



United States Department of the Interior
BUREAU OF OCEAN ENERGY MANAGEMENT
Pacific OCS Region
760 Paseo Camarillo, Suite 102
Camarillo, CA 93010-6064

Memorandum

To: Acting Director

From: Douglas P. Boren
Regional Director, Pacific Regional Office

Subject: Area Identification Recommendation for the Commonwealth of Northern Mariana Islands Outer Continental Shelf (OCS) Mineral Leasing Process

Area Identification (Area ID) is a major step in the Bureau of Ocean Energy Management's (BOEM) Outer Continental Shelf (OCS) mineral leasing process to develop a recommendation for an area to be carried forward for further leasing consideration and environmental analysis offshore the Commonwealth of Northern Mariana Islands (CNMI). Pursuant to 30 CFR 581.14, after considering the available OCS mineral resources, environmental data, and information, and the comments received from interested parties, including through the Request for Information and Interest (RFI), BOEM recommends tracts to be considered for a proposed lease offering. The recommended tracts would be considered in the forthcoming environmental analysis conducted for the activities that would be permissible under the proposed lease offering.

This memorandum documents your Area ID decision in accordance with 30 CFR 581.14. As noted above, your decision identifies the tracts to be carried forward for further leasing consideration and environmental analysis. The Area ID decision is not a final decision to lease nor is it an irreversible or irretrievable commitment of resources. The Area ID decision to support a potential OCS mineral lease sale offshore the CNMI is documented by your signature and marking your choice on the last page of this memorandum. A copy of this memorandum and the associated attachment will be made available on BOEM's website for public viewing and downloading.

I. Background

The Trump Administration recognizes that an overreliance on foreign critical minerals and their derivative products could jeopardize U.S. defense capabilities, infrastructure development, and technological innovation. To support and facilitate domestic production of critical minerals, President Trump issued a series of Executive Orders which direct the Department of the Interior (DOI) bureaus to facilitate and expedite critical mineral permitting, leasing, and ultimately development of critical minerals on the OCS. In response, on November 12, 2025, BOEM issued an RFI for commercial leasing for OCS seabed critical minerals offshore the CNMI ([90 Fed. Reg. 50-872](#)). The RFI requested information and comments on, and indications of interest in, the leasing of OCS minerals in the RFI Area. The RFI Area is located to the east of the Mariana Trench National Marine Sanctuary and extends to the northern, southern, and eastern limits of

the OCS offshore the CNMI. It comprises approximately 35.5 million acres (143,595 square kilometers [km²]) with approximate water depths ranging from 3,700–25,100 feet (1,130–7,650 meters). BOEM considered available OCS mineral resources, environmental data, and information and interest received in response to the RFI when considering whether to proceed with additional steps leading to a potential OCS mineral lease sale offshore the CNMI.

II. Comments Received in Response to the RFI

In response to the RFI, BOEM received comments both opposing and supporting the proposed commercial lease sale in and around the RFI Area. Through January 12, 2026, BOEM received a total of 65,585 public comment submissions in response to the RFI (Docket BOEM-2025-0351). Of the total 65,585 public submissions, 1,672 have been identified as unique; 58,592 copies were associated with 29 form letter campaigns, petitions, and letters with multiple signatories; and 5,321 were considered duplicate or not germane. Pursuant to 30 CFR 581.14, BOEM considered these comments in developing an Area ID recommendation for a proposed lease sale for OCS minerals offshore the CNMI. **Attachment 1 provides an RFI comment summary.** Key highlights of the comments received are noted below:

- Governor of the Commonwealth of the Northern Mariana Islands David M. Apatang submitted a letter stating that he will neither fully support nor fully oppose advancing seabed mining activities based on information contained in the RFI. He requested that prior to any leasing decisions, the following be conducted: comprehensive scientific data and baseline environmental information, a full Environmental Impact Statement (EIS), clear economic benefit pathways, and meaningful government-to-government and community engagement.
- Governor of Guam Lourdes A. Leon Guerrero, Lieutenant Governor Josh Tenorio, and other top government leaders of Guam submitted several letters stating joint opposition to the proposed commercial leasing of OCS minerals offshore the CNMI. Top government leaders requested: a halt to the leasing process; inclusion of Guam in further discussion and decisions; initiation of a regional EIS; sufficient scientific research and analysis of the environmental, ecological, economic, and marine life impacts of seabed mining; and assurance that any future policy aligns with U.S. commitments to Indigenous rights and environmental protection.
- The Guam Legislature submitted Resolution No. 132-38 (COR) which reaffirms a moratorium on deep-sea mining and opposes BOEM’s offshore mineral leasing proposal near the CNMI.
- Commenters cited the growing global consensus against deep-sea mining, noting that approximately 40 organizations in approximately 40 countries, over 65 major corporations, 37 financial institutions, and more than 940 marine scientists and experts have called for a moratorium.
- Commenters requested that the governments of the CNMI and Guam be transparently consulted and engaged in any leasing decisions in the RFI Area.
- Commenters expressed concern about irreversible damage to deep-sea ecosystems, and highlighted potential threats to marine food webs, endangered species, coral reefs, fisheries, noise pollution, light pollution, important national monuments such as

- the Mariana Trench National Monument, and toxic releases associated with mining activities.
- Commenters emphasized the biodiversity and slow recovery of benthic communities, including rare and undiscovered species, particularly on seamounts and hydrothermal vents. They suggested mitigation measures such as plume elimination, selective harvesting, third-party monitoring, and spatial restrictions; they also urged BOEM to create avoidance zones and protective buffers (e.g., 5-mile “no-mining” areas) for sensitive and culturally significant sites.
 - Commenters described sediment plumes that can potentially travel hundreds of miles or kilometers as detrimental to water quality by disturbing and redistributing sediment on the seafloor, smothering benthic communities, and discharging any unwanted mud, silt, and debris from the above-surface mining vessel.
 - Commenters expressed concern about the potential for transboundary impacts from deep-sea mining activities, including spillover effects from oil spills, drilling discharge, and sediment plumes, as well as increased vessel traffic and geochemical and water temperature alteration across the CNMI and into neighboring islands.
 - Commenters expressed concerns about impacts to commercial and subsistence fisheries, including threatening commercially important fish species and the \$5.5 billion Pacific tuna industry.
 - Commenters expressed concerns over the impact that deep-sea mining would have on tourism and recreation in the CNMI and Guam, including interfering with activities like whale watching, diving, fishing tours, and snorkeling.
 - Commenters discussed the lack of comprehensive baseline data and ongoing environmental monitoring in the RFI Area, and emphasized the need to characterize habitats, document species interactions, and assess existing human impacts to prevent and mitigate deep-sea mining effects.
 - Commenters urged respect for Indigenous rights and sovereignty in ocean resource decisions, citing cultural, spiritual, and ancestral ties to the Mariana Islands.
 - Commenters stated that BOEM must fully consult with the Indigenous people of the CNMI, give weight to local concerns, hold public hearings, and provide education resources as part of any leasing process.
 - Commenters expressed concern that mining would destroy underwater cultural heritage sites including shipwrecks, airplane wrecks, submerged landscapes, and archaeological materials that are largely unrecorded and irreplaceable.
 - Commenters stated that leasing in the proposed area could mitigate national security risks, provide large quantities of critical minerals and revenue for the U.S. Treasury, and support ocean resource economy initiatives.
 - Commenters expressed concerns that current proposals do not guarantee local job creation, investment in infrastructure, or meaningful benefit sharing frameworks with the CNMI or Guam.
 - Commenters expressed support for BOEM advancing exploration and evaluation of potential commercial leasing, emphasizing the importance of the U.S. Exclusive Economic Zone (EEZ) and the need for federal oversight.
 - A commenter stated that the RFI Area lies within a marine mineral prospective region for ferromanganese crust and nodules and is therefore suitable for OCS mineral

