



April 1, 2026

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Bureau of Ocean Energy Management
Alaska Region, Office of Leasing and Plans
3801 Centerpoint Dr., Ste. 500
Anchorage, Alaska 99503
[via regulations.gov]

Docket No. BOEM-2025-0318

Re: Comments on Commercial Leasing for Outer Continental Shelf Minerals Offshore
Alaska—Request for Information and Interest

Ms. Miller:

On behalf of the Association of Village Council Presidents (AVCP), Native Village of Eek, and Alaska Community Action on Toxics (ACAT), we submit these comments on the Bureau of Ocean Energy Management's (BOEM) request for information (RFI) for commercial leasing of Outer Continental Shelf (OCS) minerals offshore of Alaska. AVCP and ACAT strongly oppose any mineral leasing in the Alaska OCS due to the potential for devastating impacts to the ocean environment, marine wildlife, fisheries, and the resources and culture that have sustained local communities since time immemorial. BOEM should cease any further steps towards leasing. If, despite the risks, uncertainties, and local opposition, BOEM nonetheless chooses to proceed, it must comply with each and every applicable legal obligation before it may hold a lease sale, including requirements under the Outer Continental Shelf Lands Act (OCSLA), the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and the National Historic Preservation Act (NHPA). It must also invite potentially affected Tribes to participate in government-to-government consultation and meaningfully engage in that process before moving forward. We are confident that a rational, thorough assessment of the potential impacts of OCS mineral leasing and development will demonstrate that leasing in the Alaska OCS is wholly inappropriate and inconsistent with applicable law.

I. AVCP, NATIVE VILLAGE OF EEK, AND ACAT OPPOSE LEASING FOR SEABED MINING OFF ALASKA.

AVCP is the largest Tribal consortium in the United States with 56 federally recognized Tribes as members. AVCP and its member Tribes cover a Region of approximately 55,000 square

miles, with a population of 27,000 residing in 48 communities along the Yukon River, Kuskokwim River, and Bering Sea Coast. AVCP's mission is to work together with Tribes to enhance sovereignty, self-sufficiency, and Tribes' Way of Life. As part of our mission, AVCP has long been committed to advocating for the protection of the Bering Sea and its resources.

The Native Village of Eek is a federally recognized sovereign tribe. The Tribe is governed by the Traditional Village Council. The Council is responsible for protecting the Tribe's wildlife and environment on which its culture, traditional values, and subsistence ways of life are reliant. The Native Village of Eek is opposed to deep-sea mining in Alaska, including in the Beaufort Sea, Chukchi Sea, Bering Sea, and particularly in nearby Goodnews Bay.

The Native Village of Eek is situated on the Eek River, just 12 miles east of the Kuskokwim River and north of the Kuskokwim Bay, where Goodnews Bay is located. The fisheries, animals, birds, and environment in the Kuskokwim Bay and surrounding waters and lands are essential to Eek and all 56 Yukon-Kuskowkim tribes' cultural, nutritional, economic, and spiritual well-being and way of life. Both the Council and native people are committed to conserving, restoring, and protecting in perpetuity their traditional hunting and fishing grounds based on their indigenous knowledge systems and scientific principles.

The Native Village of Eek is a Yup'ik people whose ancestors have lived in the Yukon-Kuskokwim region for thousands of years. The residents of Eek primarily live a subsistence lifestyle; most of the people in Eek depend on subsistence to provide food for their families. Tribal residents of Eek rely on the waters of the Kuskokwim Bay for the subsistence foods that the waters sustain and are able to provide. For example, in the spring, hunters will go as far south as Security Cove, below Platinum, for seal. People go clamming, whaling and fishing for many species in and around the Kuskokwim Bay. They collect salmonberries and blackberries and harvest migratory birds, among other foods, in the area.

The Native Village of Eek has already experienced negative effects from climate change and the decline of fisheries over the last several decades. Deep-sea mining in the area could make things worse. Pollutants released into the ocean by mining, as well as noise and other effects, could jeopardize all of the subsistence foods, traditional seasonal gathering, and the ability to continue subsistence practices. Subsistence is vital and irreplaceable to the Native Village of Eek.

ACAT is a statewide non-profit environmental health and justice organization founded in 1997. ACAT's mission is to ensure environmental health and justice in Alaska. ACAT empowers communities to eliminate exposure to toxics through collaborative research, shared science, education, organizing, and advocacy. ACAT protects the rights to clean air, clean water, and toxic-free food; supports the rights of indigenous peoples; and works to eliminate the release of toxic chemicals, including chemical dispersants, that may harm human health or the environment. ACAT holds the precautionary principle as a core value and believes that where chemicals are suspected to cause health problems, action should be taken to limit and avoid

unnecessary exposures. ACAT conducts public education programs, including presentations, to educate Alaskans about the risks of chemical dispersants.

ACAT is supported by its 800 non-voting members who contribute financially to ACAT, and 12,000 supporters who respond to action alerts, attend events, or engage in workshops or meetings. The overwhelming majority of our members and supporters live in Alaska. Five of ACAT's seven board members are Alaska Native women who are from Savoonga, Aleknagik, Port Graham, Bethel, and Anchorage.

ACAT works primarily with Alaska Native communities that depend on the land and ocean for subsistence hunting, fishing, and gathering. These include Alaska Natives who reside on Saint Lawrence Island in the Bering Strait and in communities along the coast of the Cook Inlet. These Alaska Native communities are almost entirely dependent on traditional fishing and hunting for their food security. Some of the subsistence fishers represented by ACAT also fish commercially and are economically dependent on the health of Alaska's oceans and coastal waters, including Cook Inlet and the Gulf of Alaska.

AVCP, the Native Village of Eek, and ACAT firmly oppose any leasing, exploration, or development for deep-sea mining off Alaska. The irreversible damage to marine ecosystems from such activities would directly endanger livelihoods, destroy traditions, and erode the cultural foundations that define Alaska Native peoples.

II. BOEM MUST ADEQUATELY CONSULT WITH ALASKA NATIVE TRIBES AND TRIBAL ORGANIZATIONS AND PRIORITIZE LOCAL CULTURAL, SCIENTIFIC, AND ECOLOGICAL STEWARDSHIP CONCERNS.

BOEM must adequately consult on a government-to-government basis with Alaska Native Tribes and tribal organizations. It must prioritize the local cultural, scientific, and ecological stewardship concerns of the very populations that will be affected by any mining lease sale in the proposed lease area.

As an initial matter, consultation with Alaska Native Tribes and tribal organizations is paramount where Alaska Native Tribes retain aboriginal title to lands and resources. There are arguments that Tribes retain aboriginal title in the Alaska OCS.¹ Aboriginal title preserves the Tribes' rights "to full use and enjoyment" of the OCS.² Accordingly, BOEM must consult with Tribes as part of any proposal to offer mineral leases in the OCS.

¹ *People of Vill. of Gambell v. Hodel*, 869 F.2d 1273, 1279 (9th Cir. 1989) (*Gambell III*) (citing *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 547-48 (1987)).

² *U.S. ex rel. Chunie v. Ringrose*, 788 F.2d 638, 642 (9th Cir. 1986). *See also United States v. Washington*, 157 F.3d 630, 644 (9th Cir. 1998) (aboriginal title includes "absolute right to harvest any species [of fish] they desired" (quoting *United States v. Washington*, 873 F. Supp. 1422, 1430 (W.D. Wash. 1994))).

As BOEM has recognized in its national OCS oil and gas plan, the inclusion of “traditional lands and waters of American Indian and Alaska Native communities” requires “both formal government-to-government consultation with Tribes” and “informal dialogue, collaboration, and engagement.”³ BOEM has purported to carry out consultation in that context through meetings, letter writing, and other correspondence with Alaska Native Tribes.⁴ Before finalizing any initial lease sale, BOEM must, at the very least, afford the same consultation to Alaska Native Tribes and tribal organizations here. Failure to do so will violate federal law requiring consultation with Alaska Native Tribes.⁵

Further, meaningful consultation requires agencies to undertake a good faith effort to reach common agreement with Tribes and tribal organizations on how to proceed with the matter. This should include clear processes for documenting the consultation, ensuring protection of culturally sensitive information, complying with tribal laws or protocols governing consultation, and implementing a certification process at the completion of consultation for both parties to agree that meaningful consultation occurred. Merely cataloguing tribal concerns does not constitute meaningful consultation; and silence, especially in the face of short agency deadlines and limited tribal resources, should never be construed as assent. The timing of consultation is also integral to ensuring it is meaningful and robust. In many areas of rural Alaska, BOEM should make every effort to ensure that consultation does not coincide with critical subsistence seasons. And meaningful and robust consultation is a dialogue that requires the two-way exchange of information, including federal agencies sharing internal reports, analysis, deliberations and pre-decisional documents with Alaska Tribes and tribal organizations with sufficient lead time before consultation begins.

In addition to other laws and policies, consultation and implementation of Indigenous Knowledge are required by the Department of the Interior’s (Interior) and BOEM’s consultation policies and guidance developed in accordance with Executive Order 13175.⁶ Interior’s and BOEM’s consultation policies also incorporated the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) on December 16, 2010, which mandates that nation states consult with Indigenous peoples “in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection

³ BOEM, *11th National Outer Continental Shelf Oil and Gas Leasing Draft Proposed Program, 1st Analysis and Proposal* 13-4 (Nov. 2025) [hereinafter 11th National Program], https://www.boem.gov/sites/default/files/documents/oil-gas-energy/national-program/11th_National_OCS_Program_1stAnalysis_and_Proposal_508.pdf.

⁴ *Id.* at 13-4 to 13-5.

⁵ *Infra* Section IX.

⁶ 65 Fed. Reg. 67249 (Nov. 9, 2000); see also Dep’t of the Interior, *Department Manual*, 512 DM 4 (Nov. 11, 2022), https://www.doi.gov/sites/doi.gov/files/elips/documents/512-dm-4_2.pdf; BOEM, *Tribal Consultation Guidance Final* (Dec. 9, 2024), https://www.boem.gov/sites/default/files/documents/about-boem/Tribal-Consultation-Guidance_0.pdf.

with the development, utilization or exploitation of mineral, water or other resources.”⁷ Interior has incorporated UNDRIP as part of its policies and requirements for engaging with Indigenous Knowledge during federal actions, including the Indigenous Knowledge of Alaska Native communities.⁸

These consultation policies and requirements are consistent with the creation of the Northern Bering Sea Climate Resilience Area (Climate Resilience Area), which withdrew areas in the OCS, including Norton Sound, from oil and gas leasing.⁹ The EO establishing the Area also created the Bering Intergovernmental Tribal Advisory Council which is tasked with providing agencies with Traditional Knowledge to be incorporated in federal actions within the Climate Resilience Area.^{7F}¹⁰

Further, consultation on technical issues like those related to seabed mining requires scientific expertise and a significant investment of community and government time and resources. The agency should provide adequate funding and technical assistance to Alaska Tribes and tribal organizations in order to enable their full and effective participation throughout the consultation process.

Alaska’s waters and coasts have nourished inhabitants for millennia and contain “numerous subsistence communities, rich indigenous cultures, and unique marine ecosystems, each of which plays an important role in maintaining regional resilience.”¹¹ Alaska Native peoples rely on these unique ecosystems and the marine mammals they support for subsistence—in the words of Three Tribal organizations that advocate for over 70 western Alaska Native Tribes,

⁷ United Nations, *Declaration on the Rights of Indigenous Peoples*, G.A. Res. 61/295, art. 32 (Sept. 13, 2007), https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf; U.S. Dep’t of State, *Announcement of U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples* (Dec. 16, 2010), <https://2009-2017.state.gov/r/pa/prs/ps/2010/12/153027.htm>.

⁸ See Dep’t of the Interior, *Departmental Responsibilities for Consideration and Inclusion of Indigenous Knowledge in Departmental Actions and Scientific Research*, 301 DM 7 (Dec. 5, 2023), <https://www.doi.gov/document-library/departamental-manual/301-dm-7-departamental-responsibilities-consideration-and>.

⁹ Exec. Order No. 13754, 81 Fed. Reg. 90669 (Dec. 9, 2016), (<https://obamawhitehouse.archives.gov/the-press-office/2016/12/09/executive-order-northern-bering-sea-climate-resilience>).

¹⁰ *Id.*

¹¹ *Id.*; Tom Barry et al., *Arctic Biodiversity Assessment: Status and Trends In Arctic Biodiversity – Synthesis* 31 (Hans Meltofte ed., (2013)) [hereinafter *ABA*], <https://oaarchive.arctic-council.org/items/b32baf29-d9d7-4c9e-8598-877db37141da>; see also Benjamin S. Halpern et al., *A global map of human impact on marine ecosystems*, 319 Science 948-952 (February 15, 2008), <https://www.science.org/doi/10.1126/science.1149345>.

“there is no replacement value for subsistence.”¹² All of the areas considered for mining have served as vital bedrock for the subsistence and cultures of Alaska Native peoples. Any mineral leasing would threaten these communities’ health and livelihoods, requiring thorough engagement and prioritization of these communities’ concerns.

The seas in the Arctic are home to the habitat of a number of marine species important for subsistence, including bowhead whales, beluga whales, ringed seals, bearded seals, polar bears, and walrus.¹³ Alaska’s Bering Sea and Aleutian islands are among the most productive marine ecosystems in the world, and have historically supported important subsistence salmon fisheries and abundant marine mammal and seabird populations that are critical to subsistence harvesters in western Alaska and the Aleutian Islands.¹⁴ This ecosystem also supports some of the world’s largest commercial fisheries. The Gulf of Alaska supports subsistence fishing by Native Alaska peoples for five salmon species, halibut, shellfish, and other finfish, producing an average of 155 pounds of food per person per year for those in rural Alaska.¹⁵

The species in these areas rely on healthy and quiet seas to hunt, reproduce, and communicate. Many species also rely on the existence and persistence of sea ice every year, and are increasingly vulnerable as this region experiences rapidly accelerating climatic change, resulting in ecosystem-wide change in recent decades. Threats to these areas and species extend to human residents because biodiversity and the natural environment remain integral to the well-being of Alaska Native peoples, providing not only food but the everyday context and basis for social identity, cultural survival, and spiritual life. These foods also lower the risk of metabolic diseases in residents who consume them regularly.¹⁶ Mineral leasing and mining in Alaska’s OCS threatens these ecosystems, the species that rely on them, and thereby threatens the livelihoods and cultures of the many Alaska Native communities who subsist on these species.

Before taking further steps towards leasing, BOEM must consult with Alaska Native Tribes and tribal organizations. The people and communities who Tribes and tribal organizations

¹² See Letter from Melanie Bahnke, President, Kawerak, Inc., Jaylene Wheeler, Executive Dir., Bering Sea Elders Group, and Vivian Korthius, Chief Exec. Off., Association of Village Council Presidents, to Doug Burgum, Secretary of the Interior, BOEM-2025-0015-35243 (June 16, 2025) (Kawerak, BSEG, AVCP Letter).

¹³ N.C. Young et al., *Alaska Marine Mammal Stock Assessments, 2022*, NOAA (July 2023), <https://www.fisheriesnoaa.gov/s3/2023-08/Final-AFSC-SAR-Aug17-0.pdf>.

¹⁴ *Northern Bering Sea Climate Resilience Area*, NBSCRA (2024), <https://www.nbscra.com/>.

¹⁵ Stephani Zador et al., *Ecosystem Considerations 2017 Status of the Gulf of Alaska Marine Ecosystem* 184, N. Pac. Fishery Mgmt. Council (Nov. 13, 2017), <https://repository.library.noaa.gov/view/noaa/19465>.

¹⁶ Aaron Wernham, *Iñupiat Health and Proposed Alaskan Oil Development: Results of the First Integrated Health Impact Assessment/Environmental Impact Statement for Proposed Oil Development on Alaska’s North Slope*, 4 *EcoHealth* 500, 500, 506, 507, 514 (2007), <https://link.springer.com/article/10.1007/s10393-007-0143-z>.

serve will likely be the first to bear the direct consequences of any seabed mining activities in the RFI areas.

III. SEABED MINERAL LEASING IN THE ALASKA OCS WOULD BE CONTRARY TO OCSLA AND IS NOT IN THE REGIONAL OR NATIONAL INTEREST.

Leasing under OCSLA must be consistent with several principles. OCS mineral leasing must be “consistent with . . . national needs.”¹⁷ BOEM must respect the “rights and responsibilities” of states, territories, and local governments “to preserve and protect their marine, human, and coastal environments” and must, in collaboration with government of affected areas, effectuate “the national interest in the effective management of the marine, coastal, and human environments.”¹⁸ And any leasing and development must be “subject to environmental safeguards,” may not affect the right to fish, and must “be conducted in a safe manner by well-trained personnel using technology, precautions, and techniques sufficient to prevent or minimize the likelihood of . . . damage to the environment or to property, or endanger[ment of] life or health.”¹⁹ Leasing and development of seabed minerals in the Alaska OCS cannot meet any of these standards.

