EXTRACTING ENVIRONMENTAL HARM FROM DEEP SEABED MINING

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SUMMARY

The Metals Company (TMC), sponsored by the Republic of Nauru, has made public its intention to be the first company to exploit polymetallic nodules, which contain minerals needed for electric batteries, from the deep ocean's seabed. Nongovernmental organizations and national governments have objected to these proposed actions, with many calling for an outright ban. This Article offers a case study evaluating the parties' respective claims in favor of, and in opposition to, permitting the proposed mining activities under the current legal framework. Specifically, it evaluates the validity of the two-year treaty deadline; protection of the marine environment; and sharing of knowledge and resources. It concludes by arguing that mining activities should not proceed unless and until regulations are in place that ensure the protection of the marine environment and benefit humankind as a whole.

As the world transitions away from fossil fuels, efforts to extract minerals from the deep seabed are expected to increase.[1] One of the most abundant untapped sources for these raw materials is the ocean floor two-and-a-half miles beneath the surface of the Pacific Ocean.[2] Recently, and as more fully described below, the Metals Company (TMC), whose activities are sponsored by the Republic of Nauru, has made public its intention to be the first company to successfully exploit at scale polymetallic nodules, minerals needed to make batteries for electric vehicles, from the deep ocean's seabed.[3]

TMC's ambition is not without opposition. Numerous nongovernmental organizations (NGOs) and national governments have objected to TMC's proposed actions, with many calling for an outright ban on deep seabed mining. However, the secretary-general of the International Seabed Authority (ISA), the organization responsible for regulating mining activities on the deep seabed, made the ISA's position clear when he stated that, "[a]t a time when some appear to want to enter into an existential debate about whether deep sea mining should be permitted to go ahead or not, we do well to remember that the international community passed that point already many years ago."[4]

Despite the ISA's assertion to the contrary, many NGOs and governments are currently calling for a moratorium, or at least a pause, on deep seabed mining unless and until final rules and regulations are adopted ensuring such mining is done in a way that protects biodiversity and the marine environment. As it stands, and as this Article will discuss, international environmental law is insufficient to ensure that deep sea mining will be done in a safe and predictable manner that protects the marine environment.

Notwithstanding the international community's concerns, Nauru has triggered the "two-year rule," expressing its intent to begin jointly exploiting the deep seabed with TMC, even if the ISA has not finalized the regulations

1. *See*, *e.g.*, International Energy Agency, World Energy Outlook Special Report: The Role of Critical Minerals in Clean Energy Transitions (2022), https://iea.blob.core.windows.net/assets/ffd2a83b-8c30-4e9d-980a-52b6d9a86fdc/TheRoleofCriticalMineralsinCleanEnergyTransitions.pdf.
2. *See*, *e.g.*, Eric Lipton, *Secret Data, Tiny Islands, and a Quest for Treasure on the Ocean Floor*, N.Y. Times (Aug. 30, 2022), https://www.nytimes.com/2022/08/29/world/deep-sea-mining.html.
3. *See id*.
4. Michael Lodge, ISA Secretary-General, Statement at the Workshop on the Draft Regulations for the Exploitation of Mineral Resources in the Area: Policy, Legal, and Institutional Considerations (Feb. 13, 2018), https://www.isa.org.jm/wp-content/uploads/2022/07/12-13_February_2018.pdf.

governing said exploitation.[5] Nauru recently reaffirmed its commitment in March 2023, asserting that if the ISA had not yet finalized exploitation regulations by July 9, 2023, then the ISA should "nonetheless consider and provisionally approve" its mining application once submitted.[6] Multiple national governments expressed their opposition to Nauru's and TMC's proposed mining activity.[7]

The ISA did not finalize exploitation regulations by July 9, and instead will focus on finalizing them before the end of 2025.[8] However, while the ISA has recently stated that commercial exploitation should not be "carried out in the absence of" final rules and regulations,[9] in the interim, the possibility of Nauru applying for a provisional mining license remains present.[10]

This Article will engage in a case study of the TMC controversy for the purpose of evaluating the parties' respective claims in favor of, and in opposition to, permitting Nauru and TMC to proceed with the proposed mining activities under the current legal framework. In evaluating such claims, it will assess the claims' likelihood of success on the merits, which is likely to impact the parties' positions in potential negotiations regarding the issues.

