doi:10.1017/aju.2024.8

OWNERSHIP IN THE DEEP SEAS

UNDERMINING BY MINING? DEEP SEABED MINING IN LIGHT OF INTERNATIONAL MARINE ENVIRONMENTAL LAW

Pradeep Singh and Aline Jaeckel***

Some forty years ago, the UN Convention on the Law of the Sea 1982 (UNCLOS) created an unusual regime for states to collectively manage common natural resources on the international seabed beyond national jurisdiction (known as "the Area") through the International Seabed Authority (ISA). In the intervening years, scientists have increasingly been warning about the serious environmental risks of mining seabed minerals. At this pivotal point in time, when states are negotiating whether or not to allow seabed mining, this essay explores the risk of *undermining by mining*, that is, contravening international marine environmental law and the obligations and responsibilities of states thereunder by allowing commercial mining activities to commence. We argue that allowing seabed mining in the Area at this juncture, when so much about the deep ocean remains unknown, would risk frustrating a host of measures, achievements, and progress to enhance marine environmental protection, particularly in areas beyond national jurisdiction. We begin with an overview of the ISA and its work to date, before discussing potential interactions between seabed mining and marine environmental law and policies, with a particular focus on the new ocean biodiversity agreement. We conclude by urging states to take cognizance of their overarching duty to protect and preserve the marine environment and ensure that all decisions taken with respect to seabed mining are consistent with their obligations and responsibilities under international law.

Seabed Mining and the ISA

The Area and its minerals have been legally designated as the common heritage of humankind under Article 136 of UNCLOS. All mineral exploration and exploitation activities in the Area is regulated and controlled by the ISA,[1] which is mandated to take all necessary measures to ensure the effective protection of the marine environment from any harmful effects arising from mining.[2] The ISA is responsible for acting on behalf of humankind[3] and any exploration and exploitation activities it permits must be carried out "for the benefit of humankind as a whole."[4]

The negotiations for the seabed mining regime from the 1970s to 1990s were conducted at a time of genuine ignorance as to the environmental impacts and an overestimation of the economic potential of seabed mining. The

* *Fellow, Research Institute for Sustainability (RIFS), Helmholtz Centre Potsdam, Germany.*

** *Associate Professor, Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, Australia.* *The authors gratefully acknowledge excellent research assistance by Caitlin Turner.*

[1] United Nations Convention on the Law of the Sea, Art. 157(1), 1833 UNTS 397, 21 ILM 1261 (1982).

[2] *Id.* Art. 145.

[3] *Id.* Art. 137(2).

[4] *Id.* Art. 140(1).

negotiations were guided by the promise that seabed mining would generate significant profits for humankind, which today appears unlikely.[5] Likewise, when UNCLOS was adopted in 1982, the deep ocean remained poorly understood, scientifically speaking, after having been believed to be devoid of life for much of human history. In the past forty years, scientists have confirmed the opposite by identifying biodiversity hotspots and numerous ecosystem services we derive from the deep ocean. In addition, international law is increasingly cognizant of the long-standing cultural significance of the deep ocean, as explored in other essays in this *Unbound* symposium. At present, scientific evidence convincingly points to the significant and irreversible environmental risks of seabed mining and to the activity exacerbating inequities by channeling financial benefits to small groups of mining operators while leaving the public to shoulder the burdens.[6]

ISA member states have an opportunity to avoid such risks, through regulating mineral mining. UNCLOS imposes a number of requirements on ISA member states, including giving effect to the common heritage of humankind principle, ensuring an equitable distribution of benefits to humankind, developing an equitable mechanism for profit sharing, taking necessary measures to protect the marine environment from the harmful effects of mining, securing compliance, and taking enforcement action. ISA member states are bound by these specific principles governing the Area[7] and UNCLOS requires states to implement their collective responsibilities through the promulgation of the Mining Code.

In addition to these obligations under Part XI of UNCLOS, member states are equally bound by other provisions of UNCLOS, including the responsibility to protect and preserve the marine environment under Article 192, which is an *erga omnes* obligation (i.e., an obligation that states owe to each other and the fulfillment of which all states have a legal interest in because their subject matter is of importance to the international community). States are also bound by the obligation to do "no harm" (i.e., to reduce harm from activities at sea and prevent transboundary effects) under Article 194, and to cooperate on the protection and preservation of the marine environment pursuant to Article 197. These obligations sit alongside other relevant international obligations under international human rights law, Indigenous rights law, and cultural heritage law, all of which are pertinent and need to be considered when negotiating the Mining Code at the ISA.