A. Seabed Mining Would Cause Unacceptable Impacts to the Environment and Fisheries.

The areas named in the RFI are incredibly diverse and contain important and sensitive habitats, such as coral and sponge gardens, seamounts, and various marine species. For example, “[s]eventeen coastal zones are identified across Alaska’s shorelines and eight terrestrial ecoregions are defined above the high tide line to the interior.”²⁰ The ocean and coastal environments are an integral part of Alaska’s ways of life and cultures. Alaska’s people and its Native communities have accordingly gone to great lengths to protect and preserve those environments. Seabed mining in the Alaska OCS would undermine those efforts and inflict serious, irreversible damage on the environment and fisheries.

Arctic Region

¹⁷ 43 U.S.C. § 1332(3).

¹⁸ *Id.* § 1332(4), (5).

¹⁹ *Id.* § 1332(2), (3), (6).

²⁰ D. Limpinsel et al., *Impacts to Essential Fish Habitat from Non-Fishing Activities in Alaska: EFH 5-year review from 2018-2023*, at v, NOAA Tech. Memo. NMFS-F/AKR-30 (2023).

In the Arctic, both the Beaufort and Chukchi Seas have numerous areas of heightened ecological significance,²¹ including highly important habitat for marine mammals.²² In first putting areas of the Arctic Ocean permanently off-limits to oil and gas leasing, President Obama noted that the Department of the Interior had identified a total of six Environmentally Important Areas (EIAs) in the two seas. These high-value areas, far from substantiating limited set-asides, require a no-leasing regime throughout the Chukchi and Beaufort Seas, as implemented by Presidents Obama's and Biden's later withdrawals of the entirety of both seas from future oil leasing. They "[d]emonstrate the interconnectedness of this ecosystem, as the ecologically significant resources within the EIAs could be dramatically impacted by activities outside of those areas."²³ The resources concentrated in the EIAs are vulnerable to exterior threats, including from oil exploration and development; thus "[c]omprehensive protection of the area is warranted, as limiting protection to the EIAs would fail to protect ecosystem function and services critical to the region."²⁴ The comprehensive presidential withdrawals also cited the climate imperative of withdrawing the areas from future oil production that would exacerbate the climate crisis.

The National Marine Fisheries Service (NMFS) manages fishing within Alaska's EEZ and has recognized that the Arctic area comprises a "sensitive ecosystem and marine resources . . . including fish, fish habitat, and non-fish species that inhabit or depend on marine resources of the Arctic EEZ, and the subsistence way of life of residents of Arctic villages."²⁵ These areas and resources already face depletion from "changing ecological conditions . . . including warming trends in ocean temperatures, the loss of seasonal ice cover, and the potential long term effects from these changes on the Arctic marine ecosystem."²⁶ Accordingly, NMFS has banned all commercial fishing within the Arctic management area because no commercial fishing can currently be made consistent with "the Council's fishery management goals . . . to provide sound

²¹ Arctic Monitoring & Assessment Programme et al., *Identification of Arctic marine areas of heightened ecological and cultural significance: Arctic Marine Shipping Assessment (AMSA) IIc* (2013) [hereinafter AMSA IIC Report], <https://oaarchive.arctic-council.org/items/1d567c4b-723b-48fa-8510-828edede09a7>; see also Lisa Speer & Thomas Laughlin, *IUCN/NRDC Workshop to Identify Areas of Ecological and Biological Significance or Vulnerability in the Arctic Marine Environment: Workshop Report*, IUCN, Natural Resources Defense Council (2010), <https://portals.iucn.org/library/sites/library/files/documents/Rep-2011-001.pdf>.

²² Janet T. Clark et al., *Biologically important areas for cetaceans within U.S. waters—Arctic Region*, 41 *Aquatic Mammals* 94-103 (2015) <https://www.aquaticmammalsjournal.org/wp-content/uploads/2015/02/AM41.1CompleteIssue.pdf>.

²³ *Fact Sheet: President Obama Protects 125 Million Acres of the Arctic Ocean*, The American Presidency Project (Dec. 20, 2016) [hereinafter White House Fact Sheet], <https://www.presidency.ucsb.edu/documents/fact-sheet-president-obama-protects-125-million-acres-the-arctic-ocean>.

²⁴ *Id.*

²⁵ N. Pac. Fishery Mgmt. Council, *Fishery Management Plan for Fish Resources of the Arctic Management Area 14* (Oct. 2024) (Arctic FMP), <https://files.npfmc.org/fmp/Arctic/ArcticFMP.pdf>.

²⁶ *Id.*

conservation and sustainability of fish resources, provide socially and economically viable commercial fisheries for the well-being of fishing communities, minimize human-caused threats to protected species, maintain healthy habitat for marine resources, and incorporate ecosystem-based considerations into management decisions.”²⁷ When commercial fishing is not consistent with goals of managing the EEZ, a lease for mineral development in the Arctic certainly would not comply with OCSLA’s mandate that leasing must be “subject to environmental safeguards,” and not affect the right to fish.²⁸

Keeping new seabed mining activity out of the Beaufort and Chukchi Seas is particularly important in light of the increasing impacts of climate disruption, including surface water warming, loss of sea ice, and ocean acidification in the region.²⁹ “Such conditions and stressors may increase the vulnerability of these species and habitat and reduce their resilience to impacts of oil and gas activities.”³⁰ The same is true with regard to impacts of mining activities. The sea ice is critical for survival of many Arctic species and dictates or influences oceanic and ecological processes and connections.³¹ Its loss reduces vital habitat for seals, polar bears, walrus, and other ice-dependent species.³² The rapidity of change dictates that even where adaptation is possible, for many species it will mean not evolutionary change but northward displacement, a strategy of severely limited utility in the high latitudes entailing, as it necessarily does, the reduction of available surface area for habitat.³³ Climate change in the Arctic is also leading to increased storms, sea level rise, melting permafrost, and coastal erosion. The cold and low salinity of the water make the Arctic more susceptible to acidification,³⁴ which is affecting the oceanographic and ecological systems of the Arctic in far-reaching ways.³⁵

²⁷ *Id.*

²⁸ 16 U.S.C. § 1332(2), (3), (6).

²⁹ U.S. Global Change Res. Prog., *Climate Change Impacts in the United States: The Third National Climate Assessment* 514-536, (Jerry Melillo et al., eds. 2014), <https://repository.library.noaa.gov/view/noaa/19485>.

³⁰ White House Fact Sheet, at 5.

³¹ John Eamer et al., *Life Linked to Ice: A guide to sea-ice-associated biodiversity in this time of rapid change*, Assessment Series No. 10, Conservation of Arctic Flora & Fauna (2013), <https://oaarchive.arctic-council.org/server/api/core/bitstreams/0359d6b7-740c-4871-913f-1b92d0705ecb/content>.

³² White House Fact Sheet, at 3.

³³ *ABA*, at 52, 74-75.

³⁴ Arctic Monitoring & Assessment Programme, *Arctic Ocean Acidification Assessment: Summary for Policymakers* (2013), <https://www.amap.no/documents/doc/amap-arctic-ocean-%20acidification-assessment-summary-for-policy-makers/808>.

³⁵ A.G. Andreev et al., *The Distribution of the Carbonate Parameters in the Waters of Anadyr Bay of the Bering Sea and in the Western Part of the Chukchi Sea*. 50 *Oceanology* 39-50 (2010), <https://link.springer.com/article/10.1134/S0001437010010054>.

Mining in the Arctic would also produce impacts that would flow to coastal areas that include the Arctic National Wildlife Refuge, home to critical maternal denning habitat for threatened polar bears. This Refuge contains key habitats for a range of species associated with cultural or subsistence values which are sensitive to environmental change.³⁶ The U.S. Fish & Wildlife Service (FWS) has recognized that offshore development poses a threat to nearshore marine ecosystems in the Refuge, including shorebirds, waterfowl, marine and anadromous fishes, and polar bears.³⁷ FWS accordingly has highlighted that its staff are to manage the marine protected areas of the Refuge in order to “protect and enhance its natural heritage,” a goal that is inconsistent with mining the seabed in the Chukchi Borderlands or Canada Basin.³⁸ Also threatened is sensitive shoreline habitat for nursing beluga whales, ice seals, and many other species. Accordingly, FWS has banned any mineral leasing within Refuge areas.³⁹

These proposed leasing areas also cover highly productive and vulnerable marine areas protected by presidential order just last year. These include Barrow Canyon, an important stopping place for migrating whales and high densities of summering seabirds like shearwaters, eiders, and loons. They also include Hanna Shoal, a critical area for the Pacific walrus, ice seals, and the polar bears that feed on them.¹⁸⁹ Canadian and Russian marine areas are under threat as well and so is the biologically and economically critical Bering Strait.

High Arctic Region

For the High Arctic area implicated by the RFI, seabed mining would pose a multitude of threats to both the potential lease areas as well as nearshore areas. BOEM has itself admitted that it knows very little about the High Arctic.⁴⁰ The little that *is* known about the region demonstrates the High Arctic is in fact extremely ecologically sensitive and already under enormous strain due to climate change.

Less information is available on the reliance of subsistence species on the High Arctic environment compared to the Beaufort and Chukchi Seas, although it is clear that ringed seals utilize deep-water Arctic Basin habitat between 70° N latitude and 75° N latitude, the furthest extent of the Beaufort Sea Planning Area.⁴¹

³⁶ U.S. Fish & Wildlife Service, *Arctic National Wildlife Refuge Revised Comprehensive Conservation Plan*, at 40 (Jan. 2015), <https://iris.fws.gov/APPS/ServCat/downloadfile/202893>; ABA, at 22-23.

³⁷ *Id.* at 1-40.

³⁸ *Id.*

³⁹ *Id.* at 41-42.

⁴⁰ 11th National Program, at 10-20.

⁴¹ Andrew L. Von Duyke et al., *Ringed seal (Pusa hispida) seasonal movements, diving, and haul-out behavior in the Beaufort, Chukchi, and Bering Seas (2011–2017)*, 10 *Ecology & Evolution* (May 2020), <https://doi.org/10.1002/ece3.6302>.

Regarding polar bears, the High Arctic overlaps with the range of both Alaskan subpopulations, the Southern Beaufort Sea and the Chukchi Sea bears.⁴² At the time FWS designated critical habitat for these bears, it noted that the critical sea ice habitat zone did not extend north of the EEZ line (the southern boundary line of the High Arctic) because the agency was limited by regulation “to designating critical habitat only on lands and waters under U.S. jurisdiction.”⁴³ BOEM must consider whether, now that the United States is asserting jurisdiction to these extraterritorial waters, it should extend the bears’ designated critical habitat.

The primary threat to both seals and polar bears is the loss of sea ice.⁴⁴ The sea ice on which they rely—historically a constant feature of the High Arctic—is decreasing in minimum extent by 12.2% per decade.⁴⁵ As the planet continues to warm, these threatened animals and their entire food web will face increasingly extraordinary challenges. In addition to providing a surface on which to live and hunt, sea ice forms the basis of their food chain. The salt expelled from water that becomes sea ice allows the formation of the algae that feeds organisms such as zooplankton.⁴⁶ Those zooplankton are eaten by Arctic cod, which are eaten by seals, which are eaten by polar bears.⁴⁷ Arctic cod are the most northerly fish in the world, found up to and beyond 84 degrees north latitude.⁴⁸ They are a food web “anchoring species” for which “[t]here is simply no substitute.”⁴⁹ Due to their “buoyant eggs and planktonic young,” these fish are “highly vulnerable” to toxic chemicals and other disturbance.⁵⁰ Curtailing pollutants has been identified as a key component of protecting this vital species.⁵¹

Bering Sea, Aleutian Islands and Gulf of Alaska Regions

⁴² See Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Polar Bear (*Ursus maritimus*) in the United States, 75 Fed. Reg. 76086, 76088-89 (Dec. 7, 2010) (showing ranges of the two bear populations).

⁴³ *Id.* at 76121.

⁴⁴ *Ringed Seal: Overview*, NOAA, <https://www.fisheriesnoaa.gov/species/ringed-seal/overview> (last updated Sept. 17, 2025) (“Loss of sea ice and snow cover on the ice poses the main threat to this species.”); U.S. Fish & Wildlife Serv., *The U.S. Fish and Wildlife Service Finds Polar Bear Status Remains Threatened* (Sept. 25, 2023), <https://www.fws.gov/press-release/2023-09/us-fish-and-wildlife-service-finds-polar-bear-status-remains-threatened> (“The Service listed the polar bear as threatened due to the loss of its sea ice habitat.”).

⁴⁵ NASA, *Arctic Sea Ice Minimum Extent – Earth Indicator* (last updated Sept. 25, 2025), <https://science.nasa.gov/earth/explore/earth-indicators/arctic-sea-ice-minimum-extent/>.

⁴⁶ F. Lehner, *Key Facts about Arctic Sea Ice*, Polar Bears Int’l (July 1, 2024), <https://polarbearsinternational.org/news-media/articles/arctic-sea-ice-key-facts>.

⁴⁷ *Id.*

⁴⁸ Defenders of Wildlife, *Navigating the Arctic Meltdown*, at 2, <https://defenders.org/publications/navigating-arctic-meltdown-chapter-5-arctic-cod>.

⁴⁹ *Id.*

⁵⁰ *Id.* at 3.

⁵¹ *Id.*

The RFI also targets areas within the Bering Sea, Aleutian Islands, and Gulf of Alaska. Within all of these regions, there are numerous identified sensitive marine ecosystems and fishing habitats implicated by the RFI lease areas. For example, the Northern Bering Sea Climate Resilience Area was established to protect the unique marine ecosystem of the region, support the rich indigenous cultures that depend on it, and preserve migratory pathways and habitat that is “essential for the survival of marine mammals, fish, seabirds, other wildlife, and the subsistence communities that depend on them.”⁵² This includes habitat for northern fur seals—which are important subsistence resources for communities in the Pribilof Islands—marine habitat for the declining populations of western Alaska salmon that are the lifeblood of the region, seabird nesting grounds, crab nurseries, and other important subsistence resources. The Bering Sea is also home to extensive eelgrass beds such as those found in the Izembek National Wildlife Refuge.⁵³ And the Aleutian Islands and the Alaska Maritime National Wildlife Refuge likewise support unique populations of marine seabirds that breed exclusively on the islands within the Refuge, marine mammals like Steller sea lions and sea otters, and fish populations that provide critical resources for communities in this region.⁵⁴ Goodnews Bay is also surrounded by the Togiak National Wildlife Refuge, which includes critical habitat for ESA-listed species like spectacled eider, Steller’s eider, and Steller sea lions.⁵⁵

All of the these resources noted above are already at risk. In the last decade, marine heatwaves resulted in the mass die-off of millions of common murres and other seabirds, unprecedented marine mammal mortality events for whales and ice seals, the loss of sea ice, and shifts in abundance and distribution across the food web.⁵⁶

Subsistence hunting and fishing are critically important activities across Alaska, including in the entire Bering Sea region, the Aleutians and the Gulf of Alaska.⁵⁷ As reported by the Alaska Department of Fish and Game, Division of Subsistence, about 70 percent of households in western

⁵² 81 Fed. Reg. 90669, 90669 (Dec. 14, 2016).

⁵³ 11th National Program, at 9-8.

⁵⁴ *Alaska Maritime National Wildlife Refuge*, U.S. Fish & Wildlife Service, <https://www.fws.gov/refuge/alaska-maritime> (last visited Feb. 24, 2026).

⁵⁵ NOAA, *Community Profiles for North Pacific Fisheries – Alaska: Goodnews Bay 4*, NOAA-TM-AFSC-259, https://apps-afsc.fisheries.noaa.gov/REFM/Socioeconomics/Projects/communityprofiles/Goodnews_Bay_Profile_2000_2010.pdf.

⁵⁶ Jake Buehler, *The ‘Blob,’ an unprecedented marine heat wave, killed 4 million seabirds*, ScienceNews (Dec. 12, 2024), <https://www.sciencenews.org/article/blob-marine-heat-wave-killed-seabirds>; Elizabeth Sidden, *Ecosystem Status Report 2022, Eastern Bering Sea*, at 9-13, NOAA Fisheries (Nov. 18, 2022), <https://apps-afsc.fisheries.noaa.gov/REFM/docs/2022/EBSecosys.pdf>.

⁵⁷ See Alaska Dep’t of Fish & Game, *Subsistence in Alaska: A Year 2017 Update*, at 3 (2017), https://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence_update_2017.pdf (table showing wild food harvests in Alaska).

Alaska participate in harvesting game, while 98 percent participate in harvesting fish.⁵⁸ That same report estimates western Alaska households harvested an average of 379 pounds of annual wild foods per person each year.⁵⁹ The Aleutian, Norton Sound, and Goodnews Bay areas that BOEM has targeted are particularly close to shore and thus to subsistence communities; such as the primarily Yup'ik Village of Goodnews Bay, where residents practice a “subsistence, trapping, and fishing lifestyle.”⁶⁰ The bay hosts a wide variety of species, including five types of salmon, herring, trout and many other fish, and migratory waterfowl.⁶¹ In recent years, however, the area’s fisheries have suffered as fish stocks have declined.⁶² Mining that area would only compound fisheries declines.