Specifically, Part I discusses the legal framework surrounding deep seabed mining. Part II identifies the key parties to the case study, including those that object to the proposed mining activities. Part III examines the gaps in deep seabed mining regulations, including sections on the following: (A) environmental impact assessment (EIA); (B) liability assurances; (C) distribution of benefits; (D) ISA competence and procedure; and (E) dispute resolution mechanisms.

Part IV considers the viability of possible venues for adjudication. Part V evaluates the claims and issues the parties are expected to address, including sections on the following: (A) the validity of the two-year deadline; (B) protection of the marine environment; and (C) sharing of knowledge and resources. Part VI concludes by arguing that mining activities should not proceed unless and until regulations are in place that require such activities be done in a manner that ensures the protection of the marine environment, and benefits humankind as a whole.

I. Legal Framework

The United Nations Convention on the Law of the Sea (UNCLOS) was adopted by the Third United Nations Conference on the Law of the Sea in 1982.[11] Its purpose was to develop principles related to the ocean floor beyond the limits of national jurisdiction (the "Area"),[12] and its resources. UNCLOS defines "resources" as "all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules."[13] Accordingly, UNCLOS established the regime that governs deep sea mining in the Area.[14] Such regime was implemented in 1994 pursuant to the 1994 Agreement Relating to the Implementation of Part XI of UNCLOS (the Implementation Agreement).[15] UNCLOS has 168 Members, including 164 individual Member States and the European Union (EU).[16]

Principles governing the Area are explicitly set forth in UNCLOS.[17] The Area and its resources constitute "the common heritage of mankind,"[18] "the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States."[19] Accordingly, the interests of developing States must be considered and their effective participation promoted.[20] Further, mechanisms to guarantee equitable sharing of financial and other economic benefits derived from the Area must be developed.[21] Underlying all activities in the Area is the obligation to protect the marine environment,[22] which is at the crux of this case study.

All exploration and exploitation activities in the Area are subject to the permission and oversight of the ISA,[23] which

5. *See* ISA Council, *Letter Dated 30 June 2021 From the President of the Council of the International Seabed Authority Addressed to the Members of the Council*, ISA Doc. ISBA/26/C/38 (July 1, 2021); Letter from H.E. Rear Admiral (Retd.) Md. Khurshed Alam, President of the Council for the 26th Session to the International Seabed Authority, to Office of the President, Republic of Nauru (June 25, 2021), https://int.nyt.com/data/documenttools/2021-06-nauru-letter-notification/c8ca730598964eaf/full.pdf.
6. Republic of Nauru, Opinion Paper on the Regulatory Steps and Decision-Making for a Plan of Work Submitted to the Authority Pursuant to Section 1, Paragraph 15 of the Annex to the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea (2023), https://int.nyt.com/data/documenttools/2023-03-nauru-opinion-paper/b2ee9627596f27a6/full.pdf.
7. *See* Deep Sea Conservation Coalition, *Country Positions*, https://savethehighseas.org/isa-tracker/category/country-positions/ (last updated July 31, 2023).
8. *See* ISA Council, *Decision of the Council of the International Seabed Authority on a Timeline Following the Expiration of the Two-Tear Period Pursuant to Section 1, Paragraph 15, of the Annex to the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea*, ISA Doc. ISBA/28/C/24 (July 21, 2023) [hereinafter ISBA/28/C/24]; Press Release, ISA, ISA Council Closes Part II of Its 28th Session (July 24, 2023), https://www.isa.org.jm/news/isa-council-closes-part-ii-of-its-28th-session/.
9. ISA Council, *Decision of the Council of the International Seabed Authority Relating to the Understanding and Application of Section 1, Paragraph 15, of the Annex to the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea*, ISA Doc. ISBA/28/C/25 (July 21, 2023) [hereinafter ISBA/28/C/25].
10. *See* Press Release, Deep Sea Conservation Coalition, The Fate of Deep-Sea Mining Hangs in the Balance as Global Support for a Moratorium Reaches Unprecedented High (July 24, 2023), https://savethehighseas.org/isa-tracker/2023/07/24/the-fate-of-deep-sea-mining-hangs-in-the-balance-as-global-support-for-a-moratorium-reaches-unprecedented-high/.
11. UNCLOS, Dec. 10, 1982, 1833 U.N.T.S. 397, 21 I.L.M. 1261.
12. *Id.* art. 1.1.
13. *Id.* art. 133(a).
14. *Id.* pt. XI and Annex III.
15. Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea, July 28, 1994, 1836 U.N.T.S. 3, https://www.un.org/depts/los/convention_agreements/texts/unclos/closindxAgree.htm [hereinafter Implementation Agreement].
16. *See* United Nations Treaty Collection, *United Nations Convention on the Law of the Sea: Montego Bay, 10 December 1982*, https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en (last visited Aug. 17, 2023).
17. UNCLOS, *supra* note 11, pt. XI, §2.
18. *Id.* art. 136.
19. *Id.* pmbl.
20. *Id.* arts. 148, 152(2).
21. *Id.* arts. 140(2), 160(2)(f)(i), 160(2)(g), and 162(o)(i).
22. *Id.* art. 145.
23. *Id.* §4, art. 156.