development, and also suggested fully excluding seafloor sulfide and cobalt-rich crust seabed mineral resources from consideration for future mining leases, describing the invasive effects this type of mining would have on the area.

- Commenters stated that BOEM should develop a clear leasing schedule to allow for the incorporation of ongoing data collection efforts.
- Commenters provided a variety of comments regarding rent and royalty rates, lease size, and lease contraction. Industry comments expressed support for BOEM's proposal not to charge rent during the first five years of leases; for BOEM to suspend rental payments during Plan reviews; and suggested that royalty rates should be based on revenues generated, no higher than 3 percent, and reduced to 1.5 percent for the first five years. Other commenters stated that BOEM should ensure royalty rates provide a fair return, reject low rates proposed by industry of 3 percent or lower, and that robust royalty and compensatory mitigation programs be put in place to offset impacts to ocean resources and the local economy.
- Commenters expressed support for large lease areas by suggesting a minimum lease area size of 25,000 km² and that the lease area sizes are consistent with the size of other International Seabed Authority (ISA) exploration contracts (75,000 km²).
- A commenter said that a two-stage lease contraction schedule, with the first contraction reduced to no more than 25 percent of the original lease area and the second reduced to 5 to 10 percent of the original lease area, seems reasonable but that the contraction parameters should be clearly defined in advance.

III. Indications of Interest Received in Response to the RFI

BOEM received indications of interest from several companies in response to the RFI. Indications of interest identified areas of interest in the RFI Area and several included additional areas west of the CNMI, as shown in the Indications of Interest Heat Map (Figure 1).

Indications of interest and comments identified polymetallic nodules in the RFI Area to the east. In addition to interest in the RFI Area, there were multiple expressions of interest in polymetallic sulfides to the west of the CNMI. In both areas, the primary minerals for commercial development include potential commercially viable quantities of cobalt, nickel, copper, manganese, zinc, rare earth elements, along with other minerals that may prove economically viable to extract and process in the future.

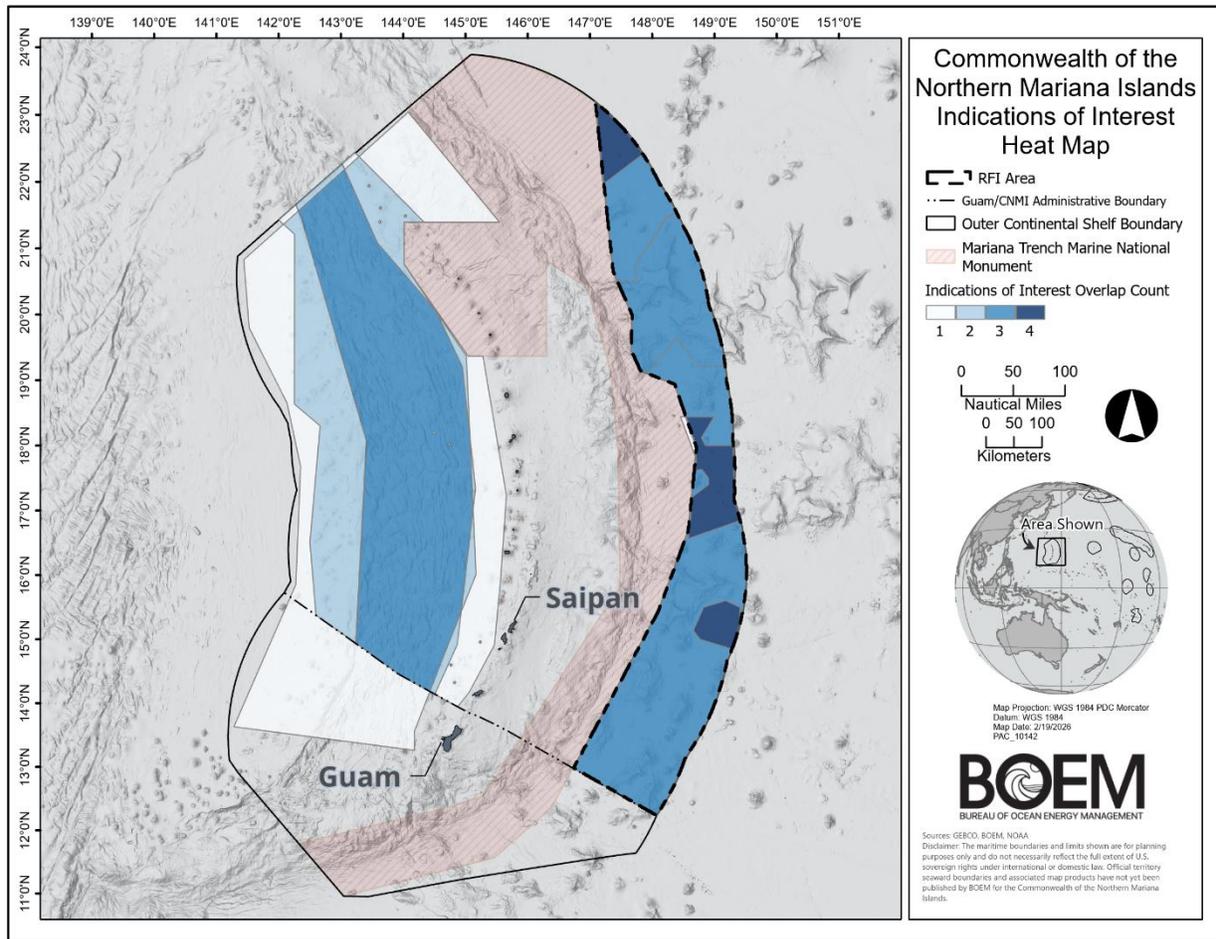


Figure 1: Indications of Interest Heat Map. The highest priority areas are shown as dark blue, lower priority areas shown in lighter shades of blue, and the lowest priority area shown in white.

