in terms of trip frequency, duration, and travel method; however, the timing of hunting and hunting success within use areas can vary from year to year (SRB&A 2019; SRB&A 2021a; SRB&A 2021b; SRB&A 2022; SRB&A 2023; SBR&A 2024). Nuiqsut estimated caribou harvests in 2016-2022 ranged from a low harvest of 438 in 2021 to a high harvest of 636 caribou in 2019. With the exception of 2021 and 2022, all other years are within the mean harvest of 507 across the 5 study years (SRB&A 2024: 31); controlling for community population, a similar pattern emerges for per capita harvests, which range from a low harvest of 110 pounds in 2022 to a high harvest of 164 pounds in 2017 in comparison with the 1985-2021 average harvest of 148 pounds of caribou per person.

Hunting areas have varied over time, but 2016 to 2022 data indicated use of the roads and ice roads connected to oil and gas development. In 2022, 77 percent of hunting households reported using roads to search for caribou; however, some residents report avoiding areas of development while hunting (SRB&A 2024). While the 2021 and 2022 harvests were the lowest since 2005-2006, uses of caribou were on the high end of previous study years, with 98 percent of households using caribou in both study years, and 76 percent (2021) and 81 percent (2022) of households attempting harvests of caribou. Additionally, the 95 percent confidence interval of 19 percent covers a potential range of estimated harvest from 388 to 570 caribou in 2021 and the 11 percent 95 percent confidence interval in 2022 covers a potential range of estimated harvest from 385 to 481 caribou (SRB&A 2024: 31).

The Nuiqsut Caribou Panel reviewed the 2021 study year data in March 2023 and indicated that lower harvest may be connected to increased use of roads. Hunters may search for caribou along the roads when they are absent and hunters may be less likely to use other modes of travel (including snowmachines, boats, and four-wheelers) to access traditional hunting areas (SRB&A 2023: 77). As in other study years, July and August were high months of caribou harvest and Nuiqsut residents reported limited overall activity from January to May (SRB&A 2024: 48).

Due to declines in the Western Arctic Caribou Herd (WAH), the Alaska State Board of Game adopted regulations to limit resident caribou harvest from 5 animals per day (bulls or cows) to 15 caribou a year, only one of which can be a cow; these changes will take effect July 1, 2025 and include the northwestern portion of Game Management Unit (GMU) 23 and the southwestern portion of GMU 26A (ADFG 2024). This action occurred as an amendment to a proposal brought to the Board by the Western Arctic Caribou Herd working group that called for a resident restriction to 4 caribou a year, only one of which could be a cow; the scope of this proposal was included GMUs 21D Remainder, 22, 23, 24B Remainder, 24C, 24D, and 26A (ADFG 2023). Residents of the North Slope argued during public testimony that the original proposal was not appropriate for their region given that they harvest from other herds not facing decline, which resulted in the adjustment to the geographical scope of the proposal. Of NPR-A resident communities, regulatory changes would most likely impact Wainwright which largely harvests from the WAH and would have less impact on the communities of Atqasuk, Utqiagvik, and Nuiqsut.

While these most recent caribou harvest studies and the implementation of new regulations constitute a change from the conditions presented in the 2020 IAP/EIS, this would not substantially change the analysis of impacts to subsistence uses or sociocultural systems or conclusions therein. There are no harvest trends that can be gleaned from the information presented above. Although caribou harvests were indeed lower in 2021 and 2022 compared to the last decade of available data, two data points cannot be considered indicative of a trend and do not suggest an appreciable difference in either the type or magnitude of impacts than were analyzed in the 2020 IAP/EIS. As such, no further detailed analysis is necessary. Consideration of this new information in relation to the Alaska National Interest Lands Conservation Act (ANILCA) Section 810 Subsistence Evaluation is presented in Appendix C of this EA.

Recreation

Since the publication of the 2020 IAP/EIS, new information indicates that recreational usage in the NPR-A has increased slightly over the amount summarized in Section 3.4.6 - *Recreation Affected Environment*. Whereas there were five authorized special recreation permits in 2020, there are now six. Data from the Alaska Department of Fish and Game (ADFG 2025) suggests an increase in the reported number of anglers in the NPR-A, and BLM records of aircraft take-offs and landings indicate increased flights in support of recreational activities including guided hunting and sight-seeing. In 2023, the BLM constructed a boater weather shelter along the Colville River to support recreational and local use.