is the autonomous international organization mandated to organize, regulate, and control all mineral-related activities in the Area.[24] The ISA comprises the Assembly, which consists of all UNCLOS Members,[25] and the Council, whose 36 Members are elected by the Assembly.[26] The Council establishes rules and procedures for ISA's governance, subject to the Assembly's approval, and nominates the secretary-general, who must then be elected by the Assembly.[27]

Rules of procedure require a majority Assembly or Council vote, while questions of substance require at least two-thirds majority of the Assembly or Council,[28] except where seeking an advisory opinion, which requires only a one-quarter Member vote in the Assembly.[29] The secretary-general and his staff serve as the ISA's secretariat, and each is prohibited from seeking or receiving instructions from any government or other source external to the ISA.[30] Relatedly, each Member is prohibited from influencing the secretary-general or secretariat staff in the discharge of their duties.[31] Any violations of the aforementioned rules shall be submitted to an appropriate administrative tribunal as applicable.[32]

The ISA, through the Council, is responsible for granting contracts to explore for and exploit deep seabed mineral resources.[33] As of July 31, 2023, the ISA has awarded 31 exploration contracts,[34] which are covered by rules and regulations governing exploration activities of three different mineral types. Regulations for polymetallic nodules were adopted in 2000 and revised in 2013,[35] regulations for polymetallic sulfides were adopted in 2010,[36] and regulations for cobalt-rich ferromanganese crusts in 2012.[37]

The ISA has yet to award any exploitation contracts, and the rules and regulations governing exploitation activities in the Area have not yet been finalized. The most recent Draft Regulations on Exploitation of Mineral Resources in the Area (the Draft Regulations) was presented in 2019.[38] After a COVID-related delay in negotiations, the ISA is actively engaged with stakeholders toward updating the Draft Regulations and finalizing rules and regulations for the exploitation of all resource types,[39] "with a view to adopting them during . . . 2025."[40] Though beyond the scope of this Article, there are numerous and diverse stakeholders who may participate in the rulemaking process pursuant to UNCLOS.

Even without final rules governing exploitation activities, only certain actors are entitled to apply to the ISA for permission to conduct deep seabed mining operations in the Area.[41] UNCLOS makes clear that such operations may only be carried out by State Parties to UNCLOS or by "[S]tate enterprises or natural or juridical persons which . . . are effectively controlled by [State Parties] or their nationals, when sponsored by such States."[42] Each of the exploration regulations echo this requirement of nationality or control.[43] Therefore, non-State actors, such as private corporations, must obtain sponsorship from all States of which they are nationals, and "[i]f another State or its nationals exercises effective control, the sponsorship of that State is also necessary."[44]

The International Tribunal for the Law of the Sea (ITLOS) is an independent judicial body that has jurisdiction over any dispute concerning UNCLOS. It has emphasized that the sponsorship requirement "is a key element in the system for the exploration and exploitation of the resources in the Area,"[45] essential "to achieve the result that the obligations set out in [UNCLOS], a treaty under international law which binds only States Parties thereto, are complied with by entities that are subjects of domestic legal systems."[46] As such, a private corporation becomes bound to adhere to international legal obligations related to deep seabed mining upon entering into a contract with the ISA.[47]

Those international legal obligations go beyond what is contained in UNCLOS. In addition to treatymaking, international legal obligations are also created through the customary practice of States, where such practice is done under the belief it is under a legal obligation to do so.[48] The International Court of Justice (ICJ) and ITLOS have identified several principles as binding under customary law,