IV. Recommendation

In formulating the Area ID recommendation, BOEM considered the available OCS mineral resource information, environmental data and information, comments received in response to the RFI, and indications of interest in OCS mineral leasing. The presence of any minable orebody is unknown, and additional prospecting is needed to discover and delineate OCS minerals, hence, the size of the tracts for potential leasing is relatively large. The recommended area includes two geographically distinct areas, one east and one west of the CNMI as shown in Figure 2. The area east of the CNMI is 35,483,044 acres (143,595 km²) or 6,502 whole or partial blocks and is 128 mi (206 km) from Saipan and 127 mi (205 km) from Guam at its closest point. The area west of the CNMI is 33,618,369 acres (136,049 km²), or 6,248 whole or partial blocks, and is 57 mi (91 km) from Saipan and 46 mi (74 km) from Guam at its closest point. The southern boundary of the recommended area is north of the OCS Administrative Boundary between the CNMI and Guam on the OCS.

The recommended area located east of the CNMI and the Mariana Trench National Marine Monument is consistent with indications of interest and prospective seabed mineral regions identified by the U.S. Geological Survey (USGS) in and around the RFI Area for ferromanganese crusts and polymetallic nodules, as shown in the CNMI Marine Minerals Prospective Regions Map (Figure 2), which is based on the USGS Global Marine Mineral Prospective Regions Viewer¹ and Global Marine Minerals Prospective Regions Map.²

The recommended area located west of the CNMI is consistent with indications of interest. However, published information on prospective areas for polymetallic sulfides is limited. The USGS Global Marine Mineral Prospective Regions Viewer¹ is presently limited to areas prospective for ferromanganese crusts and nodules. The viewer does not display the USGS outline of areas prospective for polymetallic sulfide deposits. Instead, the USGS regional outline of prospective areas for polymetallic sulfide deposits is depicted on a static map² and the rationale described in a separate USGS publication.³ These USGS sources support the area being prospective for polymetallic sulfides because the geologic setting is a back-arc basin, which are known to be regions where hydrothermal vents form.³ USGS states that under certain conditions hydrothermal vents can form polymetallic sulfide deposits.

Additionally, data contained in the InterRidge Vents Database,⁴ which provides a comprehensive list of active submarine hydrothermal vent fields aggregated from USGS reports and other research efforts, lists multiple identified active vents in the recommended area to the west of the CNMI. The presence of these hydrothermal vents is the result of the circulation of hydrothermal fluids, which are a necessary component for the formation of polymetallic sulfide deposits. The presence of a hydrothermal vent does not directly correlate with the presence of a polymetallic sulfide deposit. When present, the majority of a deposit is buried beneath sediment, making detection difficult without physical sampling and application of geophysical exploration methods. To date, no field work within the area has been conducted expressly for the purpose of locating polymetallic sulfide deposits using physical sampling or geophysical exploration techniques. The presence of polymetallic sulfide deposits in the area is therefore inferred based on the geologic setting and presence of hydrothermal vents.

The RFI noted that BOEM, based on information received, would determine if any responses identify specific areas of interest in and around the RFI Area that could support commercial mineral development. With the inclusion of the additional western area that was included in several indications of interest, the recommended area is approximately twice the size of the RFI Area. Collectively, all areas with three or more indications of interest are fully contained within the acreage/blocks included in the Area ID recommendation.

The recommendation is for selected tracts east and west of the CNMI to be considered in the environmental analysis conducted for the proposed lease offering. BOEM will consider available

¹ USGS Global Resource Viewer. September 24, 2024. [World Regions of Interest](#) for Ferromanganese Minerals

² USGS Global Marine Mineral Prospective Regions Map. January 31, 2025.

<https://www.usgs.gov/media/images/global-marine-mineral-prospective-regions-map>.

³ USGS Fact Sheet 2025-3017: April 2025. [fs20253017.pdf](#) - U.S. Geological Survey Global Seabed Mineral Resources

⁴ [Beaulieu, SE; Szafranski, KM \(2020\): InterRidge Global Database of Active Submarine Hydrothermal Vent Fields](#)

environmental information and comments received through the RFI that inform the environmental review of activities permissible under a lease which are preliminary activities⁵ needed to prepare plans for comprehensive technical and environmental review by BOEM. The comments received in response to the RFI will also inform future project specific environmental analysis if leases are issued and plans are submitted by lessees for work under their lease.