Commercial fishing and seafood harvesting and processing also contribute to the economy of these regions. For example, commercial fishing and seafood processing support nearly 100% of the employment with the total marine economy of the Aleutian Islands.⁶³ The Gulf of Alaska supports some of the largest fisheries in the United States.⁶⁴ Recreational fishing in the area has also generated hundreds of millions of dollars.⁶⁵

Major climate change-related harms including warming ocean temperatures, species die-offs, and coastal erosion are already affecting all of these areas.⁶⁶ In these regions, subsistence fisheries are closed,⁶⁷ glacial and permafrost melt is intensifying flooding,⁶⁸ houses have already

⁵⁸ *Id.* at 2.

⁵⁹ *Id.* at 3.

⁶⁰ NOAA, Goodnews Bay, *supra* note 55, at 4.

⁶¹ *Id.*

⁶² See, e.g., Kuskokwim River Inter-Tribal Fish Commission, *Kuskokwim River Salmon Situation Report* 3-7 (Sep. 2021), https://static1.squarespace.com/static/5afdc3d5e74940913f78773d/t/61f30d22d43e4066d2fb4d8f/1643318621130/FINAL+Kusko+Salmon+Situation+Report_to+print.pdf.

⁶³ 11th National Program, at 8-7 (Nov. 2025).

⁶⁴ *Id.*

⁶⁵ *Id.* at 8-8.

⁶⁶ See Letter from Kawerak, Inc., Bering Sea Elders Group, and Association of Village Council Presidents, *supra* note 12; Y. Rosen, *Relocation of eroding Alaska Native village seen as a test case*, Alaska Public Media (April 22, 2024), <https://alaskapublic.org/news/2024-04-22/relocation-of-eroding-alaska-native-village-seen-as-a-test-case>; J. Sutter, *Tragedy of a village built on ice*, CNN.com (Mar. 29, 2017), <https://www.cnn.com/2017/03/29/us/sutter-shishmaref-esau-tragedy>.

⁶⁷ See, e.g., Kuskokwim River Inter-Tribal Fish Commission, *supra* note 62, at 3-7 (detailing the “[p]rolonged Chinook [s]almon [c]rash” and the 2021 “[u]nprecedented” chum crash on the Kuskokwim River); E. Erickson, *Yukon River communities balance conservation, survival amid near-total salmon fishing closures*, KTOO (June 11, 2024).

⁶⁸ See J. Garrett, *Global report highlights Mendenhall Glacier’s rapid retreat as a catalyst of climate change, warns impacts may speed up*, Juneau Independent (Dec. 3, 2025),

begun to fall into the ocean, and people have died from falling through ice in areas that previously would have been frozen solid at the same time of year.⁶⁹ Last fall, a devastating typhoon in Western Alaska forced communities to evacuate, damaging or destroying over 2000 homes.⁷⁰ Alaska is already experiencing the disastrous effects of climate change that new mineral extraction will only intensify.

Congress also directed Interior to implement OCSLA in such a manner that “fishing [on the OCS] shall not be affected.”⁷¹ As discussed below, seabed mining in the Alaska OCS *will* adversely affect fisheries, potentially severely, and would be wholly inconsistent with OCSLA’s directives.⁷²

Unknown Impacts of Seabed Mining

The known impacts of seabed mining alone are sufficient reasons not to proceed with leasing. BOEM is unable to apply “environmental safeguards” that are “sufficient to prevent or minimize . . . damage to the environment,” given the seriousness of environmental harm and lack of viable options to prevent it.⁷³

The unknown risks provide further reasons why seabed mineral leasing would be inconsistent with OCSLA’s purposes. Very little of the seabed in the Alaska OCS has been explored or adequately surveyed. There is an absence of publicly available high-resolution bathymetric data, animal transect data, animal specimens, environmental DNA, microbial information, or other necessary biological, chemical, and physical data to adequately understand potential impacts, especially with respect to seamounts in the Alaska OCS. The horizontal and vertical hydrodynamic processes of seamounts—“essential for predicting the spread and intensity of potentially harmful mining plumes on and in the seafloor”—are “extremely challenging to quantify and model.”⁷⁴ Yet, seamounts can “produce mesoscale eddies 100 km wide that affect circulation from the surface to the seafloor and transport mass volumes of water and materials between seamounts and across thousands of kilometers.”⁷⁵ More generally, there

<https://www.juneauindependent.com/post/global-report-highlights-mendenhall-glacier-s-rapid-retreat-as-a-catalyst-of-climate-change-warns-i>.

⁶⁹ See Sutter (2017), *supra* note 66.

⁷⁰ E. Stone et al., *One month after Halong, here’s what rebuilding looks like in six Y-K Delta communities*, Alaska Public Media (Nov. 17, 2025), <https://alaskapublic.org/news/public-safety/2025-11-17/one-month-after-halong-heres-what-rebuilding-looks-like-in-six-y-k-delta-communities>.

⁷¹ 43 U.S.C. § 1332(2).

⁷² See *infra* Section V.C.

⁷³ 43 U.S.C. § 1332(3), (6).

⁷⁴ Cherisse Du Preez et al., *Beyond the plains: deep-sea mining of polymetallic nodules on and around seamounts*, 12 Front. Mar. Sci., at 7 (2025).

⁷⁵ *Id.*

are important questions about, among other things, the area's ecological connectivity, ecosystem services, and ecosystem function; sediment and dewatering releases and plumes from operations; and the ability to mitigate impacts.⁷⁶

BOEM cannot rationally determine whether “technology, precautions, and techniques” are “sufficient to prevent or minimize” environmental damage if it lacks a comprehensive understanding of the affected environment and/or how seabed mining will operate.⁷⁷ The Alaska OCS contains ferromanganese crusts, the mining of which employs very different technology from polymetallic nodule mining (which may also occur in the area). Heavy mineral sands mining and hydrothermal sulfide mining employ yet other types of technology. Unlike oil and gas exploration and development, which has been established for decades, deep seabed mining is new. Not only is the technology untested, but there are too many unknowns in how potential mining operations would run.⁷⁸ This is why experts and international bodies have emphasized the need for a precautionary approach,⁷⁹ and have called for a moratorium on deep seabed mining until the risks are understood, adequate protections are in place, and the public has been consulted.⁸⁰ At least 38 countries have “declared support for a moratorium on seabed mining pending further study of the environmental consequences.”⁸¹

This lack of information is also why Indigenous communities and governments have already requested that the United States impose a moratorium on deep seabed mining activities in all EEZ waters, while also imposing moratoria in their own territorially controlled waters.⁸²

⁷⁶ See Diva J. Amon et al., *Climate change to drive increasing overlap between Pacific tuna fisheries and emerging deep-sea mining industry*, 9 NPJ Ocean sustainability, at 3 (2023), <https://www.nature.com/articles/s44183-023-00016-8>.

⁷⁷ 43 U.S.C. § 1332(6).

⁷⁸ See also *infra* Section III.B.

⁷⁹ See, e.g., *Momentum for a Moratorium*, Deep Sea Conservation Coalition, <https://deep-sea-conservation.org/solutions/no-deep-sea-mining/momentum-for-a-moratorium/> (last visited Feb. 24, 2026); *Marine Expert Statement Calling for a Pause to Deep-Sea Mining*, Deep-Sea Mining Science Statement, <https://seabedminingsciencstatement.org/> (last visited Feb. 24, 2025); *IUCN Director General's Open Letter to ISA Members on Deep-sea Mining*, IUCN (Mar. 6, 2023), <https://www.iucn.org/dg-statement/202303/iucn-director-generals-open-letter-isa-members-deep-sea-mining>; *Members - Deep Sea Conservation Coalition*, Deep Sea Conservation Coalition, <https://deep-sea-conservation.org/about/members/> (last visited Dec. 9, 2025).

⁸⁰ See IUCN, *Issues Brief: Deep-sea mining* at 2 (May 2022), <https://iucn.org/resources/issues-brief/deep-sea-mining>.

⁸¹ H. Pretat & M. Sato, *The Risks of U.S. Deep-Sea Mining*, Ctr. for Strategic & Int'l Studies (Aug. 26, 2025), <https://www.csis.org/analysis/risks-us-deep-sea-mining>.

⁸² Gu. Leg. Res. 132-38; see Office of the Governor American Samoa, Exec. Order No. 006-2024, *An Order Implementing a Moratorium on Deep Seabed Mining Exploration and Exploitation Activities* (July 24, 2024), https://www.americansamoa.gov/_files/ugd/4bfff9_d506713b44294367a572aab06f1fd5c2.pdf.

BOEM must follow such a precautionary approach here, not only because it is prudent, but also because it is what OCSLA compels. This is why OCSLA requires BOEM to conduct a sufficient study of the environment and potential impacts before leasing in a new area.⁸³ BOEM currently lacks sufficient information to ensure that mining operations—of polymetallic nodules, heavy mineral sands, hydrothermal sulfides, or ferromanganese crusts—will not cause undue environmental damage or even to know what environmental protection measures to require to ensure consistency with OCSLA.

This is particularly problematic given that the default mineral lease term is 20 years.⁸⁴ If BOEM were to issue a lease now based on incomplete information, it may later discover that mining has additional unanticipated or much more severe environmental effects that would have militated against leasing in the first place, while the lease would remain in effect for several more years. Suspending or cancelling a lease pursuant to OCSLA processes in that instance would be difficult.⁸⁵ BOEM needs to understand the full scope of potential impacts and any necessary protections *before* issuing leases.

In sum, the impacts of seabed mining on the ocean and coastal environments, and on the interests and values of the people of Alaska, cannot be overstated. Proceeding with mineral leasing on the Alaska OCS—particularly before BOEM has an adequate understanding of the potential impacts—would be reckless and contrary to OCSLA.

B. Deep Seabed Mining Is Technologically and Financially Infeasible.

Seabed mining technology is unproven. There are serious questions about the abilities of existing companies to successfully and sustainably conduct seabed mining. At this time, BOEM lacks sufficient information to ensure that development of seabed minerals will be “orderly,” “consistent with the maintenance of competition,” or “conducted in a safe manner by well-trained personnel using” sufficient and reliable “technology, precautions, and techniques,” as OCSLA demands.⁸⁶

It is not possible for BOEM or the public to determine whether seabed mining companies can conduct operations using reliable technology because there is no evidence that the necessary technology currently exists or that it has been sufficiently tested. For example, Impossible Metals announced intentions to conduct full-scale tests in the ocean in 2026, but those tests have been delayed indefinitely without public explanation. The minimal information available about the company’s testing to date and lack of planned rigorous testing leave open questions about its hardware and software; for example how autonomous buoyancy adjustments will operate as sixteen mechanical arms each impact the seafloor at different intervals causing shifts in the vehicle dynamics as the vehicle is also impacted by harsh deep ocean pressure and conditions; or

⁸³ 43 U.S.C. § 1346.

⁸⁴ 30 C.F.R. § 581.19.

⁸⁵ *See, e.g.*, 30 C.F.R. § 582.15.

⁸⁶ 43 U.S.C. § 1332(3), (6).

how the vehicle's overall operation and functionality will be impacted by the sedimentation and movement of nodules on the seafloor caused by its own activities. And that is just the available information from one of the only companies that has publicly expressed intent to mine in the U.S. EEZ. It is not publicly known what other companies may bid on leases in the Alaska OCS, what their technology is, or whether it is feasible.

Given this, BOEM also cannot determine what impacts the seabed mining vehicles operating at scale would have in the area proposed for leasing. Impacts analysis done by Impossible Metals so far includes only preliminary oceanography and geology done outside of the Alaska OCS. We are unaware of any other company that has done impacts analysis in the Alaska OCS. Without further assessment, the impacts of the proposed mining process are completely unknown.

Other types of seabed mining technology raise other questions and problems. Questions include the types and significance of impacts the vehicles will have on the seafloor, and the impact of the vehicles moving up and down through the water column. BOEM must be able to answer these questions before proceeding with leasing. Additionally, there are different methods and types of machinery that may be used for seabed mining (of nodules vs. ferromanganese crusts vs. hydrothermal sulfides vs. heavy mineral sands), and BOEM must consider the technological feasibility of all types of mining that may occur in the RFI area.⁸⁷

Further, as described below and by other commenters, there are serious questions about the financial feasibility and profitability of seabed mining. There is insufficient publicly available information to know whether interested companies have adequate funding and financial security to follow through on proposed exploration and development.⁸⁸ For example, Impossible Metals' comments on related mineral RFIs raise questions about the ability for prospective bidders to explore or develop leases if they must even pay rentals on a lease.⁸⁹ The company also noted that "the resource definition of the proposed area is unknown" and "[i]ndustry is unlikely to invest in resource definition."⁹⁰ BOEM must evaluate and understand the economics of leasing and development before it can proceed.

Given the lack of future need for seabed minerals, discussed below, it is also unlikely mining operations would be profitable. Indeed, Impossible Metals stated in its comments on previous RFIs that "not all minerals (e.g., some rare earths) present in nodules may be economical

⁸⁷ Michael Barnard, *A Techno-Economic Assessment of Seabed Mining American Samoa and Global Implications*, CleanTechnica (Aug. 2025).

⁸⁸ Cf. 15 C.F.R. §§ 970.401, 971.301 (imposing "financial[] responsibility" requirements for permitting under the Deep Seabed Hard Mineral Resources Act).

⁸⁹ Letter from Impossible Metals, to BOEM, Re: Commercial Leasing for Outer Continental Shelf Minerals Offshore Commonwealth of the Northern Mariana Islands (CNMI) – Request for Information and Interest (Docket No. BOEM-2025-0351; 90 Fed. Reg. 25369), at 5-6, BOEM-2025-0351-0230 (Dec. 1, 2025).

⁹⁰ *Id.* at 5.

to process.”⁹¹ BOEM must manage OCS resources in an economically responsible way. It has recognized as much in the oil and gas context, requiring lessees to provide adequate financial assurances to cover their potential liabilities before they may obtain a lease.⁹² BOEM must apply a similar standard of financial responsibility when leasing other minerals. The available information suggests seabed mining is unlikely to meet such a standard.

A collateral risk from any technological or financial shortcomings is potentially catastrophic environmental harm. A mining vessel could malfunction and cause significant damage to the seabed or release oil or other pollution. A company could go bankrupt before it decommissions and engages in any efforts to restore the ecosystem after mining activities—and there are serious questions about whether decommissioning or restoration can even be done following seabed mining, as discussed below. The repercussions of inadequate financial assurances have been on full display in the Gulf of Mexico, where U.S. taxpayers have been left on the hook for billions of dollars in unfunded decommissioning and cleanup liabilities. For example, the recent bankruptcies of massive offshore operators like Fieldwood Energy and Cox Operating exposed billions in unfunded plugging and abandonment obligations. This is a systemic failure: a 2024 Government Accountability Office report revealed that while total estimated decommissioning costs in the Gulf range from \$40 billion to \$70 billion, the federal government holds only \$3.5 billion in supplemental bonds, leaving the public disastrously exposed when these companies walk away.⁹³

BOEM must have a complete understanding of the technological and financial risks to determine the ensuing environmental risks before it may offer seabed mineral leases. And BOEM must have enough information to be confident that operations *will* be conducted safely and competently using reliable technology.

C. Seabed Mining Is Not Consistent with National Needs.

OCSLA mandates that any leasing be “consistent with . . . national needs.”⁹⁴ In assessing those needs, BOEM must consider the current context, including social, environmental, and economic considerations.⁹⁵ There is no national need for extracting minerals from the Alaska OCS.

The area under consideration for leasing is believed to contain ferromanganese crusts, hydrothermal sulfides, heavy mineral sands, and some polymetallic nodules. Ferromanganese

⁹¹ *Id.* at 6.

⁹² 89 Fed. Reg. 31544 (Apr. 24, 2024) (codified at 30 C.F.R. 556.900-07).

⁹³ Gov’t Accountability Office, *Offshore Oil and Gas Interior Needs to Improve Decommissioning Enforcement and Mitigate Related Risks*, at pdf p. 2 (Jan. 2024), <https://www.gao.gov/assets/d24106229.pdf>.

⁹⁴ 43 U.S.C. § 1332(3).

⁹⁵ See *Cal. ex rel. Brown v. Watt*, 668 F.2d 1290, 1317 (D.C. Cir. 1981).

crusts contain cobalt and other metals, such as manganese and nickel.⁹⁶ Similarly, hydrothermal sulfide deposits contain metals, including copper, zinc, and lead.⁹⁷ Polymetallic nodules generally contain five primary minerals: copper, manganese, molybdenum, nickel, and cobalt.⁹⁸

Terrestrial reserves of all these minerals are extensive, however, belying any claim that additional sources from seabed mining are needed.⁹⁹ New battery technology and other innovations are reducing the future need for many of these minerals.¹⁰⁰ Indeed, prices and demand for nickel and cobalt have already fallen.¹⁰¹

Deep seabed mining companies typically point to cobalt as the key driver for deep seabed mining. However, batteries are already being designed with lower cobalt content; the market shares of lithium-iron phosphate and higher-nickel cathode chemistries are growing rapidly, outpacing earlier projections, as are advances in next-generation technology such as sodium-ion and solid-state batteries.¹⁰² Furthermore, commercial recycling processes recover cobalt with over 95% efficiency.¹⁰³ In the coming decades, higher-cobalt chemistries will retire in increasingly

⁹⁶ Wen Yao et al., *Development of deep-sea mining and its environmental impacts: a review*, *Frontiers in Marine Science* (2025).