24. *Id*. art. 157.
25. *Id*. art. 159.
26. *Id*. art. 161.
27. *Id*. art. 162.
28. *Id*. arts. 159 and 161.
29. *Id*. art. 159.10.
30. *Id*. art. 168.1.
31. *Id*.
32. *Id*. arts. 168.1 and 168.3.
33. *Id*. art. 153.
34. *See* ISA, *Exploration Contracts*, https://www.isa.org.jm/exploration-contracts/ (last visited Aug. 17, 2023).
35. ISA Council, *Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area*, ISA Doc. ISBA/19/C/17 (July 22, 2013), *amended by* ISA Doc. ISBA/19/A/9 (July 25, 2013).
36. ISA Assembly, *Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area*, ISA Doc. ISBA/16/A/12/Rev.1 (Nov. 15, 2010).
37. ISA Assembly, *Regulations on Prospecting and Exploration for Cobalt-Rich Ferromanganese Crusts in the Area*, ISA Doc. ISBA/18/A/11 (Oct. 22, 2012).
38. ISA Council, *Draft Regulations on Exploitation of Mineral Resources in the Area*, ISA Doc. ISBA/25/C/WP.1 (Mar. 22, 2019), https://www.isa.org.jm/wp-content/uploads/2022/06/isba_25_c_wp1-e_0.pdf [hereinafter *Draft Regulations*].
39. *See* ISA, *The Mining Code: Draft Exploitation Regulations*, https://www.isa.org.jm/the-mining-code/draft-exploitation-regulations/ (last visited Aug. 17, 2023).
40. *See* ISBA/28/C/24, *supra* note 8; Press Release, ISA, *supra* note 8.
41. *See* Joanna Dingwall, *The International Legal Regime Applicable to the Mineral Resources of the Deep Seabed*, 9 Eur. Y.B. Int'l Econ. L. 261 (2018).
42. UNCLOS, *supra* note 11, art. 153(2)(b).
43. *See supra* notes 35, 36, and 37, Regulation 9(b).
44. International Tribunal for the Law of the Sea, Advisory Opinion, Responsibilities and Obligations of States Sponsoring Persons and Entities With Respect to Activities in the Area (Feb. 1, 2011), ITLOS Rep. 2011, at 10, https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/17_adv_op_010211_en.pdf [hereinafter ITLOS Advisory Opinion of Feb. 1, 2011].
45. *Id*. para. 74.
46. *Id*. para. 75.
47. *See* Markos Karavias, Corporate Obligations Under International Law 124 (2013) ("The [s]tandard [c]lauses [to the ISA contract], in turn, transpose the content of the [UNCLOS] provisions regarding activities in the Area and of the [ISA] [r]egulations into the contractual arrangement, thus providing a nexus between [UNCLOS] and the secondary law enacted by the ISA and the contract for exploration.").
48. I.C.J. Stat. art. 38(1).

including the requirement to assess transboundary environmental impacts, and the precautionary principle.[49]

The precautionary principle stands for the proposition that in order to protect the environment, scientific uncertainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation, where there are threats of serious or irreversible harm.[50] The precautionary principle has become entrenched as a bedrock policy related to the management of marine resources and ecosystems.[51] Further, ITLOS has affirmed the principle's application to maritime activities,[52] and specifically noted that adherence to it is a general obligation of diligence required by States sponsoring deep sea mining activities.[53]

After nearly 20 years of negotiations, a significant majority of nations recently agreed on language for a United Nations treaty, implementing UNCLOS, that seeks to protect ocean biodiversity.[54] The Draft Agreement Under UNCLOS on the Conservation and Sustainable Use of Marine Biology Diversity of Areas Beyond National Jurisdiction (the BBNJ Treaty) was published on March 4, 2023.[55] On June 19, 2023, the BBNJ Treaty's text was adopted by consensus.[56] However, 60 individual nations will need to ratify the treaty itself for the BBNJ Treaty to enter into force,[57] which often requires domestic legislative approval.[58]

At its core, the BBNJ Treaty establishes a new legal regime that addresses, inter alia, (1) the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ)[59]; (2) marine genetic resources (MGR), including questions of benefit sharing[60]; (3) area-based management tools, including marine protected areas[61]; (4) capacity building and the transfer of marine technology[62]; and (5) EIA.[63] Importantly, the BBNJ Treaty will apply to areas beyond national jurisdiction, which means the high seas and the Area.[64]

II. Key Parties

A. TMC

TMC, based in Vancouver, Canada, is one of the entities that stands to benefit most from deep seabed mining.[65] Originally operating under the name DeepGreen since 2011, TMC was officially formed in 2021 following the merger of DeepGreen with a special purpose acquisition company (SPAC).[66] TMC is involved with three contracts sponsored by Pacific Island nations, including Nauru, for polymetallic nodules exploration activities in the Clarion-Clipperton Zone (CCZ).[67]