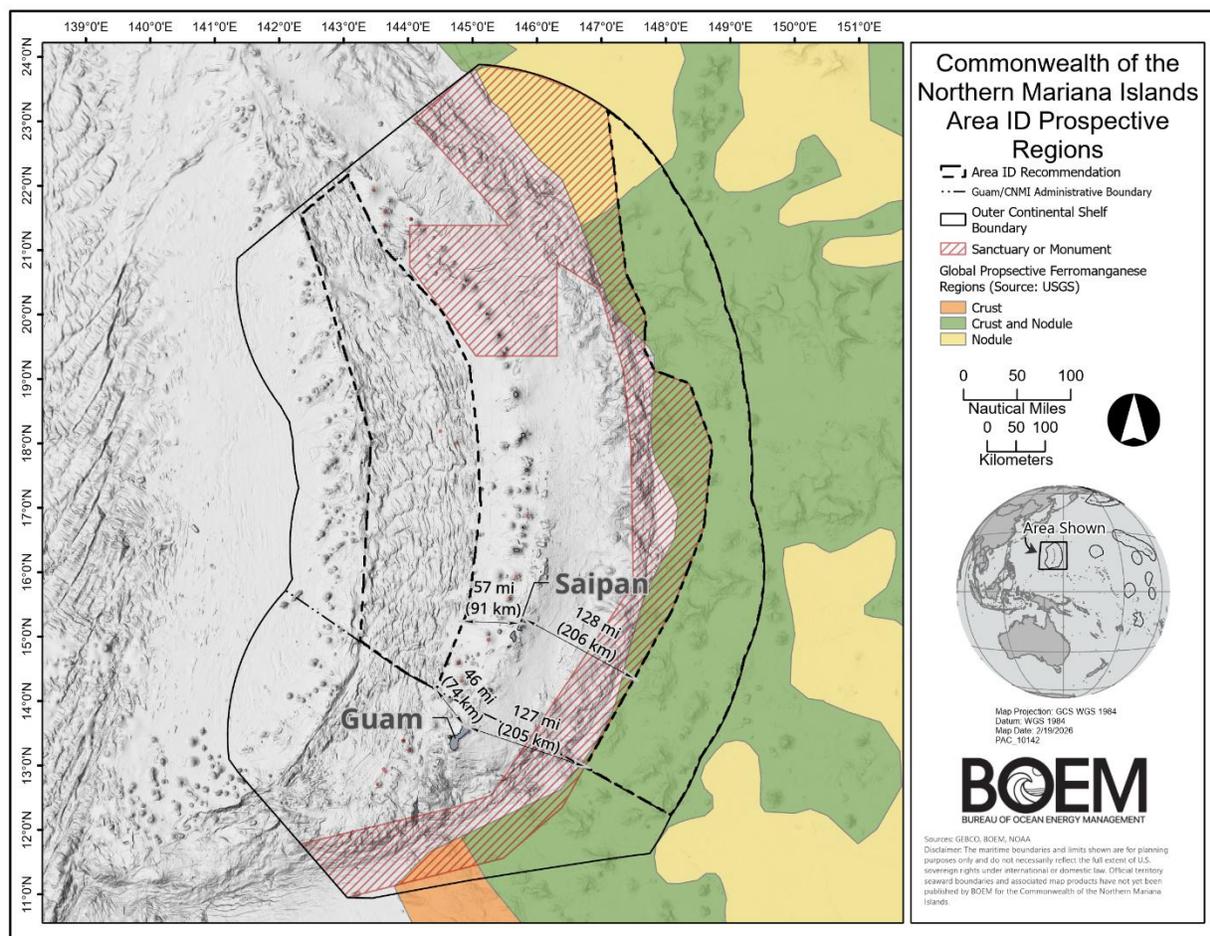


Figure 2: CNMI Marine Minerals Prospective Regions Map. Global prospective ferromanganese regions for crusts are shown in orange, and prospective ferromanganese regions for nodules are shown in yellow, based on the USGS Global Marine Mineral Prospective Regions Map⁶

We recommend that you consider for environmental analysis for potential leasing all available blocks within the CNMI RFI Area plus an additional area to the west of the CNMI, as shown in the CNMI Area ID Map (Figure 3). This Area ID recommendation

⁵ Preliminary activities are bathymetric, geological, geophysical, mapping, and other surveys necessary to develop a comprehensive Delineation, Testing, or Mining Plan. 30 CFR 582.21(d).

⁶ USGS Coastal and Marine Hazards and Resources Program. Global Marine Mineral Prospective Regions Map. January 31, 2025. <https://www.usgs.gov/media/images/global-marine-mineral-prospective-regions-map>.

constitutes an area of approximately 12,750 whole or partial blocks covering approximately 69,101,413 acres. This Area ID recommendation does not commit DOI to future leasing or a specific number of blocks or acreage to be offered at the lease sale stage.

- This Area ID recommendation provides flexibility as BOEM completes the required consultations, environmental analyses, and development of reasonable alternatives pursuant to National Environmental Policy Act (NEPA) and other statutes.
- The environmental analysis, which will be completed before making any decisions to hold a lease sale, will inform potential exclusions and best management practices that can be applied to leases issued in a potential CNMI OCS mineral lease sale.

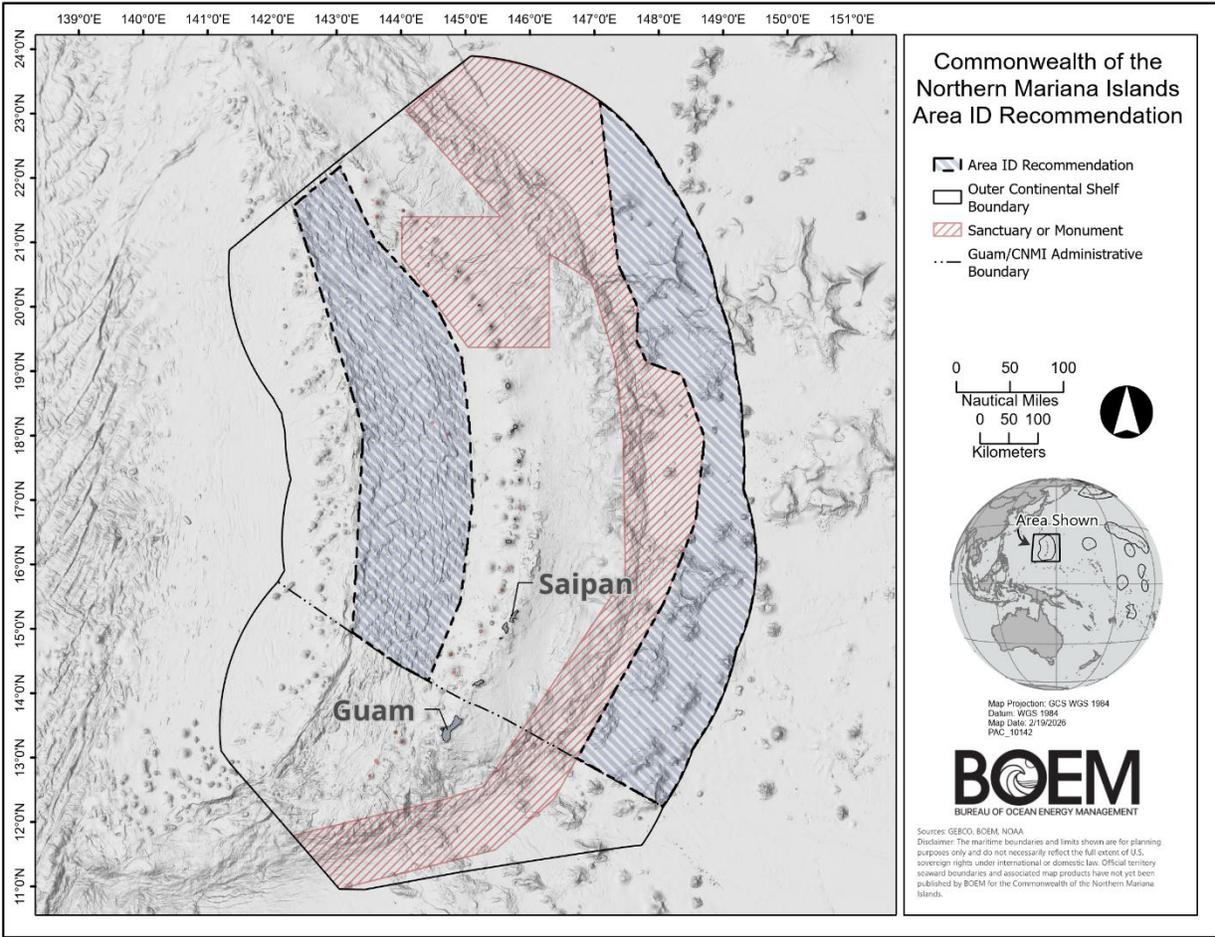


Figure 3: CNMI Area ID Recommendation Map.

V. Decision Options

Please indicate your decision by signing and dating this memorandum and marking appropriately below:

_____ I concur with the recommendation. Please continue with the Area ID announcement.

_____ I have made edits to modify the Area ID recommendation; please finalize and continue with the Area ID announcement.