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ J. Alger et al., *The false promise of deep-sea mining*, 4 *NPJ Ocean Sustainability*, at 2 (2025), <https://www.nature.com/articles/s44183-025-00127-4>.

¹⁰⁰ *Id.*; K.A. Miller et al., *Challenging the Need for Deep Seabed Mining From the Perspective of Metal Demand, Biodiversity, Ecosystems Services, and Benefit Sharing*, 8 *Front. Mar. Sci.* (2021), <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2021.706161/full>.

¹⁰¹ V. Vescovo, *The Economics of Deep Sea Mining Don't Add Up*, *TIME* (May 22, 2025), <https://time.com/7287891/deep-sea-mining-economics-dont-add-up/>.

¹⁰² See, e.g., *Reducing Reliance on Cobalt for Lithium-ion Batteries*, U.S. Dep't of Energy (Apr. 6, 2021), <https://www.energy.gov/eere/vehicles/articles/reducing-reliance-cobalt-lithium-ion-batteries>; *Global Energy Storage Growth Upheld by New Markets*, BloombergNEF (June 18, 2025), <https://about.bnef.com/insights/clean-energy/global-energy-storage-growth-upheld-by-new-markets/>; IEA, *Global EV Outlook 2025: Electric vehicle batteries*, <https://www.iea.org/reports/global-ev-outlook-2025/electric-vehicle-batteries> (last visited Feb. 24, 2026).

¹⁰³ Redwood Materials, one of the largest domestic battery recyclers, claims to recover 95% of key battery elements through their process. *What We Do*, Redwood Materials, <https://www.redwoodmaterials.com/materials/> (last visited Feb. 24, 2026). Ascend Elements claims to recover 98% of critical battery metals, producing new cathode material at half the cost. *New Details of Hydro-to-Cathode™ EV Battery Recycling and Engineered Materials Technology*, Ascend Elements (April 27, 2022), <https://ascendelements.com/hydro-to-cathode/> (last visited Feb. 24, 2026). Advanced recycling technologies can recover constituent elements such as cobalt and nickel with over 99% purity from spent batteries. U.S. Patent No. 11,811,035 (issued Nov. 7, 2023).

greater volumes, and recycled cobalt will be able to meet a significant percentage of new demand.¹⁰⁴

Further, there is no guarantee that any minerals mined from the Alaska OCS would supply U.S. demand or meet any national defense needs. OCSLA lacks a provision like that in the Deep Seabed Hard Mineral Resources Act that requires minerals to be processed in the United States.¹⁰⁵ BOEM must have an evidence-supported, rational basis for any conclusion that a mineral lease sale on the Alaska OCS would, in fact, meet U.S. needs.

D. BOEM May Not Sell Leases Without Sufficient Financial Provisions that Protect the Interests of the Public.

If BOEM proceeds with a mineral lease sale, OCSLA requires that certain standards be met before BOEM may issue leases to winning bidders. Specifically, BOEM must allow the Attorney General and Federal Trade Commission to conduct an antitrust review of the results of the sale.¹⁰⁶ And BOEM must ensure it receives “fair market value” for the lands leased and rights conveyed.¹⁰⁷ At this point in the process, BOEM and other relevant federal agencies should collect necessary information to determine fair market value, appropriate rental and royalty rates, bonding requirements, and considerations for antitrust review of this nascent industry.

BOEM should reject lease terms like those proposed by Impossible Metals in other contexts because they would be inconsistent with the purposes of OCSLA.¹⁰⁸ Issuing a lease with a default term of 20 years with *no* rental payments would allow lessees to accumulate leases and sit on them for years. It would encourage speculative leasing and transfers/sales of leases, in conflict with OCSLA’s standard of maintaining “competition and other national needs.”¹⁰⁹ Allowing lessees to hold leases with zero payments to the Treasury would be an unwarranted giveaway of “a vital national resource” to industry, in disregard of the people of the Alaska and the broader American public and taxpayers.¹¹⁰ Further, a royalty rate in the range of 1.5–3% is

¹⁰⁴ See J. Dunn et al., *Electric vehicle lithium-ion battery recycled content standards for the US – targets, costs, and environmental impacts*, 185 Resources, Conservation and Recycling (2022), <https://pdf.sciencedirectassets.com/271808/1-s2.0-S0921344922X00074/1-s2.0-S0921344922003317/main.pdf>.

¹⁰⁵ Cf. 30 U.S.C. § 1412(c)(5).

¹⁰⁶ 43 U.S.C. § 1337(c).

¹⁰⁷ *Id.* § 1331(o). Section 1344 requires Interior to meet this standard in the oil and gas leasing context. *Id.* § 1344(a)(4). The definition of “fair market value” indicates the standard applies to leasing of “any mineral.” *Id.* § 1331(o).

¹⁰⁸ See Impossible Metals, *supra* note 89, at 4–6.

¹⁰⁹ 43 U.S.C. § 1332(3).

¹¹⁰ *Id.*

unreasonably low and does not provide a fair return for BOEM. And it is inconsistent with responsible disposition of the seabed as a resource held in trust for the American public.¹¹¹

IV. BOEM DOES NOT HAVE AUTHORITY TO OFFER MINERAL LEASE SALES IN THE HIGH ARCTIC.

The High Arctic portion of the proposed lease area in BOEM's RFI is not within the United States EEZ.¹¹² As a result, OCSLA does not give BOEM the authority to proceed with mineral leasing for this proposed area. On April 30, 2025, BOEM issued a public notice announcing expansions to the boundaries of its OCS planning areas in multiple regions, which included the High Arctic Area.¹¹³ The notice stated that "[d]ue to the U.S. Department of State's announcement regarding the outer limits of the continental shelf beyond 200 miles and amendments to OCSLA, BOEM has reassessed the jurisdictional limits of the OCS and recomputed acreages by OCS Region."¹¹⁴ BOEM's proclamation of these Extended Continental Shelf (ECS) areas is legally contentious and BOEM should not consider these extended areas for leasing.

One critical problem is that Interior will run afoul of international law by leasing in the extended continental shelf. The United States has unilaterally laid claim to these areas, purporting to be "in accordance with the relevant provisions of the 1982 United Nations Convention on the Law of the Sea (Convention)."¹¹⁵ According to international maritime experts, "[t]he extraction of seabed minerals in international waters solely under the authority of U.S. law would run counter to [the Convention] and plunge its high seas mining regime into crisis."¹¹⁶ The Convention requires party states to submit information on their extended continental shelf claims to the Commission on the Limits of the Continental Shelf (Commission).¹¹⁷ The Commission must then make recommendations on the extended continental shelf limits before the Convention recognizes them as binding.¹¹⁸ While the United States is not a party to the Convention and generally not bound by its provisions, the U.S. Department of State has consistently referred to portions of the Convention, particularly those establishing jurisdictional limits, as "customary

¹¹¹ *See id.*

¹¹² BOEM, *Request for Information and Interest (RFI) Area Map* (Sept. 12, 2025), <https://www.boem.gov/sites/default/files/documents/regions/alaska-ocs-region/AlaskaRFI-Map%20%281%29.pdf> (last visited March 2, 2026).

¹¹³ 90 Fed. Reg. 17970, 17971 (Apr. 30, 2025).

¹¹⁴ *Id.*

¹¹⁵ U.S. Dep't of State, *Executive Summary, The Outer Limits of the Extended Continental Shelf of the United States of America* 6 (2023) [hereinafter ECS Executive Summary], https://www.state.gov/wp-content/uploads/2023/12/ECS_Executive_Summary.pdf.

¹¹⁶ H. Pretat & M. Sato, *supra* note 81.

¹¹⁷ United Nations Convention on the Law of the Sea, art. 76(8), Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter Convention], https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf.

¹¹⁸ *Id.*

international law” binding on all nations.¹¹⁹ Therefore, if the United States was a party to the Convention, its claim to the extended continental shelf would be, at best, premature.¹²⁰ As a nonparty, the U.S. would still need to submit its extended continental shelf claim information package to the Commission for its expansion declaration to gain any legal validity.¹²¹ But it is unclear if the Commission is willing to accept an extended continental shelf claim from a non-party.¹²² Additionally, other countries dispute much of the area claimed by the United States.¹²³ Leasing activity in these areas would not only cause conflicts with neighboring states but could also further violate the Convention.¹²⁴

It is also unclear how the ECS, without clear international recognition of the United States’s jurisdiction and control over those areas, meets the domestic definition of OCS for purposes of carrying out leasing. Under U.S. law, the Secretary of Interior is authorized to grant mineral leases in any area of the OCS,¹²⁵ but the OCS only encompasses submerged lands “of which the subsoil and seabed *appertain to the United States and are subject to its jurisdiction and control* or within the exclusive economic zone of the United States and adjacent to any territory of the United States.”¹²⁶ Here, the ECS area is not a part of the OCS because it is not within the exclusive economic zone and it does not appertain to the United States nor is it subject to its jurisdiction and control.

¹¹⁹ ECS Executive Summary, at 6 (originally published in 2023, this document was revised by the Trump Administration in 2025 to reflect a change to the name of the Gulf of Mexico. The Administration had the opportunity to revise the acknowledgement of the Convention as reflecting customary international law at the time but did not.).

¹²⁰ See Matt Salavitch, *The United States Has Declared the Boundaries of Its Extended Continental Shelf: What Comes Next?*, Fordham Int’l Law J. (Apr. 30, 2024) [hereinafter Salavitch 2024], <https://www.fordhamilj.org/iljonline/the-united-states-has-declared-the-boundaries-of-its-extended-continental-shelf-what-comes-next> (explaining that the U.S. “boundaries were not determined ‘based on the recommendations’ of the [Commission] and therefore are not ‘final and binding’ as a matter of treaty law under [the Convention].”) (citing Convention art. 76(8)).

¹²¹ See ECS Executive Summary, at 6.

¹²² See Salavitch 2024 (“One open question is whether, as a non-signatory party, the United States may make a submission to the [the Commission] for their review.”).

¹²³ See, e.g., I. M. Stevenson, *3 questions answered about Interior’s High Arctic plans*, Energywire (May 5, 2025), <https://www.eenews.net/articles/3-questions-answered-about-interiors-high-arctic-plans/> (explaining that more than 94,000 square miles of the High Arctic overlaps with Canada’s claims).

¹²⁴ See Convention art. 83; see also *id.* art. 82 (requiring states to make payments for exploiting continental shelf resources beyond 200 nautical miles).

¹²⁵ 43 U.S.C. § 1337(k)(1)

¹²⁶ 43 U.S.C. § 1331(a)(1) (emphasis added).

V. BOEM MUST COMPLETE AN EIS PRIOR TO ANY LEASING AND PROVIDE AN OPPORTUNITY FOR PUBLIC COMMENT ON A DRAFT EIS.

BOEM is required to comply with NEPA prior to holding a mineral lease sale. Specifically, BOEM must prepare an environmental impact statement (EIS) assessing all effects that may be caused by the lease sale and provide the public with an opportunity to review and comment on a draft EIS. As discussed above, seabed mining will have significant impacts on the environment, which BOEM and the public must fully understand before leasing can proceed. At this stage, BOEM must evaluate the potential impacts from all types of mining technology that may be used on leases.

An EIS must describe and evaluate potential impacts to all affected ecosystems, wildlife, fisheries, and coastal communities. And it must evaluate a reasonable range of alternatives, including a no-leasing option. A comprehensive EIS and public participation process is necessary to comply with NEPA, OCSLA, and federal legal requirements for informed agency decision-making.

A. NEPA Requires a Comprehensive Environmental Impact Statement with Public Engagement.

NEPA mandates a detailed statement analyzing the environmental effects of any “major Federal action[] significantly affecting the quality of the human environment.”¹²⁷ An OCS mineral lease sale is such a major Federal action.¹²⁸ Further, OCSLA itself “requires preparation of a full environmental impact statement . . . [a]t the lease sale stage,” which “must meet NEPA standards.”¹²⁹

Section 1346(a) of OCSLA requires the Secretary to “conduct a study of any area or region included in any oil and gas lease sale *or other lease* in order to establish information needed for assessment and management of environmental impacts on the human, marine, and coastal

¹²⁷ 42 U.S.C. § 4332(2)(C).

¹²⁸ A lease sale does not qualify for any of the exemptions in 42 U.S.C. § 4336(a).

¹²⁹ *Vill. of False Pass v. Clark*, 733 F.2d 605, 609 (9th Cir. 1984) (citing 43 U.S.C. § 1346(a)(1)); *see also Sec’y of Interior v. California*, 464 U.S. 312, 338 (1984) (“Requirements of the National Environmental Protection Act and the Endangered Species Act must be met [before holding a lease sale.]”); *Gulf Restoration Network v. Haaland*, 47 F.4th 795, 804 (D.C. Cir. 2022) (requiring BOEM to properly evaluate all relevant issues in a NEPA analysis at the lease sale stage); *Native Vill. of Point Hope v. Jewell*, 740 F.3d 489, 504 (9th Cir. 2014) (“Under NEPA, BOEM is required to take into account the full environmental effects of its actions when deciding whether and in what manner to pursue the lease sale.” (citing 42 U.S.C. § 4332(2)(C))). BOEM has also represented to the public that it will conduct a full NEPA analysis. BOEM, *BOEM Advances Offshore Minerals Planning Efforts in American Samoa and the Commonwealth of the Northern Mariana Islands* (Nov. 10, 2025), <https://www.boem.gov/newsroom/press-releases/boem-advances-offshore-minerals-planning-efforts-american-samoa> (last visited Feb. 24, 2026).

environments of the outer Continental Shelf and the coastal areas which may be affected by oil and gas or other mineral development in such area or region.”¹³⁰ That provision by its own terms applies to mineral leasing. It also plainly requires a sufficient evaluation of environmental impacts that is “needed” to be able to manage the impacts of leasing.¹³¹ OCSLA requires BOEM to “commence[]” that study “not later than six months prior to holding” any mineral lease sale for the Alaska OCS (because “no lease sale has been held or scheduled” in that area previously).¹³²

NEPA and OCSLA require an EIS, not an environmental assessment (EA). As explained herein and by other commenters, selling leases for seabed mining “has a reasonably foreseeable significant effect on the quality of the human environment.”¹³³ Given that the sole purpose of selling seabed mineral leases is to enable development and extraction from those leases, it is indisputable that the effects of such development and extraction are reasonably foreseeable effects of the sale.¹³⁴ As demonstrated below, these impacts are “significant” within the meaning of NEPA.¹³⁵

Interior has never previously conducted an environmental analysis of mineral leasing on the Alaska OCS. And, absent a lease sale EIS, Interior does not appear to have plans to conduct a legally sufficient NEPA analysis at any point before exploration activities commence on a lease. Interior apparently will apply categorical exclusions to “[p]reliminary activities conducted on a lease” and to “offshore geological and geophysical mineral exploration activities.”¹³⁶ The caselaw is clear that BOEM must conduct a sufficient NEPA analysis *before* any activities begin on a

¹³⁰ 43 U.S.C. § 1346(a)(1) (emphasis added).

¹³¹ *Id.*; see also *id.* § 1346(d) (“The Secretary shall consider available relevant environmental information in making decisions (including those relating to exploration plans, drilling permits, and development and production plans), in developing appropriate regulations and lease conditions, and in issuing operating orders.”).

¹³² *Id.* § 1346(a)(2).

¹³³ 42 U.S.C. § 4336(b)(1).

¹³⁴ See U.S. Dep’t of the Interior, 516 DM 1 – U.S. Department of the Interior Handbook of National Environmental Policy Act Implementing Procedures 24 (Feb. 2026) [hereinafter DOI NEPA Handbook] (§ 6.1(k) defining “effects” as those that are “reasonably foreseeable and have a reasonably close causal relationship to the proposed action”); cf. *Healthy Gulf v. Burgum*, 775 F. Supp. 3d 455, 473 (D.D.C. 2025) (“[I]t is ‘a hardly speculative exercise in naked capitalism’ to conclude that successful bidders will drill for the resources they paid to extract.” (citation omitted)). While we cite to Interior’s new NEPA Handbook in these comments, we do not agree that it or Interior’s new NEPA regulations comply with NEPA or the APA. See Earthjustice, Comments on National Environmental Policy Act Implementing Regulations, U.S. Department of Interior, Docket ID: DOI-2025-0004 (Aug. 1, 2025).

¹³⁵ See *infra* Sections IV.B-D.