The exploitation contract at issue here is with Nauru Offshore Resources, Inc. (NORI), an entity sponsored by Nauru, which was originally incorporated as a wholly owned subsidiary of Nautilus Minerals,[68] a now bankrupt Canadian mining company that was founded by the same individual who founded DeepGreen.[69] Despite claiming that NORI was wholly owned by two Nauruan foundations, with 100% of their shares held by Nauruan nationals,[70] TMC has since admitted that it holds a 100% interest in each of the two supposedly Nauruan foundations that own NORI.[71] Accordingly, NORI is TMC's subsidiary.

On March 9, 2023, TMC engaged Bechtel Australia Pty. Ltd. to collect and compile the information required to support TMC's exploitation contract application, which

49. *See* David Hunter et al., International Environmental Law and Policy 313 (7th ed. 2022).
50. Rio Declaration on Environment and Development, princ. 15, June 13, 1992, 31 I.L.M. 874 [hereinafter Rio Declaration].
51. *See* Warwick Gullet, *The Contribution of the Precautionary Principle to Marine Environmental Protection: From Making Waves to Smooth Sailing?*, *in* Frontiers in International Law: Oceans and Climate Change 368 (Richard Barnes & Ronán Long eds., Leiden 2021).
52. ITLOS, Advisory Opinion, Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (Sub-Regional Fisheries Commission, Case No. 21) (Apr. 2, 2015), ITLOS Rep. 2015, at 208 (holding that when the scientific evidence is insufficient, the precautionary approach should apply).
53. ITLOS Advisory Opinion of Feb. 1, 2011, *supra* note 44, at 131-32.
54. *See* Catrin Einhorn, *Nations Agree on Language for Historic Treaty to Protect Ocean Life*, N.Y. Times (Mar. 4, 2023), https://www.nytimes.com/2023/03/04/climate/united-nations-treaty-oceans-biodiversity.html.
55. U.N. General Assembly, *Draft Agreement Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biology Diversity of Areas Beyond National Jurisdiction* (Mar. 4, 2023), https://www.un.org/bbnj/sites/www.un.org.bbnj/files/draft_agreement_advanced_unedited_for_posting_v1.pdf [hereinafter BBNJ Treaty].
56. *See* United Nations, *Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction*, https://www.un.org/bbnj/ (last visited Aug. 17, 2023).
57. BBNJ Treaty, *supra* note 55, art. 61.
58. *See* Einhorn, *supra* note 54.
59. BBNJ Treaty, *supra* note 55, art. 2.
60. *Id.* pt. II.
61. *Id.* pt. III.
62. *Id.* pt. V.
63. *Id.* pt. IV.
64. *Id.* art. I.4.
65. *See*, *e.g.*, Eri Silva, *Deep-Sea Mining May Slam Into Regulatory Wall*, S&P Glob. Mkt. Intel. (Jan. 3, 2023), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/deep-sea-mining-may-slam-into-regulatory-wall-73336472.
66. *See* Press Release, TMC, The Metals Company to Trade on Nasdaq in Bid to Develop Planet's Largest Estimated Resource of Battery Metals (Sept. 9, 2021), https://www.businesswire.com/news/home/20210909005914/en/The-Metals-Company-to-Trade-on-Nasdaq-in-Bid-to-Develop-Planet%E2%80%99s-Largest-Estimated-Resource-of-Battery-Metals.
67. *See* ISA, *Minerals: Polymetallic Nodules*, https://www.isa.org.jm/exploration-contracts/polymetallic-nodules/ (last visited Aug. 17, 2023); TMC, Impact Report (2021), https://metals.co/wp-content/uploads/2022/05/Final_MetalsCo_ImpactReport_052522.pdf.
68. ISA Legal and Technical Commission, *Nauru Ocean Resources Inc.—Application for Approval of a Plan of Work for Exploration*, ISA Doc. ISBA/14/LTC/L.2 (Apr. 21, 2008), https://digitallibrary.un.org/record/625358/files/ISBA_14_LTC_L.2-EN.pdf.
69. *See* Environmental Justice Foundation, Towards the Abyss: How the Rush to Deep-Sea Mining Threatens People and Our Planet 34 (2023), https://ejfoundation.org/resources/downloads/towards-the-abyss-ejf-deep-sea-mining-report.pdf.
70. ISA Legal and Technical Commission, *Application for Approval of a Plan of Work for Exploration for Polymetallic Nodules in the Area by Nauru Ocean Resources Incorporated*, ISA Doc. ISBA/17/LTC/L.4 (June 21, 2011), https://digitallibrary.un.org/record/818492/files/ISBA_17_LTC_L.4-EN.pdf?version=1.
71. Sustainable Opportunities Acquisition Corp., Registration Statement (Form S-4) (Aug. 5, 2021), https://www.sec.gov/Archives/edgar/data/1798562/000121390021040480/fs42021a5_sustainableopp.htm.