_____ Please stop preparations for the Area ID announcement.

Matthew N. Giacona
Acting Director
Bureau of Ocean Energy Management

Date

Attachment 1. BOEM CNMI RFI Public Comment Summary Report

*U.S. Department of the Interior
Bureau of Ocean Energy Management*

**BOEM Commercial Leasing for Outer Continental
Shelf Minerals Offshore the Commonwealth of
Northern Mariana Islands
Request for Information and Interest
Public Comment Period**

Docket BOEM-2025-0351

Public Comment Summary Report

February 18, 2026

Prepared by
ICF

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Introduction

The Bureau of Ocean Energy Management (BOEM) published a notice in the Federal Register (FR) on November 12, 2025 (90 FR 50872) requesting information and comments on, and indications of interest in, the leasing of Outer Continental Shelf (OCS) minerals in and around an area offshore the Commonwealth of the Northern Mariana Islands (CNMI). The comment period was extended on December 12, 2025, and closed on January 12, 2026.

Through January 12, 2026, BOEM received a total of 65,585 public comment submissions in response to the request for information (RFI) (Docket BOEM-2025-0351). Of the total 65,585 public submissions, 1,672 have been identified as unique (326 substantive and 1,346 non-substantive); 58,592 copies were associated with 29 form letter campaigns, petitions, and letters with multiple signatories; and 5,321¹ were considered duplicate or not germane. The 326² substantive submissions and form letter campaigns are reflected in today's report.

¹ The total in FDMS (60,316) differs from ICF's total (65,585) because the 5,269 duplicate emails that BOEM identified are not reflected in FDMS.

² Two substantive commenters submitted 17 additional submissions that only contained reference or supporting material with no additional comment text. These comments were flagged for "Cites data, reference or publications" but do not appear in this report as they are not coded to an issue. The total count of substantive comments with text included in this report is 308.

General Comments

A few commenters expressed support for BOEM advancing exploration and evaluation of potential commercial leasing, emphasizing the importance of the U.S. Exclusive Economic Zone (EEZ) and the need for federal oversight.

Many commenters expressed significant concern about irreversible damage to deep sea ecosystems, and highlight potential threats to marine food webs, endangered species, coral reefs, fisheries, noise pollution, light pollution, and toxic releases associated with mining activities. Some commenters cited potential violations of numerous laws including the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), and Coastal Zone Management Act (CZMA).

Many commenters cited the growing global consensus against deep sea mining, noting that approximately 40 organizations in approximately 40 countries, over 65 major corporations, 37 financial institutions, and more than 940 marine scientists and experts have called for a moratorium.

Many commenters called for respect of Indigenous rights and sovereignty in decision-making about ocean resources, emphasizing their deep cultural, spiritual, and ancestral connections to the ocean surrounding the Mariana Islands. Some commenters cited principles such as Free, Prior, and Informed Consent (FPIC) and the United Nations Declaration on the Rights of Indigenous Peoples.

Several commenters requested 30- and 120-day extensions to the comment period.

Background

Concerns Over the Necessity and Efficiency of Deep Sea Mining

Some commenters questioned the RFI's justification for the need for critical minerals, saying:

- Emerging technologies and innovations in recycling are beginning to replace the need for deep sea minerals;
- Deep sea mining can only provide 4 of the 60 USGS-defined critical minerals, all of which are already readily available;
- Terrestrial sources of critical minerals already exist and their extraction is more efficient; and
- Deep sea mining is unnecessary, inefficient, and unsuitable for meeting clean energy goals.

Commenters said that deep sea mining is economically unfeasible due to falling demand and prices for key minerals, rising operational costs, and advances in battery technology that reduce reliance on seabed resources. Another commenter said there is no evidence that it is yet possible to recover seabed nodules at scale.

Some commenters disputed the notion that deep sea mining in the RFI area would be beneficial for national security, reasoning that it would alienate allies who have imposed moratoria on deep sea mining, that military operations depend on predictable ocean conditions, and that deep sea mining could cause ecological problems that lead to resource scarcity and geopolitical instability.

Expanded Definition of "State" Under the Outer Continental Shelf Lands Act (OCSLA), General Legal Authority, and Other Legal Issues

Some commenters reasoned that a national security or a “militarized” framing, based in an executive order, cannot expand BOEM’s authority beyond the activities that OCSLA authorizes. Commenters cited the Supreme Court’s *Loper Bright* decision and the Major Questions doctrine as a rationale to support the position that BOEM is attempting to exceed its narrow statutory authority, and also argued that the 2022 amendments to OCSLA only authorized territorial wind leasing, and that OCSLA is otherwise focused on oil and gas, without authorizing mineral mining.

A commenter wrote that OCSLA requires that BOEM balance mineral development with environmental protection and consider the needs of affected communities. Another commenter remarked that the RFI failed to do this balancing and as such, is arbitrary and capricious. Some commenters remarked that OCSLA does not include a revenue-sharing formula for territorial OCS leasing to guarantee the CNMI a significant share of economic value or a provision to give the CNMI authority or veto over decisions.

A commenter described the inclusion of the CNMI within the definition of “state” as illegitimate and as contrary to the CNMI Covenant. Another commenter said that treating CNMI waters as a U.S. EEZ is to treat it as empty water and to disregard obligations to non-self-governing peoples, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) rights, and Covenant protections.

Historical, Cultural, and Indigenous Rights Considerations

Many commenters wrote that Indigenous people, including those of the CNMI, have a right to FPIC for development projects within their territories, and generally urged BOEM to achieve such consent before moving beyond the RFI stage. Other commenters generally criticized the proposed leasing as a violation of the Covenant, which requires the United States to respect the self-determination of the people of the CNMI.

Geopolitical and International Law Considerations

A commenter stated that there are serious geopolitical risks with the United States pursuing deep sea mining outside the United Nations Convention on the Law of the Sea framework. Other commenters remarked that many other countries have declined to pursue deep sea mining until an international framework can be established or outright banned it, including neighboring island countries. Other commenters generally emphasized the need for governance frameworks for deep sea mining before proceeding with leasing.

Support for Deep Sea Mining Prospects

Some commenters wrote that leasing in the proposed area could mitigate national security risks, provide large quantities of critical minerals, provide revenue for the U.S. Treasury, and support blue economy initiatives.

Coordination and Consultations

Government of the CNMI and U.S. Federal Agencies

Commenters requested that the government of the CNMI, Guam, and local governments be transparently consulted and engaged in any leasing decisions in the RFI area. A commenter remarked that the CNMI Covenant requires that the U.S. and CNMI governments regularly consult on matters affecting their relationship. Some commenters criticized the RFI process, stating that no representatives of the CNMI or Guam governments were included in its drafting or given prior notice of its publication.

One commenter requested that CNMI officials be included in monitoring and oversight of any future mining activities in the area. Another commenter urged that CNMI officials and agencies be included in the development of governance, permitting, revenue-sharing, and regulatory frameworks. Another commenter called for the creation of official CNMI working groups advisory committees.