While the recreational statistics for the NPR-A have changed, past, present, and reasonably foreseeable effects to recreation as analyzed in the 2020 IAP/EIS remain unchanged. On this basis, no further detailed analysis is needed.

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Appendix B:
Alaska National Interest Lands Conservation Act Section 810
Evaluation of Subsistence Impacts

TABLE OF CONTENTS

B-1. Introduction

Section 810(a) of ANILCA, 16 United States Code (U.S.C.) 3120(a), requires that an evaluation of subsistence uses and needs must be completed for any federal determination to "withdraw, reserve, lease, or otherwise permit the use, occupancy or disposition of public lands." The NPR-A largely comprises BLM-managed federal public lands except for Alaska Native corporation owned lands near the four communities within the NPR-A (Wainwright, Atqasuk, Utqiagvik, and Nuiqsut) and Native allotments that are in various locations throughout the NPR-A (particularly along key river drainages).

In accordance with procedural requirements outlined under Section 810(a), the BLM prepared an ANILCA Section 810 Evaluation concurrent with the 2020 IAP/EIS development process. The BLM's Section 810 Evaluation included an evaluation and finding of effects on subsistence uses and needs from actions that could be undertaken under each of the five alternatives analyzed in the 2020 IAP/EIS and the cumulative case. The final Section 810 Evaluation was published in Appendix E – *Alaska National Interest Lands Conservation Act Section 810 Evaluation of Subsistence Impacts* to the 2020 IAP/EIS. The complete evaluation is incorporated by reference herein and the findings summarized below.

B-2. 2020 IAP/EIS Final 810 Evaluation and Findings

The BLM's final ANILCA Section 810 Evaluation made the following findings based on an evaluation of each of the five alternatives analyzed in the 2020 IAP/EIS and the cumulative case:

Under Alternative A –

1. Reductions in the availability of subsistence resources for Alternative A may significantly restrict subsistence uses for the community of Nuiqsut.
2. Limitations on subsistence user access for Alternative A may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternative B –

1. Reductions in the availability of subsistence resources for Alternative B may significantly restrict subsistence uses for the community of Nuiqsut.
2. Limitations on subsistence user access for Alternative B may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternative C –

1. Reductions in the availability of subsistence resources for Alternative C may significantly restrict subsistence uses for the community of Nuiqsut.
2. Limitations on subsistence user access for Alternative C may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternate D –

1. Reductions in abundance of subsistence resources for Alternative D may significantly restrict subsistence uses for the communities of Nuiqsut, Atqasuk, Utqiagvik, Wainwright, and Anaktuvuk Pass.

2. Reductions in the availability of subsistence resources for Alternative D may significantly restrict subsistence uses for the community of Nuiqsut.
3. Limitations on subsistence user access for Alternative D may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternative E –

1. Reductions in abundance of subsistence resources for Alternative E may significantly restrict subsistence uses for the communities of Nuiqsut, Atqasuk, Utqiagvik, Wainwright, and Anaktuvuk Pass.
2. Reductions in the availability of subsistence resources for Alternative E may significantly restrict subsistence uses for the community of Nuiqsut.
3. Limitations on subsistence user access for Alternative E may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternative A, B, and C and the Cumulative Case –

1. Reductions in the availability of subsistence resources for Alternatives A, B, and C and the cumulative case may significantly restrict subsistence uses for the communities of Nuiqsut, Utqiagvik, Wainwright, and Point Lay.
2. Limitations on subsistence user access for Alternatives A, B, and C and the cumulative case may significantly restrict subsistence uses for the community of Nuiqsut.