was expected to be ready for submission in the second half of 2023, including information related to TMC's EIA.[72] Bechtel is a global engineering firm with significant experience in mining and the metals industry.[73] A week later, on March 16, 2023, TMC announced an agreement with Pacific Metals Co. Ltd. (PAMCO) to extract minerals from the nodules TMC expects to exploit from its first commercial production by the end of 2024.[74] As of June 30, 2023, TMC had approximately $20 million of cash on hand, which represented a $27 million decrease since December 31, 2022.[75]

B. Nauru

Nauru is a nation of approximately 12,600[76] people first sighted by Europeans in 1798.[77] Throughout the 1800s, it became a port of call for international vessels until Germany incorporated it into its Marshall Islands protectorate in 1888. In 1906, the German administration negotiated an agreement with a British mining company for the extraction of phosphate located on Nauru. After the Australian removal of Germans during World War I, the phosphate industry was taken over by the newly formed British Phosphate Commission, a joint Australian, British, and New Zealand enterprise.[78]

Over the course of the 1900s, Nauru was strip-mined to the point of ruin and reduced to a "moonscape of jagged limestone pinnacles unfit for agriculture or even building."[79] In 1968, Australia granted Nauru sovereignty after the British Phosphate Commission had nearly exhausted the viable phosphate deposits, leaving behind one of the world's worst environmental disasters.[80] Nauru was subsequently engulfed in a financial crisis after decades of corrupt and incompetent governments, culminating in the United States designating Nauru as a money-laundering state.[81] Left with few alternatives, Nauru has been reliant on Australia for its revenue during the 21st century, receiving millions of dollars a year in exchange for the use of its territory as a remote site for the offshore processing of refugees seeking asylum and protection.[82] Nauru's gross domestic product, as of 2022, was approximately $151 million.[83]

Pursuant to UNCLOS, large portions of the CCZ were designated as "reserved areas" for developing States' exploration rights.[84] Through Nauru and two other Pacific Island States, TMC now effectively owns the exploration rights to more than half of the CCZ seabed area designated for exploration by developing States.[85] Further, investigations have uncovered evidence that shows TMC obtained key data on the most valuable locations for mining activities from the ISA prior to seeking State sponsors to facilitate access.[86]

Margo Deiye, Nauru's representative to the United Nations, has explained that Nauru "is not sitting back, waiting for the rich world to fix what they created."[87] Justifying Nauru's decision to partner with a Canadian corporation in the face of international opposition, discussed below,[88] Ms. Deiye explained that "[o]ur people, land, and resources were exploited to fuel the industrial revolution elsewhere, and we are now expected to bear the brunt of the destructive consequences of that industrial revolution."[89] Specific details of Nauru's compensation to sponsor TMC's mining activities remain confidential.[90]

On June 25, 2021, Nauru notified the ISA that NORI intends to apply for approval of a plan of work for exploitation of minerals on the deep seabed pursuant to §1, paragraph 15, of the Implementation Agreement.[91] This invocation of the "two-year rule" requested that the Council of the 26th Session of the ISA "complete the adoption of rules, regulations, and procedures necessary to facilitate the approval of plans of work for exploitation in the Area within two years of . . . [the] request."[92] Subsequently, TMC