Some commenters remarked that governments of the CNMI and Guam have the right to initiate a federal-state task force, and that BOEM should honor any such request. One of these commenters added that under OCSLA, BOEM must “accept recommendations” from the CNMI and Guam related to leasing, prior to issuing a final sale.

Indigenous Peoples of the CNMI

Many commenters generally said that BOEM must fully consult with the Indigenous people of the CNMI as part of any leasing process around the CNMI and incorporate their input in any future decision, including by giving significant weight to local concerns, holding public hearings with adequate advance notice and language support, providing culturally appropriate educational resources, and generally assisting local communities in assessing risks and benefits. Some commenters remarked that the Indigenous peoples of the CNMI, the Chamorro and Carolinian peoples, possess information that would be crucial for leasing in the area, including knowledge of ocean systems, marine species behavior, and seasonal patterns.

Some commenters remarked that such consultations are needed to fulfill the FPIC rights of the Indigenous peoples of CNMI, consistent with UNDRIP. Other commenters more generally said that the consultations must be not only informative, but determinative for future leasing plans and respect the agency of the local Indigenous peoples. Other commenters stated that Indigenous governance structures, like the Chamorro Tribe, must be considered sovereign tribal governments with standing in BOEM deliberations.

Other Coordination and Consultations

Some commenters recommended consulting and engaging with other individuals and entities, including local organizations in the CNMI, fishermen, regional fishery and ocean management entities, customary leaders, small businesses, and community elders. A commenter recommended that BOEM ensure all consultation is culturally inclusive, proactive, and accessible.

Commenters requested that this consultation include providing clear summaries of official documents relevant to the leasing process, holding in-person public meetings to listen and to provide information on multiple islands, and providing transparent environmental data. Another commenter urged BOEM to incorporate public consultation mechanisms into all decision-making processes related to deep sea mining.

A commenter requested that BOEM formally convey territorial concerns to the Secretary of the Interior and Congress, particularly that without establishing statutory revenue-sharing, any deep sea mining in the area would be viewed locally as “profoundly inequitable.”

Leasing Process

A few commenters, including a federal agency, said that BOEM should develop a clear leasing schedule to allow for the incorporation of ongoing data collection efforts.

Multiple commenters expressed concern about the governance for seabed mining, saying that the International Seabed Authority (ISA) has delayed decisions on exploitation regulations, the local government in Guam and the CNMI does not have the institutional capacity to oversee seabed mining, and the federal government will need to administer and oversee the project or provide direct financial support to the CNMI for it to be administered locally.

An industry commenter suggested that BOEM adopt a performance-based environmental framework that qualified bidders will be required to commit to meeting. A commenter said that if BOEM proceeds with leasing, they must ensure compliance with Clean Water Act requirements.

A commenter suggested the creation of preservation reference zones that are similar to mined areas in biological, physical, and chemical properties to provide a comparison to show whether changes in mining-impacted areas are natural or caused by the mining activity.

A commenter said that competitive leasing is not appropriate for hard mineral mining claims.

Rental and Royalty Rates

An industry commenter expressed support for BOEM's proposal not to charge rent during the first five years of leases, and encouraged BOEM to suspend rental payments while BOEM reviews testing and exploitation plans. The commenter favored a structure that relies more heavily on royalty payments, similar to the structure employed in the Cook Islands. An industry commenter said that it is premature to set rental rates because there needs to be some reconnaissance work to determine whether there is profitable mineral exploitation in this area.

Industry and other commenters suggested royalty rates:

- No higher than 3 percent, and also incorporate a lower royalty rate of 1.5 percent for the first five years of paying royalties; and
- Based on revenues generated, not on the nodules themselves.

Commenters stated that BOEM should ensure royalty rates provide a fair return to BOEM and to reject low rates proposed by industry of 3 percent or lower. A commenter recommended that robust royalty and compensatory mitigation programs be put in place to offset impacts to ocean resources and the local economy.

Auction Format and Lease Size

An industry commenter expressed support for transparent, competitive bidding mechanisms such as an ascending oral bid auction with low minimum bid levels. A commenter favored a sealed bid format. Another commenter supported transparent financial terms and bid formats for competitive fairness and public benefit.

A commenter suggested leases sizes:

- 75,000 km² leases consistent with other ISA exploration contracts; or
- Minimum areas of 25,000 km² if smaller areas are necessary.

Lease Contraction Clauses

A commenter said that the two-stage lease contraction schedule seems reasonable, but said the contraction parameters should be clearly defined in advance with the first contraction reduced to no more than 25 percent of the original lease area and the second reduced to 5 to 10 percent of the original lease area.

A commenter said that they could not meaningfully comment on the parameters of a lease contraction on the basis that a leasing program involving potentially just one leaseholder is not appropriate or workable.

Liability and Bonding Concerns

A commenter raised concerns about the liability of companies for damages from their actions and recommended that BOEM require all applicants to obtain adequate insurance and provide financial assurance to ensure compliance with lease terms, ensure coverage for environmental damage, and cover decommissioning obligations. A commenter said that since annual rental payments are not required under 30 CFR 581.27, environmentally risky activities can occur with insufficient financial accountability and without any guaranteed financial benefit to the affected territories.

Baseline Data Collection and Environmental Assessment

Many commenters discussed the lack of comprehensive baseline data in the RFI area. A commenter asked BOEM to make available to interested parties the data that has been collected in the RFI area from various research missions. A commenter urged BOEM to complete the Maritime Heritage Study that was terminated in September 2025. Another commenter said that leasing would unlock private-sector capital for high resolution bathymetry and backscatter, habitat classification and biodiversity baselines, and long-term oceanographic and geochemical monitoring. The commenter said that these data sets would materially advance the National Oceanic and Atmospheric Administration's scientific mission.

Commenters said that baseline data are needed to characterize habitats, document species and their interactions, and quantify existing anthropogenic impacts on the local deep sea ecosystem so that impacts from deep sea mining can be prevented and mitigated. Several commenters also discussed the need for ongoing environmental monitoring. A commenter stated that current monitoring technologies are not capable of detecting some of the most ecologically important forms of disturbance such as sediment plumes, shifts in microbial communities, and changes in geochemical gradients.

Survey Technologies and Methodologies

Industry commenters described various technologies for underwater mapping, sampling, positioning, and monitoring, including autonomous underwater vehicles, underwater positioning and communication systems, seabed mapping technology, water column acoustic technology, and inspection and monitoring technology.

RFI Area Information

Commenters stated that BOEMs written description of the RFI Area contains a directional mistake about its location, saying that the RFI states that the area was west of the Mariana Trench, when it is east. Commenters said that the area, which is approximately 35.4 million acres, includes abyssal plains, seamounts, guyots with depths ranging from 1,130 to 7,650 meters. A commenter added that the area consists of 6,502 whole or partial OCS lease blocks.