¹³⁶ DOI NEPA Handbook Appendix 2, at 70-71 (§ 15.4(C)(9), (13)).

lease.¹³⁷ BOEM must complete an EIS at the lease sale stage before it may invoke any categorical exclusions for activities on a lease.¹³⁸

In its NEPA document, BOEM must analyze any reasonably foreseeable environmental effects, a reasonable range of alternatives to the action, and any irreversible and irretrievable commitments of resources that would be involved.¹³⁹ BOEM must evaluate *all* ecological, aesthetic, historic, cultural, economic, social, “local custom and culture or health effects” that may be caused by lease issuance.¹⁴⁰ This includes not only the effects of preliminary activities on a lease, but also the effects of exploration and production that is reasonably foreseeable.¹⁴¹ Such exploration and production necessarily is reasonably foreseeable if BOEM decides to proceed with leasing, the sole purpose of which is to enable development; if BOEM believes exploration and development of a lease is *not* reasonably foreseeable, then it lacks a basis under OCLSA to hold a lease sale.

BOEM also must consider “a reasonable range of alternatives to the proposed agency action,” including the “no action alternative.”¹⁴² Any failure to do so would prevent a reasoned assessment of environmental impacts in the OCS, preventing BOEM from making an informed decision and denying affected communities crucial information. BOEM also must provide a detailed explanation of “any irreversible and irretrievable commitments of Federal resources which would be involved in the proposed action should it be implemented” (including BOEM’s ability to cancel or suspend leases at a later date to address environmental issues) and “[a]ny means identified to mitigate adverse environmental effects of the proposed action.”¹⁴³

BOEM must provide a meaningful opportunity for public participation in the NEPA process. “Publication of an EIS, both in draft and final form, . . . serves a larger informational role. It gives the public the assurance that the agency ‘has indeed considered environmental concerns in its decisionmaking process,’ and, perhaps more significantly, provides a springboard for public comment.”¹⁴⁴ These objectives can be fulfilled only with public comment opportunities both at scoping and again prior to publication of a final NEPA document.

¹³⁷ See *supra* note 129.

¹³⁸ Applying a categorical exclusion for mining activities that are so novel and untested on a mineral lease offshore of Alaska would be irrational and contrary to NEPA, even with an EIS on the lease sale.

¹³⁹ 42 U.S.C. § 4332(2)(C).

¹⁴⁰ DOI NEPA Handbook 24 (§ 6.1(k) defining “effects or impacts”). Even if BOEM evaluates only the effects of preliminary activities in a NEPA document—which would violate NEPA for being too narrow in scope—it must sufficiently understand the environmental baseline of all resources that may be affected.

¹⁴¹ See, e.g., *Point Hope*, 740 F.3d at 503.

¹⁴² 42 U.S.C. § 4332(2)(C)(iii).

¹⁴³ DOI NEPA Handbook 13–14 (§ 2.3(a)(5), (6)).

¹⁴⁴ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (citation omitted).

The Interior processes require BOEM to publish a notice of intent to prepare an EIS in the Federal Register that provides an opportunity for comment “[a]s soon as practicable after determining that a proposal is sufficiently developed to allow for meaningful public comment.”¹⁴⁵ BOEM must do so once it identifies any area of the Alaska OCS that it may offer for lease. It is important that BOEM then provide an opportunity for public comment on a draft EIS.¹⁴⁶ Such comments would give BOEM important information necessary to ensure its analyses are accurate and that it has considered the relevant information and factors in the EIS, giving the agency an opportunity to correct any errors or gaps before it makes a final decision on leasing.¹⁴⁷ BOEM may not wait until after a leasing decision has been made before it makes an EIS available for public review.

In addition, the leasing regulations require BOEM to publish in the Federal Register a proposed leasing notice that includes, *inter alia*, measures to mitigate potentially adverse impacts on the environment.¹⁴⁸ Public and governmental review of any environmental mitigation measures or the lack thereof can be meaningful only if BOEM “identif[ies] and make[s] available technical studies and data that it has employed.”¹⁴⁹ “An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary.”¹⁵⁰ Consistent with that legal obligation, President Trump has directed that agencies must “make publicly available . . . the data, analyses, and conclusions” that the agency uses when making decisions.¹⁵¹ BOEM consequently must provide the public and the Alaska governor with a draft EIS for review and comment concurrently with or before publication of any proposed leasing notice.

¹⁴⁵ DOI NEPA Handbook 11 (§ 1.8(b)); *see also* 42 U.S.C. § 4336a(c) (requiring public comment on any notice of intent to prepare an EIS).

¹⁴⁶ *See California v. Block*, 690 F.2d 753, 770–71 (9th Cir. 1982) (“NEPA’s public comment procedures are at the heart of the NEPA review process. NEPA requires responsible opposing viewpoints to be included in the final EIS. This reflects the paramount Congressional desire to internalize opposing viewpoints into the decision-making process to ensure that an agency is cognizant of all the environmental trade-offs that are implicit in a decision. To effectuate this aim, NEPA requires not merely public notice, but public participation in the evaluation of the environmental consequences of a major federal action.” (citations omitted)); *see also* 42 U.S.C. § 4332(2)(C) (requiring EIS be made available “to the public” and “accompany [a] proposal through the existing agency review process”).

¹⁴⁷ *See* DOI NEPA Handbook 12, 19 (§§ 2.1b, 3.3).

¹⁴⁸ 30 C.F.R. § 581.16.

¹⁴⁹ *Shands Jacksonville Med. Ctr. v. Burwell*, 139 F. Supp. 3d 240, 262 (D.D.C. 2015) (quoting *Conn. Light & Power Co. v. Nuclear Regul. Comm’n*, 673 F.2d 525, 530 (D.C. Cir. 1982)); *see also Owner-Operator Indep. Drivers Ass’n v. FMCSA*, 494 F.3d 188, 199 (D.C. Cir. 2007); *Home Box Off., Inc. v. FCC*, 567 F.2d 9, 35 (D.C. Cir. 1977) (agency must “disclose in detail the thinking that has animated the form of a proposed rule and the data upon which that rule is based”).

¹⁵⁰ *Conn. Light & Power*, 673 F.2d at 530–31.

¹⁵¹ Exec. Order No. 14303, § 4(b)(i)(A)–(B), 90 Fed. Reg. 22601, 22603 (May 23, 2025).

BOEM may not attempt to short-circuit the NEPA process under any purported “emergency” procedures or arbitrary limits on analysis. NEPA itself does not provide for any emergency authority. Interior’s “Alternative Arrangements for NEPA Compliance” do not apply to a lease sale because a sale does not involve the submission of plans of operations, applications for permits to drill, or other applications for development; leasing involves only a conveyance of mineral rights.¹⁵² Even if a lease sale were to fall under that document, Interior lacks the authority to expedite the NEPA process under 43 C.F.R. § 46.150 because leasing is not “urgently needed to address imminent threats to life, property, or important natural, cultural, or historic resources.”¹⁵³ No mineral production would occur from a lease for several years (if not decades) after BOEM issues a lease, so a sale would not mitigate any purportedly urgent need for minerals. Finally, the complexity of seabed mining operations, the significance of impacts, and the vast amount of uncertainty that needs to be resolved all demand sufficient consideration and analysis. The action is of “extraordinary complexity” so should not be subject to a 150-page limit.¹⁵⁴ BOEM must take as much time as necessary to complete a legally sufficient EIS.¹⁵⁵

B. Seabed Mining Will Harm Marine Ecosystems and Ocean Wildlife.

Based on the available information, while there is uncertainty about the full extent of adverse impacts, it is clear that seabed mining would alter marine ecosystems and cause harm to marine mammals, and other ocean wildlife.¹⁵⁶ Biodiversity serves as a form of evolutionary insurance, acting as a living library that facilitates adaptation and ecosystem resilience to changing environmental conditions.¹⁵⁷ Seabed mining activities and technology would disturb the natural ocean habitat, from the ocean floor to the surface, negatively interfering with the behavior and survival of ocean species, and likely decreasing overall biodiversity.¹⁵⁸

As explained above and in comment letters from environmental groups, scientists, and others, Alaska’s OCS contains a diverse and unique ocean habitat.¹⁵⁹ The sea floor in the Alaska OCS is home to “[r]ich assemblages of deep-sea corals and other organisms such as sponges create

¹⁵² Dep’t of the Interior, *Alternative Arrangements for NEPA Compliance* (Apr. 23, 2025), https://www.doi.gov/sites/default/files/documents/2025-04/alternative-arrangements-nepa-during-national-energy-emergency-2025-04-23-signed_1.pdf.

¹⁵³ 43 C.F.R. § 46.150(a). Both the Alternative Arrangements and the Executive Order on which they are based, Exec. Order No. 14156, Declaring a National Emergency, 90 Fed. Reg. 8433 (Jan. 29, 2025), are contrary to law and are arbitrary and capricious. *See Compl., Washington v. Trump*, No. 25-cv-869 (W.D. Wash. May 9, 2025).

¹⁵⁴ 42 U.S.C. § 4336a(e).

¹⁵⁵ *See id.* § 4336a(g)(2).

¹⁵⁶ Holly J. Niner et al., *Deep-Sea Mining With No Net Loss of Biodiversity-An Impossible Aim*, 5 *Front. Mar. Sci.* 2 (2018), <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2018.00053/full>.

¹⁵⁷ *Id.*

¹⁵⁸ *See id.*

¹⁵⁹ *Supra* Section III.A.

a diverse and structurally complex habitat that is often home to many associated other organisms from worms and snails to fishes.”¹⁶⁰ Like most of the deep sea, the deep sea in Alaska’s OCS is understudied. Based on known species discovery rates in the deep sea, it is very likely that many of the species residing in the RFI area would be new to science and might have commercial value.

Many scientific studies acknowledge that there is a need for more scientific data and information about the deep sea and how mining may affect it.¹⁶¹ Specifically, there is a need for “additional baseline data on deep ocean biodiversity, (species richness, abundance, biomass and habitat mapping), connectivity and life cycles of local species, temporal dynamics of deep-sea ecosystems, benthopelagic coupling via food webs, ecotoxicology associated with exposure to re-suspended metals and materials, modelling of deep ocean currents and associated dispersal of sediment plumes and chemical elements contained therein.”¹⁶² Both NEPA and OCSLA require BOEM to analyze the potential impacts of seabed mining on all aspects of Alaska’s marine environment prior to moving forward with leasing in the RFI area.¹⁶³

Even with unknowns about the full scope and magnitude of impacts, available information demonstrates that mining will be severely detrimental to marine species, ocean wildlife, and biodiversity—there will be a “significant effect on the quality” of the environment.¹⁶⁴ Effects include sediment disturbance and plumes, noise, lights, and pollution, many of which are long-lasting, leaving scars on the ocean floor that will persist for decades or even millennia. BOEM must comprehensively evaluate all potential impacts to marine species and the ocean habitat prior to proceeding with any leasing process.

1. Sediment Disturbance and Plumes.

Deep-sea mining will cause sediment disturbance and plumes that negatively impact deep-sea species. Seabed mining alters the habitats of benthic organisms, rendering homeless organisms that use nodules on the ocean floor as anchorage points.¹⁶⁵ The rolling, suction, and collision caused by tracked mining equipment kills deep-sea fish and zooplankton that will be

¹⁶⁰ *The Seamount Gardens of the Deep Sea*, Ocean Explorer, NOAA (Jul. 19, 2019), <https://oceanexplorer.noaa.gov/expedition-feature/19gulfofalaska-background-benthos/>.

¹⁶¹ See, e.g., Luc Cuyvers et al., *Deep seabed mining: A rising environmental challenge* 64, IUCN (2018); Daniel C. Dunn et al., *A strategy for conservation of biodiversity on mid ocean ridges from deep-sea mining*, 4 Sci. Adv., at 10 (2018), <https://www.science.org/doi/epdf/10.1126/sciadv.aar4313>; World Bank Grp., *Precautionary Management of Deep Sea Minerals* 9 (Pacific Possible Series, Background Paper No. 2, 2017), <http://documents.worldbank.org/curated/en/349631503675168052>.

¹⁶² Cuyvers et al., *supra* note 161, at 65–66.

¹⁶³ See 43 U.S.C. § 1332(3).

¹⁶⁴ 42 U.S.C. § 4336(b)(1).

¹⁶⁵ Yao, *supra* note 96, at 05.

unable to react quickly enough to escape sediment disturbance.¹⁶⁶ Yet even drone-like technology, like that proposed by Impossible Metals, will disturb seafloor sediment. The toxicant exposure resulting from mining will also harm the unique habitat and biota in the nearby deep ocean.¹⁶⁷ Polymetallic nodules support diverse sedentary epibenthic fauna, such as sponges and soft corals, which are unable to move to avoid the sediment exposure.¹⁶⁸ Similar impacts will result from sediment plumes from mining of heavy mineral sands, ferromanganese crusts, or hydrothermal sulfides.

The sediment plumes associated with seabed mining absorb light and change backscatter properties, reducing visual communication and bioluminescent signaling that is essential for prey capture and reproduction in midwater species.¹⁶⁹ Animals living in the midwater are likely to be sensitive to sediment plumes, resulting in “clogged gills, impaired feeding, a reduced ability to communicate, and effects from increased toxicity.”¹⁷⁰

Furthermore, sediments will likely not settle in only the mining area, but will be transported to neighboring regions, altering the physicochemical conditions of the seafloor and affecting the ocean species thereupon.¹⁷¹ When the plumes resettle, they could affect sessile fauna, clog filter feeding mechanisms and, depending on the spatial and temporal scales of the plume and its nature, cause changes in ecosystems and habitats.¹⁷² In one study considering a series of simulated disturbances, the decline in diversity and biomass of marine organisms in disturbed areas was particularly evident among benthic organisms, such as sponges, corals, and jellyfish.¹⁷³ Increased sedimentation and turbidity from nearshore mining waste has been shown to have a substantial impact on coral assemblages that are otherwise not naturally exposed to elevated sediment levels for extended periods.¹⁷⁴ After such exposure, it is difficult for coral communities to recover given that sediment from mining reduces the availability of substrate suitable for settlement of juvenile corals.¹⁷⁵ The same effects may result from transportation of seabed mining waste. The severity and spatial scales of plumes, however, remain a controversial issue, and

¹⁶⁶ *Id.*

¹⁶⁷ Chris Hauton et al., *Identifying Toxic Impacts of Metals Potentially Released during Deep-Sea Mining—A Synthesis of the Challenges to Quantifying Risk*, 4 *Front. Mar. Sci.*, at 9 (2017).

¹⁶⁸ *Id.*

¹⁶⁹ Jeffrey C. Drazen et al., *Midwater ecosystems must be considered when evaluating environmental risks of deep-sea mining*, 117 *PNAS* 17458 (2020).

¹⁷⁰ Diva J. Amon, *Assessment of scientific gaps related to the effective environmental management of deep-seabed mining*, 138 *Marine Policy*, at 8 (2022).

¹⁷¹ Yao et al., *supra* note 96, at 05.

¹⁷² Cuyvers et al., *supra* note 161, at 63–64.

¹⁷³ Rob Williams et al., *Noise from deep-sea mining may span vast ocean areas: Potential harm is understudied and largely overlooked*, 377 *Science* 1 (2022).

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

BOEM must conduct research and studies to accurately estimate the extent and severity of sediment plumes before any mining can occur.

2. Noise

Seabed mining creates noise that will disturb marine species and their ability to navigate and communicate. Noise will occur in the deep sea where mining occurs and throughout the water column to the surface near mining and support vessels, affecting a broad range of organisms in different ways. Tracked mining equipment can produce high levels of sound as it travels across the seafloor and utilizes heavy suction. Impossible Metals' proposed mining system would involve dozens more subsea vessels and countless more trips between the surface and seabed, resulting in more continuous and amplified sounds.

Sound is the primary modality for many marine organisms to probe their environment and to communicate, either through sensing of pressure or particle motion.¹⁷⁶ Most deep-sea species typically experience only low levels of noise. Continuous anthropogenic noise will significantly increase ambient sound levels, negatively affect the normal life activities of marine organisms, and potentially disturb the communication and navigational functions of some species.¹⁷⁷ Noise from human activities can impact organisms ranging from plankton to whales and can directly damage acoustic sensors or induce certain unusual behavior, especially in marine mammals.¹⁷⁸ Soniferous fish rely on sound production to communicate and interact with their environment and may be sensitive to masking effects caused by mining.¹⁷⁹ Furthermore, vessels operating at the surface increase noise in the ocean and, combined with vibration, can affect the auditory systems of fish and marine mammals, inducing behavioral changes, masking communication, and even causing temporary or permanent changes in hearing thresholds.¹⁸⁰

In the Arctic, the typically quiet waters allow for sound to travel and be heard by marine mammals at greater distances than non-Arctic waters.¹⁸¹ Thus, the addition of more anthropogenic sources of sound, such as vessel traffic, poses an even greater risk to Arctic marine mammals. Such sounds can cause acoustic masking, when frequencies from biological sounds

¹⁷⁶ *Id.*

¹⁷⁷ Yao et al., *supra* note 96, at 06.

¹⁷⁸ Williams et al., *supra* note 173, at 1-2; see Bernd Christiansen et al., *Potential effects of deep seabed mining on pelagic and benthopelagic biota*, 114 *Marine Policy* 3–4 (2020).

¹⁷⁹ Rob Williams et al., *Noise from deep-sea mining in the Clarion-Clipperton Zone, Pacific Ocean will impact a broad range of marine taxa*, 218 *Marine Pollution Bulletin* 7 (2025).