72. *See* Press Release, TMC, The Metals Company Engages Bechtel to Support NORI's Commercial Contract Application for NORI-D Nodule Project (Mar. 9, 2023), https://www.globenewswire.com/news-release/2023/03/09/2624581/0/en/The-Metals-Company-Engages-Bechtel-to-Support-NORI-s-Commercial-Contract-Application-for-NORI-D-Nodule-Project.html.
73. Bechtel, *Advanced Materials*, https://www.bechtel.com/markets/advanced-materials/ (last visited Aug. 17, 2023).
74. Press Release, TMC, TMC Enters Into MOU With Leading Nickel Processor PAMCO to Evaluate the Processing of Polymetallic Nodules Into Battery Metal Feedstocks (Mar. 16, 2023), https://investors.metals.co/news-releases/news-release-details/tmc-enters-mou-leading-nickel-processor-pamco-evaluate.
75. *See* TMC, Quarterly Report (Form 10-Q) (Aug. 14, 2023), https://investors.metals.co/node/9166/html#Item1FinancialStatements_168789.
76. World Bank, *Population, Total—Nauru*, https://data.worldbank.org/indicator/SP.POP.TOTL?locations=NR (last visited Aug. 17, 2023).
77. *See* Encyclopedia Britannica, *History of Nauru*, https://www.britannica.com/place/Nauru/History (last visited Aug. 17, 2023).
78. *See id*.
79. Anne Davies & Ben Doherty, *Corruption, Incompetence, and a Musical: Nauru's Cursed History*, Guardian (Sept. 3, 2018), https://www.theguardian.com/world/2018/sep/04/corruption-incompetence-and-a-musical-naurus-riches-to-rags-tale.
80. *See Paradise Well and Truly Lost*, Economist (Dec. 20, 2001), https://www.economist.com/christmas-specials/2001/12/20/paradise-well-and-truly-lost.
81. *See* Financial Crimes Enforcement Network: Imposition of Special Measures Against the Country of Nauru, 31 C.F.R. pt. 103 (2002), https://home.treasury.gov/system/files/246/js1941.pdf.
82. *See* Ben Doherty, *A Short History of Nauru, Australia's Dumping Ground for Refugees*, Guardian (Aug. 9, 2016), https://www.theguardian.com/world/2016/aug/10/a-short-history-of-nauru-australias-dumping-ground-for-refugees.
83. *See* World Bank, *GDP (Current US$)—Nauru*, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=NR (last visited Aug. 17, 2023).
84. UNCLOS, *supra* note 11, art. 170, Annex IV; Implementation Agreement, *supra* note 15, Annex, §2; ISA, *Reserved Areas*, https://www.isa.org.jm/minerals/reserved-areas (last visited Aug. 17, 2023).
85. ISA, Policy Brief 01/2019, Current Status of the Reserved Areas With the International Seabed Authority (2019), https://docslib.org/doc/7810879/current-status-of-the-reserved-areas-with-the-international-seabed-authority-policy-brief-01-2019.
86. *See* Lipton, *supra* note 2.
87. Margo Deiye, *We Are the Forgotten Ones in the Climate Crisis, but Here's Our Solution*, Independent (Dec. 10, 2022), https://www.independent.co.uk/independentpremium/voices/climate-crisis-polymetallic-nodules-nauru-b2242863.html.
88. *See infra* Section II.C.
89. *Id*.
90. *See* Sustainable Opportunities Acquisition Corp., *supra* note 71 (payments to be made by TMC to sponsoring States were redacted from the annexed sponsorship agreements).
91. Letter from H.E. Rear Admiral (Retd.) Md. Khurshed Alam, *supra* note 5.
92. *Id*.

completed an exploratory project in the CCZ, which it claims puts it in a position to be ready for full-scale exploitation activities by 2024.[93]

Nauru has since clarified its position in an opinion paper published in March 2023, whereby it asserted that if the ISA has not yet finalized exploitation regulations by July 9, 2023, then the ISA should "nonetheless consider and provisionally approve" its mining application once submitted.[94] The ISA did not finalize exploitation regulations by July 9, and instead will focus on finalizing them before the end of 2025.[95] However, while the ISA has stated that commercial exploitation should not be "carried out in the absence of" final rules and regulations,[96] in the interim, the possibility of Nauru applying for a provisional mining license remains present.[97] As the result of the vocal opposition, discussed below, a discussion regarding a precautionary pause of all deep sea mining is on the agenda at the ISA's 2024 meeting.[98]

C. *Objecting Parties*

Numerous NGOs, individuals, and governments have expressed their opposition to TMC's actions, and to deep sea mining generally. For instance, Greenpeace, the Deep Sea Conservation Coalition, and Global Witness submitted a joint letter to the U.S. Securities and Exchange Commission (SEC), highlighting TMC's alleged failure to credibly represent how it will manage the risk of its untested mining activities.[99] Additionally, the Deep Sea Mining Campaign has alleged, in a shareholder advisory document, that (1) deep sea mining is inherently unsustainable; (2) TMC's strategy and projections are speculative; (3) potential liabilities due to environmental damage are insufficiently disclosed; and (4) potential challenges to TMC's interpretation of "effective control" of NORI by Nauru is not disclosed at all.[100] TMC is also facing two class-action lawsuits from investors who allege that TMC made false and misleading statements, including downplaying "the environmental risks of deep sea mining polymetallic nodules" and failing to "adequately warn investors of the regulatory risks faced by TMC's environmentally risky exploitation plans."[101]