Several commenters described the region as sitting on ancient oceanic crust and containing prominent geological features. A commenter stated that the RFI area lies within a marine mineral prospective region

for ferromanganese crust and nodule deposits which makes the RFI area suitable for OCS mineral development. The same commenter suggested comprehensive exclusion of seafloor sulfide and cobalt-rich crust seabed mineral resources from consideration for future mining leases and discussed the invasive effects mining would have on the area.

Potential Hazards on the Seabed in and Around the RFI Area

Many commenters said that there is insufficient baseline geological, ecological, and cultural data, with some commenters citing the termination of BOEM's maritime heritage study. Commenters also discussed active volcanic conditions which make the region unpredictable and are potential hazards to fragile ecosystems, fisheries, and biodiversity. Commenters added that underwater cultural heritage, including shipwrecks, plane wrecks, and ancestral sites, remain largely undocumented and could be irreversibly damaged by mining. Some commenters expressed concern about the presence of human remains in submerged aircraft from World War II.

Many commenters expressed concern that BOEM lacks the foundational scientific, archaeological, and ecological data needed to evaluate potential mining impacts.

Other Uses of the RFI Area

Commenters stated that other uses of the RFI area include shipping routes, tourism and recreation, and commercial and recreational fishing. Additional uses include submarine telecommunication and scientific research in marine science.

Impacts on Ecosystems and Species

Mariana Trench National Monument and Other Areas of Concern

Several commenters expressed concern about effects on the Mariana Trench National Monument from deep sea mining in the area due to the rich biodiversity, important hydrothermal vents, seamount habitats, and the monument's importance to food chains, fishing security, diverse species, food webs, and more. A few commenters referenced specific features of the Monument, including the submerged caldera at Maug, the waters around Asuncion and Farallon de Pajaros, and Sirena Deep as hotspots of complexity and diversity. Some commenters expressed concern that the proposed mining actions would violate proclamations that established the Monument and regulations governing the preservation and management of the area.

Water Quality

Several commenters described sediment plumes as detrimental to water quality by disturbing and redistributing sediment on the seafloor and smothering benthic communities while mining and second, by discharging any unwanted mud, silt, and debris from the above-surface mining vessel. Commenters said that, with ocean currents, sediment discharge and plumes can travel hundreds of miles or kilometers. Several commenters said that mining could release heavy metals and toxins into the water that will bioaccumulate in the tissues of pelagic fish consumed by humans.

Pelagic and Benthic Communities

A commenter shared concerns over the health of different phytoplankton and zooplankton species that live in the pelagic habitats near the Mariana Trench, stating that plankton form the base of the food web, with many marine species feeding on them. A commenter stated that deep sea mining activities could

disrupt the migratory pathways and alter foraging behaviors of pelagic species like tuna, marine mammals, and turtles.

Commenters wrote that the vast majority of the seafloor has yet to be mapped, but the deep sea environment, and seamounts in particular, is known to host extraordinary biodiversity characterized by low population densities and slow recovery rates. Commenters also said there is a major gap in knowledge regarding the species which inhabit the abyssal, bathypelagic, and mesopelagic zones. A commenter said that there is extensive benthic microbial data from many samples in the western part of the CNMI region, but not in the RFI area.

Several commenters discussed the biodiversity and sensitivity of benthic communities, including endemic and rare species, as well as countless undescribed and undiscovered benthic species. Of particular concern are seamounts and hydrothermal vents, which host a great diversity of species that also differs across spatial scales. Commenters stated that the CNMI EEZ deep sea areas are home to biological communities that are distinct from other regions in the Pacific. Citing the length of recovery and growth time in benthic communities and habitats, several commenters remarked that the impacts from deep sea mining will be essentially permanent.

Commenters likewise described the ecosystem services that nodules offer benthic communities. A commenter said that cobalt-rich crusts host nursery, foraging, and migration habitats essential to fisheries that support CNMI food security and cultural practice, while another commenter cited research showing that deep sea organisms depend on polymetallic nodules to survive.

Impact Producing Factors (IPFs)

Several commenters expressed concern about noise, light, and chemical/waste pollution from deep sea mining activities and their potential to destroy deep sea ecosystems and pelagic species, sharks, whales, and dolphins, the seafloor, and more. Several commenters discussed these impacts as being cumulative stressors and asserted that ecosystems and marine life affected by these stressors would be slow to recover, if at all.

Some commenters added that migratory species such as sea turtles and whales would be particularly vulnerable to noise and light pollution. Some commenters asserted that noise pollution interferes with marine animal communication, navigation, foraging, and reproduction, and can even cause behavioral changes among certain species, especially marine mammals and cetaceans.

Some commenters asserted that deep sea species are accustomed to stable and dark, quiet environments and these combined effects of disturbance might lead to unpredictable impacts. A couple of commenters added that light from deep sea mining will affect marine wildlife from the seafloor to the surface, and can even disorient birds and attract species such as squids. A few commenters also discussed impacts from increased vessel traffic in and around the lease area, including vessel strikes on marine species.

Fish and Essential Fish Habitat

Several commenters expressed concern about the impact of mining activities on fish populations and species, including those crucial to international fisheries and stocks important to food security, including tuna, bottomfish, and other pelagic fish. Commenters discussed effects such as changes in behavior and migration patterns, stunted growth, reduced forage, reproductive outputs, and more.

A commenter expressed concern about the effect of sediment plumes on certain ray populations, including the potential to cause harm while filter feeding, harm to deep-diving reef mantas, and generally the presence of understudied and endangered ray species within and around the leasing area.

Commenters described the essential fish habitat (EFH) for Pacific pelagic fisheries as the marine water column from the surface to a depth of 1,000 meters, and from the shoreline to the outer boundary of the EEZ is for juveniles and adults, while the surface to 200 meters of depth is designated EFH for egg/larval stages. They added that for the bottomfish fishery, the water column from the surface to a depth of 400 meters is designated EFH for all life stages.

Birds, Sea Turtles, and Marine Mammals

A couple of commenters expressed concern about the effects on seabirds, including impacts to foraging grounds, prey availability such as forage fish, transfer of invasive species into the CNMI, the introduction of artificial light and noise, and more.

A commenter stated that green sea turtle and hawksbill sea turtle species occur within the proposed leasing area, and asserted that deep sea mining could affect them through sediment plumes, noise, and light.

Several commenters expressed concern about noise and sediment plume impacts, as well as vessel traffic and ship strikes, to marine mammals like humpback, beaked, and sperm whales, as well as numerous species of dolphins. Commenters cited numerous species that occur within the Mariana Archipelago and surrounding areas.

Environmental Sensitivity and Marine Productivity

Several commenters generally discussed the relative environmental sensitivity and marine productivity in and around the CNMI RFI, including but not limited to rich and biodiverse ecosystems, abundance of distinct species, some of which are endangered, and important national monuments, such as the Mariana Trench Marine National Monument. Some commenters asserted that scientists are still discovering new species, ecosystems, and deep sea features within the RFI area, and that many species there may still be unknown to science.