¹⁸⁰ Yao et al., *supra* note 96, at 07.

¹⁸¹ Morgan J. Martin et al., *Exposure and behavioral responses of tagged beluga whales (Delphinapterus leucas) to ships in the Pacific Arctic*, *Marine Mammal Science* (Oct. 2022), <https://doi.org/10.1111/mms.12978>.

like echolocation overlap with anthropogenic sounds, and behavioral disturbance, when a noise causes a response or a behavioral change.¹⁸²

Subsistence harvesters have already experienced negative impacts to traditional harvest practices caused by sound from seismic exploration. For example, for seismic surveys conducted in the Beaufort and Chukchi Sea planning areas between 2006 and 2008, a study showed that the extensive seismic activity on the Chukchi and Beaufort Seas had adverse effects on subsistence activities, despite BOEM having issued a finding of no significant impact.¹⁸³ Between January and May 2007, the North Slope Borough Department of Wildlife Management interviewed 215 active harvesters about the impacts and benefits of oil and gas development on the North Slope. Noise pollution from vessel traffic and seismic activity was a major concern among respondents. One hunter shared that whaling vessels needed to travel further distances from the shore to find whales, and that a hunter fatality was caused by venturing into these further and harsher waters of the Chukchi Sea.¹⁸⁴ Hunters in Wainwright and Utqiagvik cited 51 instances of displacement of marine mammals as a result of offshore oil and gas development activities.¹⁸⁵ Harvesters from Utqiagvik who had frequented the same hunting areas for decades agreed that displacement of marine species was forcing them to travel further than they typically would. One hunter remarked that the baleen of bowhead whales, used for numerous crafts and tools, became more difficult to harvest following seismic exploration.¹⁸⁶

Past activity in the Beaufort and Chukchi Seas have mostly been carried out during the summer and fall when sea ice extent is more limited.¹⁸⁷ This time period is also at the height of the endangered bowhead whale's migration through the Chukchi and Beaufort Seas.¹⁸⁸ Mineral leasing activity anywhere in the bowhead whale's habitat range threatens to disrupt the annual migration, feeding and reproductive behaviors of the species. Bowhead whales are important

¹⁸² *Id.*

¹⁸³ *Alaska G&G Permits*, BOEM, <https://www.boem.gov/regions/alaska-ocs-region/alaska-gg-permits> (last visited Feb. 24, 2026); Stephen R. Braund & Associates, *Impacts and Benefits of Oil and Gas Development to Barrow, Nuiqsut, Wainwright, and Atqasuk Harvesters*, North Slope Borough Dep't of Wildlife Mgmt., at Executive Summary vi (July 2009), <https://www.north-slope.org/wp-content/uploads/2022/04/Braund-NSB-Oil-and-Gas-Impacts-July-09-1.pdf>.

¹⁸⁴ Braund, *supra* note 183, at Executive Summary iii.

¹⁸⁵ *Id.* at i–ii.

¹⁸⁶ *Id.* at 32, 106; *See also Baleen*, Anchorage Museum, <https://www.anchoragemuseum.org/exhibits/arctic-remix/remix-objects/baleen/>; Alena Naiden, *Etching salmon and belugas on bowhead baleen, Alaska elders and youth partake in Iñupiaq artform*, Anchorage Daily News (Oct. 16, 2024), <https://www.adn.com/arctic-sounder/news/2024/10/16/etching-salmon-and-belugas-on-bowhead-baleen-alaska-elders-and-youth-partake-in-inupiaq-art-form/>.

¹⁸⁷ *Alaska G&G Permits*, *supra* note 183.

¹⁸⁸ Young et al., *supra* note 13, at 290 (Fig. 1. Annual range of the Western Arctic stock of bowhead whales by season from satellite tracking data, 2006-2017).

bioindicators of ocean health, and changes to their population or behavior could have cascading impacts throughout the marine environment.¹⁸⁹ Citing BOEM, authors of a 2012 paper on the risks associated with offshore oil and gas development in the Arctic wrote that traditional harvesters practice extreme quiet during whaling expeditions because they know that the species is extremely sensitive to sound. Hunters remarked that even the slightest noise, like an oar striking the side of a boat, could reduce chances of a successful hunt.¹⁹⁰

Hunters also experienced increased difficulty of harvesting seal skin, important for clothing and arts and crafts like skin whaling boats and drums.¹⁹¹ Ringed seals have been documented abandoning their subnivean breathing holes and lairs at higher than normal rates in response to noise.¹⁹² Lair abandonment can be fatal for nursing pups, and for pups whose mothers force them into the water too early in response to seismic activity. Although pups can be brought with their mothers to alternate lairs, pups with insufficient blubber may not survive the journey or recover enough body heat to survive on arrival.¹⁹³ In a study that repeatedly observed ringed seal lair abandonment behaviors over a six year period found that the abandonment rate of subnivean lairs in undisturbed areas in shorefast ice was 4.0%, while the abandonment rate was 32.5% in seal structures exposed to industrial noise.¹⁹⁴

Lair abandonment can increase risks of predation of both adults and pups, at the same time reducing the population available for subsistence harvest. Lair abandonment can also decrease the reliability of subsistence harvest areas that are frequented by hunters year over year.¹⁹⁵ When sea ice extent is minimal in the summer and fall, ringed seals have been observed

¹⁸⁹ See J.C. George et al., *Arctic Report Card 2020: Bowhead whales: recent insights into their biology, status and resilience*, NOAA (2020), <https://repository.library.noaa.gov/view/noaa/27829>; see also Kathi A. Lefebvre et al., *Bowhead whale faeces link increasing algal toxins in the Arctic to ocean warming*, 644 *Nature* 693–698 (2025), <https://doi.org/10.1038/s41586-025-09230-5>.

¹⁹⁰ Jeff Goodyear et al., *Environmental Risks with Proposed Offshore Oil and Gas Development off Alaska's North Slope* 12, NRDC (August 2012), <https://www.ourenergypolicy.org/wp-content/uploads/2013/09/drilling-off-north-slope-IP.pdf> (Source: citing Bureau of Ocean Energy Management, *Science and Technology Journal* 9 Issue 2 (2012)).

¹⁹¹ Stephen R. Braund and Associates, *supra* note 183, at iii, 29.

¹⁹² Brendan P. Kelly et al., *Ringed Seal Winter Ecology and Effects of Noise Disturbance, Final Report* 451, OCS Environmental Assessment Program Research Unit 232 (Dec. 1986), <https://espis.boem.gov/final%20reports/147.pdf>.

¹⁹³ Brendan P. Kelly et al., *Responses Of Ringed Seals (Phoca hispida) To Noise Disturbance*, University of Alaska Fairbanks, The Geophysical Institute (January 1988) <https://downloads.regulations.gov/FWS-R7-ES-2021-0055-0010/attachment2.pdf>.

¹⁹⁴ *Id.* at 27.

¹⁹⁵ Henry P. Huntington et al., *Evaluating the Effects of Climate Change on Indigenous Marine Mammal Hunting in Northern and Western Alaska Using Traditional Knowledge*, 4 *Front. Mar. Sci.* (Sept. 2017), <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2017.00319/full>.

occupying open-water south of the pack ice, leaving them especially vulnerable to vessel traffic and anthropogenic noise pollution.¹⁹⁶ If mineral leasing is allowed to happen in the Beaufort and Chukchi Seas, the disruption of ringed seal habitat could limit subsistence harvest access.

Bearded seals have been documented transiting through potential mineral leasing areas, and areas important for foraging are in the immediate vicinity of potential activity.¹⁹⁷ The overlap of bearded seal habitat with potential OCS mineral leasing activity poses risks to the species and risks displacing populations from waters frequented by subsistence hunters who depend on reliable harvests. Beluga whales, another important subsistence species for Alaska Native communities, are reliant on sound for survival. Beluga whale vocalizations allow them to communicate with each other, hunt for prey, and understand their surroundings using echolocation.¹⁹⁸

Failure to adequately understand the impacts of noise on marine species risks limiting Alaska Natives' access to subsistence resources,¹⁹⁹ which is a civil right recognized by both the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights.²⁰⁰ The United Nations Declaration on the Rights of Indigenous Peoples also recognizes Indigenous peoples' right to "just and fair redress" when deprived of their means of subsistence.²⁰¹

Local traditional knowledge and the well-documented experiences of hunters from the last attempt to expand offshore oil and gas development into the Arctic Ocean must be considered as the agency considers new mineral leasing in the region. Seabed mining will significantly interfere with essential behaviors of ocean species that use sound to navigate, feed, and survive as well as subsistence needs.

¹⁹⁶ Andrew L. Von Duyke et al., *supra* note 41, at 5601 (fig. 2).

¹⁹⁷ Lori T. Quakenbush et al., *Pinniped Movements and Foraging: village-based satellite tracking and collection of traditional ecological knowledge regarding ringed and bearded seals* 53–54 (Figs. 28, 29), BOEM OCS Study 2019-079 (2019), <https://permanent.fdlp.gov/gpo176365/BOEM%202019-079.pdf>.

¹⁹⁸ *5 Facts About How Belugas Use Sound*, NOAA Fisheries (Mar. 2023), <https://www.fisheries.noaa.gov/alaska/outreach-and-education/5-facts-about-how-belugas-use-sound>.

¹⁹⁹ Protection of the Arctic Marine Environment (PAME), *Management of Arctic Marine Oil and Gas Associated Noise*, Arctic Council (May 2025), <https://oaarchive.arctic-council.org/server/api/core/bitstreams/c2a558a2-8b59-422f-8dcd-dcf0a77d3214/content> (discussing the impacts of oil and gas activities on the abundance and accessibility of marine life essential to subsistence in the Arctic).

²⁰⁰ See International Convention on Civil and Political Rights, Mar. 23, 1973, 999 U.N.T.S. 171; see also International Covenant on Economic, Social and Cultural Rights, Dec. 16, 1966, 993 U.N.T.S. 3.

²⁰¹ United Nations, *Declaration on the Rights of Indigenous Peoples*, *supra* note 7, at art. 20, p. 9.

3. Light

Light from seabed mining will adversely affect marine wildlife, from the ocean floor to its surface. The seafloor has no sunlight, so light emanating from seafloor mining equipment can disrupt bioluminescence and harm the eyes of species that otherwise do not experience much light.²⁰² Shrimp have photoreceptors, which assist them in avoiding heat stress and mortality, and high-intensity human-made lights may pose a major threat to the survival of shrimp species.²⁰³ Surface lights on boats and mining equipment are also harmful to ocean life. Surface lights may disorient birds and attract other species, such as squids.²⁰⁴

4. Pollution

Seabed mining threatens other harm to marine species, overall ocean biodiversity, and human health. Oil spills, chemical leaks, garbage dumping from mining vessels, introduction of invasive species (e.g., transport of animals, microorganisms, and viruses from the seafloor to the water surface), and emissions of carbon dioxide and sulfur dioxide will inevitably accompany mining operations.²⁰⁵ Pollution may also result from installations and devices used in the exploration or exploitation of the natural resources of the seabed and subsoil, releasing metal deposits into the surrounding environment.²⁰⁶ Studies have demonstrated that metals can exert toxic effects on marine phyto- and zooplankton species, leading to metal accumulation in high trophic levels of the food chain, like in tuna species and marine mammals.²⁰⁷ This is especially dangerous to humans because bioaccumulated metals in marine food webs will ultimately enter the human food chain.²⁰⁸ The people of Alaska are heavily dependent on subsistence foods from the ocean. While “[b]ioaccumulation of hazardous substances in fisheries has not yet been comprehensively studied,” in this context,²⁰⁹ research indicates that serious negative effects could follow.

²⁰² *Id.*; see also Cuyvers et al., *supra* note 161, at 64 (“Secondary impacts are also poorly understood and hence difficult to predict or assess. ... These can include noise and light pollution caused by the mining equipment and surface vessels[.] ... A variety of organisms could be affected, including pelagic fish and marine mammals as well as benthic invertebrates.”).

²⁰³ Yao et al., *supra* note 96, at 06.

²⁰⁴ *Id.* at 07.

²⁰⁵ *Id.*

²⁰⁶ See Andrea Koschinsky et al., *Deep-sea Mining: Interdisciplinary Research on Potential Environmental, Legal, Economic, and Societal Implications*, 9999 Integrated Environmental Assessment & Management 10 (2018).

²⁰⁷ Hauton et al., *supra* note 167, at 5–6.

²⁰⁸ Graham J. Hamley, *The implications of seabed mining in the Area for the Human right to health*, 31 RECIEL 389, 391 (2022).

²⁰⁹ Secretary-General’s Scientific Advisory Board, *Deep-sea Mining* 3, United Nations (May 19, 2025), <https://www.un.org/scientific-advisory-board/en/deep-sea-mining>.

Exposure to platinum group elements, which have historically been found in the Goodnews Bay area,²¹⁰ are known to have “pro-inflammatory and organ-degenerative effects.”²¹¹ They have been associated with damaged DNA in the tissues of exposed animals and may be able to invade the nucleus of human bronchial cells.²¹² In general, bioaccumulation of excess heavy metals is detrimental to human health and “can lower energy levels and damage the functioning of the brain, lungs, kidney, liver, blood composition and other important organs.”²¹³ Long-term exposure may cause cancer as well as “progressing physical, muscular, and neurological degenerative processes.”²¹⁴ BOEM must not proceed with offshore mineral leasing when so little is understood about how seabed mining will disperse and transport pollutants and research indicates that the effects on human health and the environment could be dire.

5. Long-term Effects

One study found that, 26 years after simulated deep-sea mining, tracks left by mining vehicles remained visible with reduced biodiversity along marked pathways, compared to nearby unmined areas.²¹⁵ Studies conducted in the Clarion-Clipperton Zone and Peru Basin have shown that mining-type disturbances reduced faunal biodiversity and altered species composition and ecosystem functions that remained two to four decades later.²¹⁶ Indeed, even recent studies related to past placer mining in the Alaska OCS have shown no recovery to benthic communities to date.²¹⁷

Seabed disturbances include both tracks from mining vehicles and the removal of nodules or minerals. Given the slow natural rates of recovery in most deep-sea ecosystems targeted for mining, loss of biodiversity due to mining activities is inevitable and may be considered “forever”

²¹⁰ *Platinum Deposits of Alaska*, USGS (last visited Feb. 27, 2026), <https://www.usgs.gov/publications/platinum-deposits-alaska>.

²¹¹ G.E. Conti et al., *Toxicological Implications of Platinum Group Elements (PGEs): A Systematic Review of In Vivo and In Vitro Studies Using Mammalian Models*, 29 *Frontiers in Bioscience* 304.

²¹² D. K. Essumang et al., *Bioaccumulation of platinum group metals on some fish species (Oreochromis niloticus, Penaeus laspiscatus, Scylla serrate, Galaxias brevipinnis and Mollusc) in the Pra estuary of Ghana*, 90 *Toxicological & Env'tl Chemistry* 625, 626 (2008).

²¹³ M. Jaishankar et al., *Toxicity, mechanism and health effects of some heavy metals*, 7 *Toxicology* 60, 66 (2014).

²¹⁴ *Id.*

²¹⁵ Yao et al., *supra* note 96, at 05.

²¹⁶ Amon (2022), *supra* note 170, at 8.

²¹⁷ Limpinsel (2023), *supra* note 20, at 136.

on human time scales.²¹⁸ Seabed mining will cause an irreversible net loss of biodiversity, endangering deep-sea species and threatening extinctions.²¹⁹

To the extent that BOEM may consider minimization and mitigation measures—whether under NEPA or in any other context—there are no science-backed measures known to be capable of making up for the extent of harm and biodiversity loss that will be caused by mining. The seabed mining industry is in its infancy, and the effectiveness of minimization and mitigation measures remains wholly untested.²²⁰ The destructive nature of mining indicates that, even with efforts to minimize impacts, current technologies will be unable to avert significant local biodiversity losses.²²¹ While remediation is a commonplace for terrestrial projects (albeit with questionable efficacy), there are numerous challenges in applying this approach in the marine context, particularly in the deep sea, given the slow recruitment and growth of native species that occur in target habitats, the potentially vast scales of mining impacts, the limited understanding of the requirements for a properly functioning ecosystem, and the high cost of deploying regeneration strategies.²²² It is unclear whether seabed restoration is feasible at all. Answering that question will require decades of evaluation and will run a high risk of failure, which could implicate further biodiversity loss.²²³

C. Seabed Mining Will Have Significant Adverse Impacts on Fisheries.

Sustainable fisheries are crucial for food security, livelihoods, and cultural identity of communities throughout Alaska.²²⁴ As Native Alaska communities' subsistence and tradition are deeply intertwined with fishing, it is important to identify how fish species in Alaska waters will be affected by seabed activities. It is already known that seabed mining would cause significant harm to fisheries, yet we don't know the full extent of how severe that could be.²²⁵ NMFS has

²¹⁸ Niner et al., *supra* note 156, at 9; *see also* Daniel O.B. Jones et al., *Long-term impact and biological recovery in a deep-sea mining track*, 642 *Nature* 112 (2025) (finding visible physical effects from seabed mining can be assumed to last for at least many decades).