Under Alternative D, Alternative E and the Cumulative Case[1] –

1. Reductions in the abundance of subsistence resources for Alternatives D and E and the cumulative case may significantly restrict subsistence uses for the communities of Nuiqsut, Utqiagvik, Atqasuk, Wainwright, and Anaktuvuk Pass.
2. Reductions in the availability of subsistence resources for Alternatives D and E and the cumulative case may significantly restrict subsistence uses for the communities of Nuiqsut, Utqiagvik, Wainwright, and Point Lay.
3. Limitations on subsistence user access for the cumulative case may significantly restrict subsistence uses for the community of Nuiqsut.

B-3. Public Notice and Hearings

In accordance with Section 810 (a)(1-2), during the 2020 IAP/EIS process the BLM notified the appropriate State agency and appropriate local committees and regional councils of its findings of significant restriction to subsistence resources under each of the alternatives, and the cumulative case, as evaluated in the ANILCA Section 810 Evaluation. The BLM also held public hearings in each of the primary subsistence communities for which a finding of significant restriction to subsistence uses and needs was made. Hearings were held in the potentially affected communities of Anaktuvuk Pass (January 15, 2020), Atqasuk (December 17, 2019),

[1] The findings under Alternative E and the Cumulative Case are combined with the findings under Alternative D and the Cumulative Case in the 2020 IAP/Final EIS (BLM 2020a).

Nuiqsut (January 8, 2020), Point Lay (December 10, 2019), Utqiagvik (December 16, 2019), and Wainwright (January 14, 2020) in conjunction with the Draft IAP/EIS public meetings.

B-4. Determinations

ANILCA Section 810(a) provides that there would be no "withdrawal, reservation, lease, permit, or other use, occupancy or disposition of the public lands which would significantly restrict subsistence uses," until the federal agency gives the required notice and holds a hearing, in accordance with ANILCA Section 810(a)(1) and (2), and makes the following three determinations required by ANILCA Section 810(a)(3)(A), (B), and (C): 1) that such a significant restriction of subsistence use is necessary, consistent with sound management principles for the use of the public lands; 2) that the proposed activity would involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other such disposition; and 3) that reasonable steps would be taken to minimize adverse impacts on subsistence uses and resources resulting from such actions (16 U.S.C. 3120(a)(3)(A), (B), and (C)).

On the basis of the evaluations and findings made in the 2020 IAP/EIS and in consideration of the public comments made during the subsequent public hearings, the BLM made the following final determinations for Alternative E, the Preferred Alternative as identified in the 2020 IAP/EIS, and the basis for the Proposed Action as analyzed in this EA.

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

The BLM is undertaking a revision to the NPR-A IAP/EIS to determine the appropriate management of all BLM-managed lands in the NPR-A in a manner consistent with existing statutory direction and Secretarial Order 3352. Secretarial Order 3352 directed the development of a schedule to "effectuate the lawful review and development of a revised IAP for the NPR-A that strikes an appropriate balance of promoting development while protecting surface resources." While Secretarial Order 3352 directs the development of a schedule for the review and development of a revised IAP for the NPR-A, the order does not inform the purpose of the underlying actions that are being considered in this IAP/EIS. The Naval Petroleum Reserves Production Act of 1976, as amended, and its implementing regulations require oil and gas leasing in the NPR-A and the protection of surface values to the extent consistent with exploration, development, and transportation of oil and gas.

It was in furtherance of these objectives, together with other management guidance found in the Naval Petroleum Reserves Production Act, Federal Land Policy and Management Act, National Environmental Policy Act, and ANILCA that this IAP/EIS was undertaken. After considering a broad range of alternatives, Alternative E was developed to fulfill the purpose and need of this planning effort, while incorporating protective measures that serve to minimize impacts on important subsistence resources and subsistence-use areas. Alternative E considers the necessity for economically feasible development while providing effective protections to minimize any impacts on subsistence resources and uses. Under Alternative E, the lease stipulations and required operating procedures that accompany the alternative serve as the primary mitigation measures to be used to reduce the impact of the proposed activity on subsistence uses and resources.