Commenters expressed concern about the potential loss of biodiversity from deep sea mining and extremely slow recovery timelines for deep sea ecosystems, including irreversible long-term damage. A commenter cited recent trials using a commercial nodule collector showing biodiversity loss with the type of equipment that would be used for the proposed mining operations. A commenter cited in particular the biodiversity of intertidal zones, as well as Coral and Seagrass Areas of Special Significance within the RFI.

Several commenters discussed the function of deep sea life and ecosystems in dark oxygen and microbial production, nutrient recycling, and carbon sequestration processes, with some calling the deep ocean the “largest carbon sink on Earth.” A couple of commenters expressed concern that vessels and equipment used to support mineral extraction might have the potential to bring invasive species into the RFI area.

Cross Boundary Impacts

Several commenters expressed concern about the potential for transboundary impacts from deep sea mining activities across the CNMI and into sister islands like Guam, Micronesia, and Palau, including

spillover effects from oil spills, drilling discharge, and sediment plumes, as well as increased vessel traffic and geochemical and water temperature alteration.

Mitigation

Some commenters generally discussed the need to establish mitigation measures and response and management practices for areas affected by deep sea mining. Commenters also expressed concern about the lack of proven methodologies to mitigate environmental impacts and the challenges of restoring or simply managing and overseeing sites affected by deep sea mining.

Commenters proposed certain mitigation measures, including plume elimination, selective harvesting requirements, third-party monitoring, and spatial restrictions. A few commenters urged BOEM to establish avoidance areas and protective buffers (such as a 5-mile “no-mining” zone) for culturally significant and sensitive areas. A commenter urged BOEM to require that contractors establish a Hazard Disaster Mitigation Reserve Fund that would cover response, monitoring, and remediation.

Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), National Environmental Policy Act (NEPA), Coastal Zone Management Act (CZMA), National Historic Preservation Act (NHPA)

Commenters generally discussed the intent and need of the ESA and the incidence of endangered species in and around the waters of the CNMI and Guam waters, including marine mammals, sea turtles, sharks, and other species. A commenter asserted that deep sea mining in the RFI area would require consultation with NOAA’s National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) under the ESA due to the presence of numerous ESA-protected species, federally protected critical habitat for ESA-listed species, and likely harm to ESA-listed species from deep sea mining.

A commenter asserted that the proposed deep sea mining in the project area would violate the MMPA, unless BOEM were to specifically obtain take authorization.

Commenters expressed concern that deep sea mining and OCS mineral leasing would likely conflict with the goals of Guam’s Coastal Zone Management Program, which protects marine environments and cultural heritage. A few commenters stated that such activities could present a legal barrier under the CZMA, which requires federal actions affecting the coastal zone to be consistent with approved territorial programs.

A couple of commenters asserted that the proposed program would trigger Section 106 of the NHPA, where BOEM is required to consider the effects of its actions on historic properties and to consult with relevant stakeholders. Some commenters added that consultation with Guam’s historic preservation office and other Chamorro and Refaluwasch parties must occur before any issuing of leases, and that consultation must be coordinated with NEPA review.

Cultural and Socioeconomic Information

Subsistence and Commercial Fisheries

Commenters expressed concerns about impacts to commercial and subsistence fisheries from proposed deep sea mining activities. Commenters identified multiple potential impact pathways to fisheries from deep sea mining, such as sediment plumes, noise and light pollution, vessel traffic, and bioaccumulation

of heavy metals like manganese, nickel, copper, and cobalt. A few commenters said that deep sea mining would threaten commercially important fish species, including the \$5.5 billion Pacific tuna industry.

Commenters described the different types of fishing methods and gear employed in the CNMI including handlines, long lines, bottom fishing methods, nets, and traps. One commenter remarked that seasonal use patterns are critical and that many fisheries rely on predictable migration routes and spawning periods, which could be disrupted by industrial activity. One commenter said that while no Indigenous fishing is currently being conducted in the RFI area, the CNMI is interested in establishing a longline fleet, which could introduce spatial conflicts with the proposed lease area. The commenter said that if the fleet were to be established, it would most likely employ pelagic longline methods.

Commenters discussed that fisheries in the CNMI and Guam are vital for food security, food sovereignty, and economic stability, with many residents relying on subsistence fishing to feed their families. A few commenters remarked that approximately 96 percent of CNMI residents who fish do so for subsistence purposes, with an estimated 450,000 pounds of coastal subsistence catch valued at nearly one million dollars annually. Several commenters expressed concerns that deep sea mining activities would contaminate seafood, compounding consumption hazards in both local and global seafood supply chains. A few commenters expressed concerns that depleted or contaminated fish stocks would increase the region's dependence on expensive and processed imported foods.

Commenters said that the RFI lacks clear recommendations for reducing conflicts between mining and fishing operations, particularly for small-scale and Indigenous fishers. Commenters questioned whether there would be compensation or remediation if fisheries collapse or livelihoods are affected by mining activities.

Impacts on Other Industries

Several commenters expressed concerns over the impact that deep sea mining would have on tourism and recreation in the CNMI and Guam, including interfering with activities like whale watching, diving, fishing tours, and snorkeling. A few commenters specifically said that depletion of coral reefs would threaten the area's tourism pull while others described tourism as a primary, consistent form of revenue for the area, supporting local economic independence and resilience.

Benefit Sharing and Statutory Protections

Several commenters expressed concerns that current proposals do not guarantee local job creation, investment in CNMI infrastructure, or meaningful benefit sharing frameworks with Guam or the CNMI. More specifically, a few commenters expressed concern that under existing statutory frameworks, royalties, rents, and bonus bids from deep sea mining would go directly to the U.S. Treasury.

Cultural Concerns and Information on Indigenous Peoples

Many commenters remarked that the ocean is not only a resource but a fundamental part of Chamorro and Refaluwasch identity and cultural heritage. Commenters described the ocean as an ancestor, provider, teacher, and living entity that connects Indigenous communities across generations and islands. Commenters stated that Indigenous ways of life are deeply intertwined with the ocean through traditional practices, legends, and spiritual beliefs.

Many commenters described the seafaring traditions of Indigenous communities, saying that the proposed leasing area interferes with traditional navigation routes and wayfaring techniques. Commenters likewise

expressed concern that the environmental impacts of deep sea mining would compromise their ability to engage in traditional medicine and healing practices along with culturally significant ceremonies. Many commenters also described the role of fishing in culture and subsistence, then expressing concerns that deep sea mining would interfere with Indigenous people's fishing-oriented traditions.

Commenters expressed concern that mining would destroy underwater cultural heritage sites including shipwrecks, airplane wrecks, submerged landscapes, and archaeological materials that are largely unrecorded and irreplaceable. Several commenters also shared that seamounts and trenches hold cosmological importance and appear in oral histories, creation narratives, and place-based genealogies of Indigenous peoples.