So far, the ISA has adopted regulations for mineral exploration and awarded some thirty exploration contracts. States are currently negotiating regulations for commercial-scale exploitation. Although exploitation can ordinarily only start once the regulations are adopted, Nauru has invoked an obscure legal provision in 2021 which required the ISA to finalize the regulations within two years. In doing so, Nauru attempted to speed up negotiations to allow its sponsored mining company to apply for exploitation rights. Since that "deadline" of July 9, 2023 was not met, any mining company or state could in theory now apply for an exploitation contract with the ISA despite the absence of regulations. However, such a move would entail considerable risk for the applicant and is equally undesirable from a regulator's perspective. Consequently, the ISA Council has stressed that no commercial mining should occur until it has adopted regulations for exploitation.[8] Meanwhile, since the invocation of the two-year-rule, an increasing number of states have called for a moratorium or delay on mining. This demonstrates that member states are taking their responsibilities under UNCLOS seriously.

[5] Daniel Wilde, Hannah Lily, Neil Craik & Anindita Chakraborty, *Equitable Sharing of Deep-Sea Mining Benefits: More Questions than Answers*, 151 Marine Pol'y 105572 (2023).

[6] Rashid Sumaila et al., *To Engage in Deep-Sea Mining or Not to Engage: What Do Full Net Cost Analyses Tell Us?*, 2 NPJ Ocean Sustainability 19 (2023).

[7] *See* UNCLOS, *supra* note 1, Pt. XI, Sec. 2, which is entitled "Principles Governing the Area."

[8] *See* ISBA/28/C/24 and ISBA/28/C/25.

https://doi.org/10.1017/aju.2024.8 Published online by Cambridge University Press

Interaction with Marine Conservation Efforts

The decision whether, and under what conditions, to mine the deep seafloor does not occur in a vacuum. Indeed, as recognized under UNCLOS, all ocean issues are "interrelated and need to be considered as a whole."[9] While governance of our ocean commons is notoriously fragmented, most of the 168 member states of the ISA are bound by a raft of international legal obligations beyond UNCLOS. These obligations are binding in their own right. Their importance is indeed recognized in UNCLOS Article 237 in relation to other environmental law regimes, and these obligations are relevant to any interpretation of UNCLOS.[10]

Examples of relevant obligations includes the UN Convention on Biological Diversity, which obligates states to conserve biodiversity and prevent species loss, and the Fish Stocks Agreement, which requires states to "maintain the integrity of marine ecosystems." More recently, 196 states committed to protecting 30 percent of all marine areas by 2030, under the Kunming-Montreal Global Biodiversity Framework.[11] Seabed mining could undermine these global obligations and commitments, as well as environmental commitments of ISA member states who are parties to regional ocean governance organizations or regional fisheries arrangements, whereby seabed mining could adversely risk fisheries interests that fall under the jurisdiction of such bodies.

Indeed, many of these legal obligations and political commitments have been transposed into domestic (in the case of the European Union, regional) laws and policies. These will be difficult, if not impossible, to meet if seabed mining were to commence and destroy large swathes of our ocean. Scientists have warned that seabed mining will inevitably cause significant biodiversity loss and other environmental harm.[12] In recognizing this stark reality, the Conference of the Parties to the Convention on Biological Diversity has called for a moratorium on seabed mining and encouraged its contracting parties to pursue a moratorium at the ISA until seabed mining impacts and risks are better understood and comprehensively regulated.[13] A similar call has been issued by states, scientists,[14] Indigenous leaders,[15] major businesses, and fishing interest groups.[16]

Although the extent of these and other risks remain unclear because of existing scientific uncertainties, the dangers of deep seabed mining activities are significant enough to invoke the precautionary principle. The ISA and its member states are required to implement the precautionary principle,[17] which imposes an obligation to err on the side of caution and minimize, and where necessary prevent or postpone, an activity until sufficient baseline information exist and impacts can be adequately assessed.[18]

Similarly, states are also constrained by their global political commitments to ocean protection, as exemplified in the UN Decade for Ocean Science 2021–2030 and the UN Agenda 2030. Achieving Sustainable Development Goal 14 (titled "life below water") of Agenda 2030 to "conserve and sustainably use the oceans," for example, requires an integrated approach to ocean governance. However, progress toward Goal 14 has been very

[9] UNCLOS, *supra* note 1, pmbl.