²¹⁹ Deep Sea Mining Campaign, *The Precautionary Principle Applied to Deep Sea Mining 2* (Aug. 2021), <https://dsm-campaign.org/wp-content/uploads/2021/10/Precautionary-Principle-Deep-Sea-Mining.pdf>.

²²⁰ Niner et al., *supra* note 156, at 5; Yao et al., *supra* note 96, at 09.

²²¹ Niner et al., *supra* note 156, at 5.

²²² *Id.*

²²³ *Id.*

²²⁴ *See Pacific Islands Regional Sustainable Recreational and Non-Commercial Fishing Program*, NOAA Fisheries (last updated Nov. 19, 2024), <https://www.fisheries.noaa.gov/grant/pacific-islands-region-sustainable-recreational-and-non-commercial-fishing-program>.

²²⁵ *See* J.M.A. Van der Grient & J.C. Drazen, *Potential spatial intersection between high-seas fisheries and deep-sea mining in international waters*, 129 *Marine Policy*, at 1 (2021), <https://pdf.sciencedirectassets.com/271824/1-s2.0-S0308597X21X0005X/1-s2.0-S0308597X21001755/main.pdf>.

recognized that seabed mining operations are likely to intersect with fisheries, recommending that mining be avoided in Alaska's waters which contain sensitive marine benthic habitats, including in Essential Fish Habitat (EFH).²²⁶ This recommendation is prudent as fishery stocks may be found in the water column above contract mining areas, resulting in various adverse effects to fishery management.²²⁷ Studies have found that impacts to fisheries from seabed mining activities may include reduced fisheries catches, increased concentrations of metals in fish habitats and the targeted fish, and displacement of fish species due to noise and sediment plumes.²²⁸ Impacts to non-fish species and the seabed could also have ecosystem-wide implications.

Many fish species undertake diurnal vertical migrations (the daily movement pattern of fish moving up and down the water column) and are significantly connected to pelagic food webs.²²⁹ Since seabed mining will result in decreased habitat availability and loss of biodiversity of many pelagic organisms due to sediment plumes, target fishery species are likely to suffer from reduced forage if midwater ecosystems are impacted.²³⁰ The process of seabed mineral extraction also releases metals and sediments into surrounding waters, which may result in elevated metal concentrations in the water column.²³¹ These metals can accumulate in marine organisms, leading to increased levels of toxic metals as they make their way up the food chain, thereby harming fishery stocks and human health from consuming fish with elevated metals (as discussed above).²³² Further, noise and sediment plumes created by seabed mining activities may result in commercial fishery species avoiding the area, leading to changes in distribution of target species or the alteration of their migration corridors.²³³

In one scientific study involving deep-sea mining in the Clarion Clipperton Zone, scientists determined that tuna fisheries would be adversely affected by deep-sea mining due to "noise, light, and movement of ships at the sea surface, as well as the benthic and discharge plumes."²³⁴ While discharging mining plumes at depths below 500 feet may reduce direct impacts on tuna, such deeper sediment plume discharges will likely harm tuna indirectly by adversely

²²⁶ Limpinsel (2023), *supra* note 20, at 40, 137.

²²⁷ *See id.* at 2.

²²⁸ *See id.*; Amon (2022), *supra* note 170, at 8 ("the fishing industry could see reduced fisheries catch, displacement of fishing effort, and/or spatial concentration of fishing effort promoting depletion of background areas"); *see also* Kirsten F. Thompson et al., *Seabed Mining and Approaches to Governance of the Deep Seabed*, 5 Marine Science, at 6 (2018) (subsistence and commercial fisheries could be impacted by noise, light, and sediment plumes from mining vessels and machinery).

²²⁹ Van der Grient, *supra* note 225, at 2.

²³⁰ *Id.*

²³¹ *Id.*

²³² *See id.*; Hamley, *supra* note 208, at 391.

²³³ *Id.*; *see also*, Amon (2022), *supra* note 170, at 8.

²³⁴ Amon (2023), *supra* note 76, at 3.

affecting other species that are critical to the health of the overall food web on which the tuna depend.²³⁵

These threats to fisheries would be especially acute in the RFI areas because sediment plumes could be transported to Alaska's shorelines, potentially impacting both deepwater and coastal fisheries upon which Alaska's communities rely. Negative impacts to fish species in the Alaska OCS and coastal areas from seabed mining may pose an existential threat to various Alaska communities' ways of life.²³⁶ Indeed, for many Alaska Native communities, "no issue matters more than subsistence fishing."²³⁷

It is crucial that BOEM examine how fisheries and seabed mining intersect and the impact on individual fishery catches before commercially leasing minerals on the Alaska OCS. BOEM must fully inform Alaska Native tribes and tribal communities and the Alaska government and people—as well as the broader public—about how seabed mining may affect fish species in their waters and marine ecosystems more broadly, which are inextricably tied to their livelihoods and culture.

D. BOEM Must Evaluate the Impacts of Vessel Traffic Serving a Lease.

Exploration and any development of a lease will involve significant levels of vessel traffic to and from the lease location, extending far beyond Alaska OCS to other distant ports. BOEM must evaluate the effects of that traffic in its NEPA analysis.

There may be thousands of vessel trips annually to service an OCS lease. Vessels impact the environment in many ways, including through air emissions, fluid discharges and oil spills, marine debris, noise, and vessel strikes.²³⁸ These impacts occur not just at the lease site, but also along the entire route between the lease and ports, including in and near ports. BOEM must evaluate the full degree and geographic scope of potential impacts from vessel trips.

²³⁵ *Id.*

²³⁶ *See, e.g., supra* Section III.A.

²³⁷ Lily Cohen, *Tribes' Never-Ending Battle to Protect Subsistence Fishing in Alaska*, Native American Rights Fund (Nov. 17, 2025), <https://narf.org/headwaters-subsistence-fishing-alaska/>.

²³⁸ *See generally* BOEM, *Gulf of America Regional OCS Oil and Gas Lease Sales and Post-Lease Activities, Final Programmatic Environmental Impact Statement* (August 2025), https://www.boem.gov/sites/default/files/documents/environment/environmental-assessment/Final%20GOA%20PEIS.pdf?VersionId=FTa_BneTGsgiXeA4Lj22pJgg471n0W7D; NMFS, *Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America* (2025) [hereinafter NMFS 2025 Gulf BiOp], <https://www.fisheries.noaa.gov/s3/2025-05/BOEM-BSEE-Gulf-of-America-Oil-and-Gas-Program-BiOp-5.20.25.pdf>.

E. BOEM Must Include a Reasonable Range of Alternatives in the EIS.

NEPA requires that agencies preparing an EIS include a “detailed statement” that includes “a reasonable range of alternatives to the proposed agency action.”²³⁹ “[N]o major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.”²⁴⁰ “The existence of a viable but unexamined alternative renders” an EIS inadequate.²⁴¹

BOEM must include a thorough assessment of a no-action alternative—i.e., not proceeding with a lease sale.²⁴² Agencies must engage in an “[i]nformed and meaningful” analysis of the no action alternative “to provide a baseline against which every action alternative is evaluated.”²⁴³

While the no-action alternative is the only appropriate choice here, if BOEM were nonetheless to proceed with leasing, it must consider reasonable alternatives to full-scale leasing; specifically, alternatives that would significantly reduce the harmful effects of any leasing on affected resources. This includes identifying areas that should be protected from mining²⁴⁴ and otherwise limiting the area available for lease, as well as imposing stringent, protective lease stipulations. BOEM must identify seamounts and other ecologically important areas as part of its environmental baseline and should exclude those habitats from any proposed leasing. Given the unknowns associated with seabed mining and the potential technologies that may be used, any leases should include stipulations requiring robust monitoring, real-time reporting to BOEM, and the ability for BOEM to order an immediate halt to operations and, if necessary, cancellation of the lease as soon as there is any indication that significant harm to the environment is possible.

²³⁹ 42 U.S.C. § 4332(2)(C)(iii); *see id.* § 4332(2)(F) (agencies must “study, develop, and describe technically and economically feasible alternatives”).

²⁴⁰ *Env’t Def. Fund v. Corps of Eng’rs*, 492 F.2d 1123, 1135 (5th Cir. 1974).

²⁴¹ *Western Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013) (quoting *Westlands Water Dist. v. U.S. Dep’t of Interior*, 376 F.3d 853, 868 (9th Cir. 2004)).

²⁴² *See Conservation Nw. v. Sherman*, 715 F.3d 1181, 1188 (9th Cir. 2013).

²⁴³ *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 734–35 (9th Cir. 2020) (quoting *Bob Marshall All. v. Hodel*, 852 F.2d 1223, 1228 (9th Cir. 1988)).

²⁴⁴ L.M. Wedding et al., *Managing mining of the deep seabed*, 349 Science 144 (2015); L.M. Wedding et al., *From principles to practice: a spatial approach to systematic conservation planning in the deep sea*, 280 Proc. R. Soc. B (2013).

VI. BOEM MUST COMPLETE ESA CONSULTATION PRIOR TO ANY LEASING.

BOEM must comply with the ESA before holding an OCS lease sale.²⁴⁵ Congress established the section 7 consultation process explicitly “to ensure compliance with the [ESA’s] substantive provisions.”²⁴⁶ Consultation is required whenever a proposed action “may affect” listed species or critical habitat.²⁴⁷ “The minimum threshold for an agency action to trigger consultation with [the wildlife agencies] is low.”²⁴⁸

In determining the need for consultation, BOEM must consider “all consequences to listed species or critical habitat that are caused by the proposed [lease sale], including the consequences of other activities that are caused by the proposed [lease sale] but that are not part of the [sale].”²⁴⁹ A lease sale is the but-for and proximate cause of subsequent exploration and development of a lease and the attendant effects on threatened and endangered species. Enabling such exploration and development is the sole purpose of holding a lease sale, and those activities will not occur but for the requirement of a lease sale if they are to occur. Accordingly, BOEM’s ESA assessment for the lease sale must include all reasonably certain effects to species that would flow from exploration and development of the proposed leases.

BOEM must enter formal ESA consultation with the NMFS and FWS before leasing because a mineral lease sale on the Alaska OCS would be likely to adversely affect multiple ESA-listed species in several ways.²⁵⁰ Numerous species are listed or proposed for listing as threatened

²⁴⁵ 16 U.S.C. § 1536(a)(2); see *Sec’y of Interior v. California*, 464 U.S. at 338; *Vill. of False Pass*, 733 F.2d at 610 (“Under 16 U.S.C. § 1536(a)(2), the Secretary must, among other things, insure his lease sale decision ‘is not likely to jeopardize the continued existence of any endangered species.’”).

²⁴⁶ *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985) (“The ESA’s procedural requirements call for a systematic determination of the effects of a federal project on endangered species. If a project is allowed to proceed without substantial compliance with those procedural requirements, there can be no assurance that a violation of the ESA’s substantive provisions will not result.”); see also *Wash. Toxics Coal. v. EPA*, 413 F.3d 1024, 1034 (9th Cir. 2005) (“The purpose of the consultation process . . . is to prevent later substantive violations of the ESA.”); *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1056–57 (9th Cir. 1994) (“Only after the [agency] complies with § 7(a)(2) can any activity that may affect the protected [species] go forward.”).

²⁴⁷ 50 C.F.R. § 402.14.

²⁴⁸ *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 496 (9th Cir. 2011); see also U.S. Fish & Wildlife Serv. & Nat’l Marine Fisheries Serv., *Endangered Species Consultation Handbook*, at xvi (1998) (“May affect [is] the appropriate conclusion when a proposed action may pose *any* effects on listed species or designated critical habitat.”).

²⁴⁹ 50 C.F.R. § 402.02 (also explaining, “A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.”); see *id.* § 402.12(a).

²⁵⁰ See *id.* § 402.14. At a minimum, a lease sale “may affect” listed species.

or endangered species under the ESA in Alaska.²⁵¹ These include polar bears, spectacled and Steller's eiders, Arctic ringed seal, bearded seal, stellar sea lion, loggerhead sea turtle, several salmon species, three humpback whale distinct population segments, the Cook Inlet beluga whale, the North Pacific right whale, and both fin and bowhead whales.²⁵² There is also a species of sea star proposed for ESA-listing (sunflower sea star).²⁵³ NMFS has also designated critical habitat for the three listed pinnipeds and several listed whales in waters around Alaska, including the Cook Inlet beluga whale and the North Pacific right whale.²⁵⁴ And the Arctic RFI areas overlap with designated polar bear critical habitat.²⁵⁵

These marine species rely on clear water for navigation and feeding, and sediment plumes may interfere with their natural behavior and ability to feed or navigate.²⁵⁶ Mining can introduce toxic substances to the food web that bioaccumulate in species like whales.²⁵⁷ Sediment plumes may clog filter feeders.²⁵⁸ For ESA-listed whales, noises from seabed mining may damage acoustic sensors and interfere with essential behaviors.²⁵⁹

Vessels servicing OCS leases also pose risks to ESA-listed species in the regions of Alaska where the vessels transit and in the coastal habitats where the vessels go to port.²⁶⁰ Harms from vessels include injury or death from ship strikes, masking of communication from noise, and air and water pollution.²⁶¹ BOEM must identify the foreseeable routes for vessels serving leases on the Alaska OCS and ask NMFS and FWS for lists of ESA-listed species and critical habitats that may be present in the general area of the routes.²⁶² BOEM then must assess whether the vessel

²⁵¹ NOAA Fisheries, *Endangered, Threatened, and Candidate Species in Alaska*, <https://www.fisheries.noaa.gov/alaska/endangered-species-conservation/endangered-threatened-and-candidate-species-alaska> (last updated Jan. 10, 2024); *Federally Listed Threatened and Endangered Species in Alaska*, Alaska Department of Fish and Game, <https://www.adfg.alaska.gov/index.cfm?adfg=wildlifediversity.esalisted> (last visited Feb. 27, 2026).

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ *Id.*

²⁵⁵ See 75 Fed. Reg. 76086, 76134 (Dec. 7, 2010).

²⁵⁶ See Drazen et al., *supra* note 169; see also Sue Farran, *Deep-sea mining and the potential environmental cost of 'going green' in the Pacific*, 24 Env't L. Rev. 173, 179 (2022).

²⁵⁷ Drazen et al., *supra* note 169.

²⁵⁸ Yao et al., *supra* note 96, at 07.

²⁵⁹ Williams et al., *supra* note 173, at 1–2; Kirsten Young et al., *Threatened cetaceans in a potential deep seabed mining region, Clarion Clipperton Zone, Easter Pacific, August 2023*, 12 Front. Mar. Sci., at 07 (2025).

²⁶⁰ See, e.g., NMFS 2025 Gulf BiOp, at 306–542.

²⁶¹ *Id.*

²⁶² 50 C.F.R. § 402.12(c).

traffic may affect any of the species or critical habitats and engage in formal or informal consultation, as appropriate, for affected species and critical habitats.

VII. BOEM MUST COMPLY WITH THE MMPA PRIOR TO LEASING.

The MMPA prohibits the taking of a marine mammal in waters under U.S. jurisdiction or on the high seas without an incidental take authorization.²⁶³ Taking includes harassing, injuring, or killing a marine mammal.²⁶⁴ NMFS may authorize incidental taking of “small numbers” of marine mammals for limited time periods if certain conditions are met.²⁶⁵ A mineral lease sale on the Alaska OCS will cause incidental taking of several marine mammals. BOEM cannot issue leases causing such take without proper MMPA authorization.²⁶⁶

As discussed above, the waters around Alaska are home to numerous species of marine mammals, including bowhead whales, fin whales, orcas, humpback whales, polar bears, sea otters, Pacific walruses, and several species of pinnipeds. Activities associated with seabed mineral leases can cause numerous impacts to marine life, including marine mammals,²⁶⁷ which fall under the MMPA’s definition of “take.” Leases “authorize[]” exploration, development, and production activities that cause take.²⁶⁸ Even before obtaining plan approval for those activities, lessees are permitted to engage in “preliminary activities” that cause take of marine mammals.²⁶⁹ Preliminary activities include “bathymetric, geological, geophysical, mapping, and other surveys.”²⁷⁰ These surveys typically employ sound, which can cause both acute and chronic harm to marine mammals.²⁷¹ The surveys accordingly are deemed to take marine mammals under the MMPA (and ESA).²⁷² In addition, the vessels conducting preliminary activities on a lease may take marine mammals through vessel strikes and/or chronic vessel noise.²⁷³ BOEM must comply with the MMPA before issuing any leases that allow take to occur.

Furthermore, seabed mining would only exacerbate any harm to marine mammals caused by seismic activity and other oil and gas development that is being proposed in the same area.²⁷⁴

²⁶³ 16 U.S.C. § 1372(a).

²⁶⁴ *Id.* § 1362(13).

²⁶⁵ *Id.* § 1371(a)(5).

²⁶⁶ *Cf. Loggerhead Turtle v. Cnty. Council of Volusia Cnty.*, 148 F.3d 1231, 1251–53 (11th Cir. 1998) (explaining that a regulatory agency is liable under ESA if it authorizes actions that cause take).