The BLM has considered and balanced a variety of factors with regard to the proposed activity on public lands, including, most prominently, the comments received during the public meetings and hearings, which stressed the importance of protecting essential caribou movement/migration corridors for both the Teshekpuk Lake and Western Arctic caribou herds. The BLM has determined that the significant restrictions that may occur under Alternative E, when considered together with all the possible impacts of the cumulative case, is necessary, consistent with sound management principles for the use of these public lands, and for BLM to fulfill the management goals for the planning area as guided by Secretarial Order 3352 and the statutory directives in the Naval Petroleum Reserves Production Act, Federal Land Policy and Management Act, and other applicable laws.

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 E involves the minimal amount of public lands necessary to accomplish the purposes of the planning effort—namely, to consider consistent oil and gas leasing stipulations and required operating procedures across the entire NPR-A, while providing special protections for specific habitats and site-specific resources and uses, and allowing the opportunity for necessary infrastructure to support oil and gas exploration and development. Alternatives that varied between opening no additional lands, fewer additional lands, and some additional lands were analyzed.

Alternative E, including its stipulations and required operating procedures, emphasizes the protection of surface resources while making approximately 18.6 million acres of federally owned subsurface (82 percent of the total in NPR-A) available for oil and gas leasing. Facility footprints are required to be minimized and permittees are encouraged to use existing infrastructure. Alternative E would adjust the boundaries of two Special Areas to account for changes in the distribution of important surface resources and would eliminate the Colville River Special Area. Alternative E makes available for leasing the entirety of the Teshekpuk Lake Special Area and partially protects critical habitat for migratory birds and the Teshekpuk Caribou Herd through lease stipulations and required operating procedures. A core area in the Utukok River Uplands Special Area would also be unavailable for leasing; this area includes important calving and insect-relief habitat for the Western Arctic Caribou Herd. Major coastal waterbodies that are integral for subsistence uses and needs such as Admiralty Bay, Wainwright Inlet, Peard Bay, and Kasegaluk Lagoon are unavailable for leasing or are available with NSO under Alternative E.

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

When BLM began its National Environmental Policy Act scoping process, it internally identified subsistence as one of the major issues to be addressed. The BLM gathered information during consultation with Native entities, regional working groups, cooperating agencies, and during public meetings to develop protective measures that minimize adverse impacts on subsistence uses. These include:

- ROP E-1 protects subsistence use and access to terrestrial subsistence hunting and fishing areas.

- ROP E-3 protects subsistence use and access to marine subsistence hunting and fishing areas.
- ROP E-7 sets standards for road and pipeline design to ensure unimpeded travel of subsistence users.
- ROP F-4 reduces the impacts of air traffic on subsistence users.
- ROP H-1 requires consultation with affected communities to prevent unreasonable conflicts with subsistence users.
- ROP H-3 prevents competition from outside hunters for subsistence resources.
- Stipulation K-1 establishes development setbacks for important subsistence rivers.

Given these steps, as well as other lease stipulations and required operating procedures that serve to directly protect various subsistence resources or their habitat, the BLM has determined that Alternative E includes reasonable steps to minimize adverse impacts on subsistence uses and resources.

B-5. Consideration of New Information and Circumstances

As part of the current review of the 2020 IAP/EIS, the BLM also considered whether there is any new information or circumstances which have arisen since the publication of the 2020 IAP/EIS which would substantially alter the findings made in the existing ANILCA Section 810 Evaluation.

The existing ANILCA Section 810 Evaluation considered all relevant and available information from the 2020 IAP/EIS, including Section 3.4.2, *Subsistence Uses and Resources*, Section 3.3.3 *Fish*, Section 3.3.4 *Birds*, Section 3.3.5 *Terrestrial Animals,* Section 3.3.6 *Marine Mammals,* Section 3.4.4 *Sociocultural Systems,* and Appendix T, *Subsistence Use and Resources* (BLM 2020a). Accordingly, the BLM considered new information or circumstances pertinent to these resources areas that may have bearing on the Section 810 evaluation. As detailed in Appendix A of this EA, while new information was identified for each of these resource areas, it would not substantially change the analysis or conclusions as provided for in the 2020 IAP/EIS. For this same reason, the BLM concludes that the evaluation, findings and determinations made under the existing ANILCA Section 810 Evaluation would not substantially change from those previously disclosed in Appendix E of the 2020 IAP/EIS.