[10] Vienna Convention on the Law of Treaties, Art. 31(3), May 23, 1969, 1155 UNTS 331.

[11] Kunming-Montreal Global Biodiversity Framework, at 9, Target 3.

[12] Holly J. Niner et al., *Deep-Sea Mining with No Net Loss of Biodiversity: An Impossible Aim*, 5 Frontiers Marine Sci. 53 (2018).

[13] Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity, para. 16, CBD/COP/15/24 (Dec. 19, 2022).

[14] *See* *Marine Expert Statement Calling for a Pause to Deep-Sea Mining*.

[15] Blue Climate Initiative, *Indigenous Voices for a Ban on Deep Sea Mining*.

[16] *See* Deep Sea Conservation Coalition, *Momentum for a Moratorium*.

[17] *See, e.g.*, ISBA/19/C/17, Reg. 31.

[18] Robert Makgill, Aline Jaeckel & Keith MacMaster, *Implementing the Precautionary Approach for Seabed Mining: A Review of State Practice*, *in* Routledge Handbook of Deep–Sea Mining & the Law of the Sea 73 (Virginie Tassin Campanella ed., 2024).

https://doi.org/10.1017/aju.2024.8 Published online by Cambridge University Press

slow,[19] and has been described as a "round and inclusive failure."[20] Given its potentially serious environmental impacts, seabed mining would further undermine any hope of meeting Goal 14. Indeed, with the current lack of scientific knowledge and in the absence of legitimacy for seabed mining activities, it may be reckless to label seabed mining as "sustainable" or to brand it as capable of advancing Agenda 2030 and the Sustainable Development Goals.

In the Spotlight: Seabed Mining and the New Marine Biodiversity (BBNJ) Agreement

As the previous section illustrates, seabed mining could negatively affect a range of legal and policy commitments. What is particularly noteworthy is how seabed mining could undermine the objectives of a major new treaty, which is the culmination of over twenty years of work, and which was finally adopted in 2023. Once it enters into force, the Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement) seeks to turn a corner in the decline in ocean health we have had to witness over the preceding decades. The BBNJ Agreement recognizes "the need to address, in a coherent and cooperative manner, biological diversity loss and degradation of ecosystems of the ocean."[21] Specifically, the BBNJ Agreement offers a procedural and institutional framework for: (1) creating marine protected areas and other area-based management tools on the high seas and the Area; (2) conducting environmental impact assessments for any activity that "may cause substantial pollution of or significant and harmful changes to the marine environment";[22] (3) access and benefit sharing of marine genetic resources; and (4) capacity building and technology transfer. These four packages together are designed to maintain and restore ecosystem integrity in our ocean.[23]

The question is, how would this objective be affected if the ISA were to green-light mineral mining on an industrial scale in the Area? Given the multitude of warnings expressed by marine scientists, it is clear that allowing seabed mining to go ahead with present technology and extraction methods, which are highly likely to cause significant and widespread environmental harm, would undermine the objectives of the BBNJ Agreement. Moreover, deciding to mine the seafloor would inadvertently undermine other uses of the deep ocean, such as bioprospecting for marine genetic resources, which is regulated by the BBNJ Agreement, and which has proven invaluable in medical research and the development of pharmaceutical products. Marine genetic resources occur in similar areas to some seafloor minerals but may be destroyed or significantly impacted by mining in their habitat. This sort of user or "land-use" conflict carries significant consequences for how we manage the deep ocean, what benefits humans derive from it, and who gets to decide these questions.

The BBNJ Agreement applies to both the high seas and the Area. It, thus, spatially overlaps with the jurisdiction of the ISA. The BBNJ Agreement tries to carefully delineate its mandate in relation to existing governance regimes. Article 5 notes that the Agreement "shall be interpreted and applied in a manner that does not undermine" existing governance regimes and facilitate "coherence and coordination" between them.[24] Although the BBNJ Agreement cannot place direct obligations on the ISA, it does require states to "promote, as appropriate, the objectives" of the BBNJ Agreement within other governance bodies, such as the ISA.[25] Herein lies the challenge: seabed mining

[19] Sustainable Development Report 2023, at 533.

[20] Mialy Andriamahefazafy et al., *Sustainable Development Goal 14: To What Degree Have We Achieved the 2020 Targets for Our Oceans?*, 227 Ocean & Coastal Mgmt. 106273 (2022).