²⁶⁷ *See supra* Sections V.B.–D.

²⁶⁸ *See* 30 C.F.R. § 582.3 (defining “lease”).

²⁶⁹ *See id.* § 582.21(a).

²⁷⁰ *Id.* § 582.21(d).

²⁷¹ *See* 2025 NMFS BiOp, at 389–416.

²⁷² *E.g.*, 89 Fed. Reg. 31488 (Apr. 24, 2024).

²⁷³ *See supra* discussion in Section V.D.

²⁷⁴ *Details of the Secretary’s 1st Proposal, 11th National Outer Continental Shelf Oil and Gas Leasing Draft Proposed Program*, BOEM (Nov. 2025), <https://www.boem.gov/oil-gas-energy/national-program/details-secretarys-1st-proposal>.

This combination of harms must be considered and elaborated in the analysis of the harms that will result from seabed mining.

MMPA compliance is also required as part of BOEM's ESA compliance. When an action will incidentally take ESA-listed marine mammals—as would be likely for bowhead whales and other species here—NMFS may not issue a valid biological opinion and incidental take statement unless it has also authorized that take pursuant to MMPA section 101(a)(5) (16 U.S.C. § 1371(a)(5)) and has “specifie[d] those measures that are necessary to comply with” section 101(a)(5).²⁷⁵

Before proceeding with leasing, BOEM must assess how activities on a lease may affect marine mammals that may be present in the area, and it must comply with the MMPA for any reasonably foreseeable incidental take.

VIII. BOEM MUST CONSULT NMFS ON IMPACTS TO ESSENTIAL FISH HABITAT PRIOR TO ANY LEASING.

The MSA requires all federal agencies to consult NMFS whenever they propose to authorize, fund, or undertake any action that may adversely affect designated EFH.²⁷⁶ The MSA defines EFH to include “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.”²⁷⁷ EFHs support the reproduction, growth, and shelter of fish—without these critical environments, marine fish populations could not survive. Habitat areas of particular concern (HAPCs) are areas of habitat within EFHs that are rare, important to an EFH's ecological function, sensitive to human-induced environmental degradation, or under stress by development.²⁷⁸

An OCS mineral lease sale is a federal action that may adversely affect EFH.²⁷⁹ Therefore, the MSA requires BOEM to complete the EFH consultation process before finalizing any OCS mineral leasing decisions.²⁸⁰ That process requires BOEM to give the relevant Fishery Management Councils and NMFS an opportunity to make comments and recommendations to BOEM regarding the leasing.²⁸¹ NMFS and the Councils must identify actions that may adversely affect EFH, provide EFH information to BOEM, and develop EFH conservation recommendations.²⁸²

If NMFS determines that the activity may adversely affect EFH, it must recommend measures BOEM can take to conserve the habitat, and BOEM must provide a written response

²⁷⁵ 16 U.S.C. § 1536(b)(4)(C); 50 C.F.R. § 402.14(i)(1)(iii).

²⁷⁶ 16 U.S.C. § 1855(b)(2).

²⁷⁷ *Id.* § 1802(10).

²⁷⁸ 50 C.F.R. § 600.815(a)(8).

²⁷⁹ See *supra* discussion in Section V.C.

²⁸⁰ See 16 U.S.C. § 1855(b)(2); see also 50 C.F.R. § 600.920(e)–(f).

²⁸¹ *Id.* § 1855(b)(3)(A).

²⁸² 50 C.F.R. § 600.905(c).

within thirty days.²⁸³ The response must include a description of the measures that BOEM proposes to take for “avoiding, mitigating, or offsetting” the impacts of the activity on EFH.²⁸⁴ If BOEM’s response is inconsistent with NMFS’s or the Council’s recommendations, then BOEM must rationally explain its reasons for not following the recommendations.²⁸⁵ BOEM should coordinate the EFH consultations with NEPA, providing an assessment of impacts to EFH in time for it to be available for the NEPA public comment period.²⁸⁶ This is consistent with NEPA’s and the MSA’s shared purpose of ensuring informed decision-making and public involvement in decisions affecting the environment.²⁸⁷

NOAA Fisheries has recognized that these areas, indeed most of Alaska’s OCS, contain sensitive habitats and species constituting essential fishing habitats (EFH). The Northern Pacific Fishery Management Council (NPFMC) has designated EFH for each life stage of the more than 100 fish species or complexes managed under a Fishery Management Plan within the Gulf of Alaska, Bering Sea, Aleutian Islands, and the Arctic.²⁸⁸ EFH includes varied ecosystems from coastlines to deep-sea benthic habitats. EFH has been designated for a variety of fish and crustacean species, including groundfish, salmon, scallops and king and tanner crabs. In addition, there are five ecosystem HAPCs within EFHs in Alaska, including the areas that protect seamount habitat, the Bowers Ridge Habitat Conservation Zone, including Bowers Ridge and Uhm Plateau, Gulf of Alaska coral and slope habitat, and skate nursery areas.²⁸⁹ BOEM must consult with NMFS and the NPFMC before issuing a lease sale to determine whether seabed mining in the proposed area is likely to adversely affect these designated HAPCs and EFHs.

The EFHs in Alaska contain an extraordinary diversity of biological organisms that are particularly vulnerable to many types of adverse effects. Seabed mining will cause various environmental impacts that may alter habitats and harm ocean wildlife.²⁹⁰ Sediment plumes caused by mineral extraction will absorb light and settle within midwater and benthic ecosystems, resulting in the potential smothering and loss of ecosystem functions, the generation of turbidity in the water column over areas affecting pelagic organisms, and the clogging of gills

²⁸³ 16 U.S.C. § 1855(b)(4)(A), (B).

²⁸⁴ *Id.* § 1855(b)(4)(B).

²⁸⁵ *Id.*

²⁸⁶ 50 C.F.R. § 600.920(e)–(f); *see also* 50 C.F.R. § 600.920(a)(3) (“The Federal agency should notify NMFS in writing as early as practicable regarding actions that may adversely affect EFH. . . . Such early coordination should occur during pre-application planning for projects subject to a Federal permit or license and during preliminary planning for projects to be funded or undertaken directly by a Federal agency.”).

²⁸⁷ *See* 16 U.S.C. § 1854(1)(B).

²⁸⁸ *See* 89 Fed. Reg. 58632 (July 19, 2024).

²⁸⁹ NOAA, *Habitat Areas of Particular Concern North Pacific*, <https://media.fisheries.noaa.gov/dam-migration/hapc-ak-akr.pdf>.

²⁹⁰ *See supra* discussion in Section V(B).

of midwater and benthic fauna.²⁹¹ Sediment plumes will also be transported to neighboring regions, thereby impacting areas far from the mining site.²⁹² These effects are concerning for EFHs in Alaska.

NMFS has determined that “marine mining activities can lead to the direct loss or degradation of EFH” and has recommended that mining in waters containing sensitive benthic habitat, including in EFH, should be avoided.²⁹³ This is because NMFS found that previous mining activities off Nome “resulted in considerable localized substrate alteration.”²⁹⁴ Based on past placer mining in the Norton Sound region at depths of up to 148 feet, NMFS explained that seabed mining can cause “habitat loss and alteration, re-suspension of fine sediments, removal of benthic infauna and epifauna, and injured marine organisms.”²⁹⁵ These impacts would not be temporary either, as the seafloor after this project has been “void of re-colonization to date.”²⁹⁶

Studies also show that deeper waters support diverse and abundant species complexes that can take a long time to recover after sediment disturbances.²⁹⁷ Mining can also have a wide range of impacts outside of the disturbed areas.²⁹⁸ These negative impacts to EFH would be greatly exacerbated if mining is conducted at depths proposed by BOEM, which would greatly exceed the depths of past placer projects by many thousands of meters in certain areas.²⁹⁹

BOEM must ensure that it avoids and minimizes such adverse effects by prioritizing EFH consultation before commercially leasing minerals on the OCS offshore of Alaska. Impacts to EFH surrounding Alaska must be fully examined based on the best available science and disclosed to NMFS, the NPFMC, and the public before BOEM holds a lease sale.

IX. BOEM MUST ASSESS POTENTIAL ADVERSE EFFECTS TO HISTORIC PROPERTIES UNDER THE NHPA BEFORE ANY LEASING.

The NHPA establishes a national program for the preservation of historic and archeological sites in the United States.³⁰⁰ The NHPA aims to protect historic sites from

²⁹¹ See *supra* discussion in Section V(B)(1); Pippa Howard et al., *An assessment of the risks and impacts of seabed mining on marine ecosystems*, Fauna & Flora International 171–72 (2020).

²⁹² See *supra* discussion in Section V(B)(1).

²⁹³ Limpinsel (2023), *supra* note 20, at 135, 137.

²⁹⁴ *Id.* at 135.

²⁹⁵ *Id.* at 136.

²⁹⁶ *Id.*

²⁹⁷ *Id.* at 136–37.

²⁹⁸ *Id.* at 137.

²⁹⁹ *Id.* at 136–37; 91 Fed. Reg. 3923, 3925 (Jan. 29, 2026) (“The RFI Area boasts a variety of water depths from the deepest point near the Aleutian Trench at over 7,000 meters, the abyssal plains of the Bering Sea and Gulf of Alaska at 3,800–5,500 meters, and the shallow sandy waters of Norton Sound at 10–25 meters.”)

³⁰⁰ 54 U.S.C. § 300101.

destruction or damage, particularly from federally funded or permitted projects, and recognizes the significant value and irreplaceable heritage of such sites.³⁰¹ The NHPA requires BOEM to give full consideration in planning the preservation of historic properties potentially affected by agency actions, and that the procedures for compliance are consistent with regulations promulgated by the Advisory Council on Historic Preservation (Advisory Council), ensuring that archaeological resources and properties on the OCS are not damaged by seabed mining operations.³⁰² Properties eligible for inclusion on the National Register of Historic Places (NRHP) include Traditional Cultural Places, significant because of an association with cultural beliefs, customs, or practices that are rooted in the community's history and that are important in maintaining the community's cultural identity.³⁰³

Section 106 of the NHPA prohibits BOEM from approving any federal "undertaking" unless it first takes into account the effects of the undertaking on historic properties that are included or eligible for inclusion in the NRHP.³⁰⁴ Section 106 is a "stop, look, and listen provision" that requires BOEM to consider the effects of its actions and programs on historic properties and sacred sites before implementation.³⁰⁵ To ensure that BOEM fully considers the effect of its undertaking on historic properties, BOEM must give the Advisory Council the opportunity to comment on the action.³⁰⁶ An OCS mineral lease sale is a federal action that may adversely affect historic preservation areas, therefore, BOEM must comply with Section 106 regulations and reasonably "take into account" the impacts on such historic and archaeological resources and sites around Alaska.³⁰⁷

BOEM must "[d]etermine and document the area of potential effects" and then "[r]eview existing information on historic properties within [that] area" to identify historic properties and potential effects.³⁰⁸ A "reasonable and good faith effort" for identifying historical properties and any foreseeable adverse effects may include referencing background research, sample field investigations and surveys, consultations, past planning or research studies, and other applicable State, Tribal, and local laws.³⁰⁹ BOEM then must consider whether the effects will be adverse, using the broad criteria and examples set forth in 36 C.F.R. § 800.5(a)(1). Adverse effects include

³⁰¹ See National Historic Preservation Act § 1, Pub. L. No. 89-665, 80 Stat. 915 (1966), as amended by Pub. L. No. 96-515, 94 Stat. 2987 (1980).

³⁰² See 54 U.S.C. §§ 300320, 306108.

³⁰³ See *Identifying, Evaluating and Documenting Traditional Cultural Places* 38, National Register Bulletin (2024), <https://irma.nps.gov/DataStore/DownloadFile/713282>.

³⁰⁴ *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 805 (9th Cir. 1999).

³⁰⁵ See *id.*

³⁰⁶ See 54 U.S.C. § 306108.

³⁰⁷ See *id.*; 36 C.F.R. §§ 800.16(i),(y); 800.3(a); 65 Fed. Reg. 77698, 77712 (Dec. 12, 2000).

³⁰⁸ 36 C.F.R. § 800.4. The "area of potential effects" is defined to mean the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." *Id.* § 800.16(d).

³⁰⁹ *Id.* § 800.4(b), (c).

the “[p]hysical destruction of or damage to all or part of the [historic] property,” and any “reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.”³¹⁰ If there may be an adverse effect, BOEM is required to consult with state or tribal historic preservation officers and other consulting parties “to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties.”³¹¹ If BOEM concludes that the undertaking’s effects do not meet the “adverse effects” criteria, it must rationally document support for that conclusion and propose a finding of “no adverse effect[s].”³¹²

Alaska contains historically and culturally significant resources representing thousands of years of history. Alaska has 399 registered historic preservation areas under the NRHP, respectively.³¹³ Currently, however, the Alaska OCS lacks a complete baseline of cultural resources and heritage information, and there has been no systematic field survey either by diverse or remote sensing methods. BOEM should consult with the local community to determine if there may be any Traditional Cultural Places potentially eligible for listing in the vicinity of any mineral leasing.

Physical disturbance of the ocean floor to extract minerals is likely to lead to habitat destruction, potentially affecting or destroying undiscovered underwater archaeological sites or historical properties.³¹⁴ Seabed mining machinery is not sophisticated enough to detect a historic site prior to beginning mining activities in a specific area.³¹⁵ Additionally, sediment plumes caused by mineral extraction may be transported to neighboring regions, which would obscure or alter the surrounding environment, thereby affecting the integrity of potential underwater heritage resources.³¹⁶ Therefore, it is crucial that BOEM complete a systematic survey in Alaska OCS and adequately take into account impacts to archaeological resources, those currently registered and those that might be eligible for listing, that may be adversely affected by disruptive and destructive seabed mining activities.

³¹⁰ *Id.* § 800.5(a)(1), (2)(i).

³¹¹ *Id.* §§ 800.5(d)(2), 800.6(a).

³¹² *Id.* § 800.5(b), (d)(1).

³¹³ *National Register Database and Research*, National Park Service, <https://www.nps.gov/subjects/nationalregister/database-research.htm#table> (last visited Feb. 24, 2026).

³¹⁴ *See supra* discussion in Section V(B).

³¹⁵ *Deep Seabed Mining*, The Ocean Foundation, <https://oceanfdn.org/deep-seabed-mining/> (last visited Feb. 24, 2026).

³¹⁶ *See supra* discussion in Section V(B).

X. BOEM MUST ACCOUNT FOR SIGNIFICANT SHORTCOMINGS IN FEDERAL OVERSIGHT OF SEABED MINERAL RESOURCE DEVELOPMENT.

BOEM typically relies on presumptions of robust oversight and enforcement by its sister agency, the Bureau of Safety and Environmental Enforcement (BSEE), when assessing the possibility of environmental, health, and safety impacts of oil and gas development under the ESA, NEPA, MMPA, and the other statutes described above. In contrast to the relatively detailed regulations for oil and gas oversight, however, BSEE's regulations for oversight of mineral development are limited and vague, and lack any specific requirements for monitoring or inspection of seabed mineral operations.³¹⁷ Further, BSEE has no oversight experience with such operations to demonstrate that it is capable of doing so effectively. In addition, the head of BOEM's Alaska BSEE office recently warned that BSEE does not even have the capacity to oversee *current* oil and gas operations in the state, let alone the major expansion of fossil and mineral leasing planned by the current administration.³¹⁸ BOEM may not rely on BSEE oversight or assume it will be sufficient to address or limit any impacts to the environment, wildlife, historic or cultural resources, or health and safety.³¹⁹ BOEM should not proceed with seabed mineral leasing when BSEE is unprepared to exercise sufficient oversight.

Other than requiring annual on-site inspections of each "facility,"³²⁰ BSEE regulations describe only general principles that lessees and BSEE should apply. For example, they require the lessee to conduct monitoring "that develops the data and information necessary to enable the Director to assess the impacts" of operations on the environment.³²¹ There is no indication what sort of information is "necessary," how frequently monitoring is required, how the data should be submitted to or reviewed by BSEE, or any other specification. BSEE has given no indication it knows what information or procedures are necessary to be able to exercise effective oversight in any way. Instead, the head of the Alaska office has publicly announced that BSEE cannot take on additional work.

* * *

Thank you for the opportunity to provide these comments. If you have any questions or would otherwise like to discuss these comments, please feel free to contact me via email (jlangkilde@earthjustice.org).

³¹⁷ See 30 C.F.R. pt. 282.

³¹⁸ J. Bikales, *Federal safety regulator warns his office can't keep up with Trump's Alaska oil push*, Politico (Feb. 25, 2026), <https://www.politico.com/news/2026/02/25/federal-safety-regulator-warns-it-cant-keep-up-with-trumps-alaska-oil-push-00798507>.

³¹⁹ See *Gulf Restoration Network*, 47 F.4th at 803–04 (holding BOEM arbitrarily relied on effectiveness of BSEE enforcement when there was evidence of shortcomings).

³²⁰ 30 C.F.R. § 282.12(e).

³²¹ *Id.* § 282.28(c)(1).

Regards,

/s/ JV Langkilde

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