[21] Agreement Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction, preambular para. 3, UN Doc. A/77/L.82 (July 10, 2023).

[22] *Id.* Art. 28(2).

[23] *Id.* Art. 7(h).

[24] *Id.* Art. 5(2).

[25] *Id.* Art. 8(2).

https://doi.org/10.1017/aju.2024.8 Published online by Cambridge University Press

could directly undermine the objectives of the BBNJ Agreement. The BBNJ Agreement cannot pose direct obligations on the ISA, but the decisions about seabed mining will have a major impact on states' ability to meet their obligations and objectives under the BBNJ Agreement. Moreover, ISA member states who are also parties to the BBNJ Agreement would have to ensure that their actions at the ISA do not undo conservation measures taken under the BBNJ Agreement. Indeed, this has been stressed by several delegations during ISA negotiations in 2023. Belgium went as far as proposing that seabed mining should not be allowed until the target of protecting thirty percent of the ocean (including in areas beyond national jurisdiction) is achieved.[26]

To ensure states comply with their obligations and responsibilities under both regimes, the BBNJ Agreement and the ISA regime with its Mining Code should be interpreted harmoniously. One such interpretation was delivered in a 2023 legal opinion by a group of barristers who argued that "international law requires States to cooperate to ensure that [mineral] exploitation of the Area does not proceed unless it can be carried out without risking significant harm to the marine environment."[27] The barristers concluded that a moratorium on seabed mining "is not only consistent with UNCLOS, it is actually required by it."[28] It must be highlighted that allowing mining through the ISA in spite of the potential dangers may expose member states to collective liability, given the *erga omnes* nature of the obligation to protect the marine environment in areas beyond national jurisdiction.

Indeed, one could go further, beyond UNCLOS, and contend that a moratorium on seabed mining is necessary for states to meet their obligations and responsibilities under international marine environmental law. In addition, states that support the imminent commencement of seabed mining may face domestic legal challenges on the grounds of incompatibility with their legal obligations under marine environmental law as incorporated into domestic law. Recent cases involving climate litigation brought by civil society, in which courts have required governments to set more ambitious binding climate targets to meet their international obligations, may serve as a precedent for such possible instances of future ocean litigation.[29] Lastly, states could also face political repercussions or reputational harm for supporting seabed mining despite being conscious of its significant environmental risks and current incompatibility with cultural and human rights obligations under international law, as explored in other essays in this *Unbound* symposium. For these reasons, we argue that states are well-advised to refrain from supporting seabed mining for the time being and instead prioritize their existing international obligations relating to ocean health.

Conclusion

As we have sought to demonstrate, there are many tensions between seabed mining and international marine environmental law. While the drafters of UNCLOS could not have foreseen this, current scientific knowledge suggests that seabed mining could single-handedly threaten the growing global commitment to protect our ocean commons as well as risk adversely affecting just about all other uses of the marine environment, from fishing to submarine cables, bioprospecting, and cultural heritage. It is worth recalling here that the decisionmakers at all the relevant fora are states, and they are, largely speaking, the same states. In other words, if one regime overrides the other, that may also reflect a contradiction in policies and ambition within individual governments. For an ocean, biodiversity and climate emergency, governments cannot afford to be schizophrenic and take inconsistent approaches in different global fora.

[26] *See* Statement by Belgium at the ISA Assembly meeting in July 2023.

[27] Zachary Douglas et al., *Legal Opinion in the Matter of a Proposed Moratorium or Precautionary Pause on Deep-Sea Mining Beyond National Jurisdiction*, para. 135 (2023).

[28] *Id.*, para. 136.

[29] Jacqueline Peel & Jolene Lin, *Transnational Climate Litigation: The Contribution of the Global South*, 113 AJIL 679, 680 (2019).

https://doi.org/10.1017/aju.2024.8 Published online by Cambridge University Press

Until and unless the member states of the ISA are convinced that deep seabed mining activities can be conducted in compliance with their international legal obligations, backed by science, and deliver net benefit to humankind as a whole, they should refrain from allowing extraction activities to proceed. Failure to do so might result in states finding themselves in violation of their responsibilities under international law. Simultaneously, states should ensure that decisions taken at the ISA do not contradict or weaken ocean conservation efforts undertaken elsewhere. *To mine or to not undermine*, that is the question that the ISA member states need to convincingly answer.

https://doi.org/10.1017/aju.2024.8 Published online by Cambridge University Press