France has been one of the most vocal national governments opposing deep sea mining, with President Emmanuel Macron announcing that "France calls for a ban on all exploitation of the deep seabeds."[102] France's position is based on the precautionary principle, since neither TMC nor any other party can guarantee that deep sea mining could be done without causing irreversible damage to the seabed and its biodiversity, given the current absence of scientific knowledge.[103]

Similarly, (1) the European Commission has called for a moratorium until "scientific gaps are properly filled, no harmful effects arise from mining, and the marine environment is effectively protected"[104]; (2) the European Parliament has called on EU Member States to support a moratorium "until the effects of deep sea mining on the marine environment, biodiversity and human activities at sea have been studied and researched sufficiently and deep seabed mining can be managed to ensure no marine biodiversity loss nor degradation of marine ecosystems"[105]; and (3) the Council of the EU has supported efforts by EU Member States "to establish a sound regulatory regime on potential future deep sea-mining that is based on the precautionary principle as well as on the highest environmental standards and sufficient scientific knowledge, in order to ensure that such activity would not cause harmful effects to the marine environment in the Area."[106] A common theme among objecting parties is that the current processes and regulations are insufficient to ensure that deep sea mining can be done in a way that protects the marine environment.

Chile, Costa Rica, Ecuador, Germany, New Zealand, Panama, Spain, Palau, and an alliance of island nations including Fiji, Samoa, and Micronesia, have also called for a moratorium, or pause, on deep seabed mining while the science remains uncertain.[107] Several other nations, includ-

93. *See* Press Release, TMC, NORI and Allseas Lift Over 3,000 Tonnes of Polymetallic Nodules to Surface From Planet's Largest Deposit of Battery Metals, as Leading Scientists and Marine Experts Continue Gathering Environmental Data (Nov. 14, 2022), https://www.juniorminingnetwork.com/junior-miner-news/press-releases/3013-nasdaq/tmc/131137-nori-and-allseas-lift-over-3-000-tonnes-of-polymetallic-nodules-to-surface-from-planet-s-largest-deposit-of-battery-metals-as-leading-scientists-and-marine-experts-continue-gathering-environmental-data.html.
94. Republic of Nauru, *supra* note 6.
95. *See* ISBA/28/C/24, *supra* note 8; Press Release, ISA, *supra* note 8.
96. ISBA/28/C/25, *supra* note 9.
97. *See* Press Release, Deep Sea Conservation Coalition, *supra* note 10.
98. *See* Karen McVeigh, *International Talks End Without Go-Ahead for Deep-Sea Mining*, Guardian (July 29, 2023), https://www.theguardian.com/environment/2023/jul/29/deep-sea-mining-international-talks-isa-jamaica.
99. Letter from Annie Leonard, Executive Director, Greenpeace et al., to Office of the Chairman, SEC et al., De-SPAC Merger of Sustainable Opportunities Acquisition Corp. (ticker: SOAC; CIK: 0001798562) and DeepGreen Metals, Inc. (July 1, 2021), https://www.greenpeace.org/usa/wp-content/uploads/2021/07/SEC-letter.pdf.
100. Deep Sea Mining Campaign, Shareholder Advisory: The Proposed Business Combination Between Sustainable Opportunities Acquisition Corporation and DeepGreen (2021), https://dsm-campaign.org/wp-content/uploads/2021/09/Advice-to-SOAC-Investors.pdf.
101. Carper v. Metals Co., No. 1:21-CV-05991 (E.D.N.Y. filed Oct. 28, 2021), https://unicourt.com/case/pc-db5-carper-v-tmc-the-metals-company-inc-et-al-1065767; Tran v. Metals Co., No. 1:21-CV-06325 (E.D.N.Y. filed Nov. 15, 2021), https://unicourt.com/case/pc-db5-tran-v-tmc-the-metals-company-inc-et-al-1077085.
102. Embassy of France in Indonesia, East Timor, and ASEAN, *Speech by Mr. Emmanuel Macron, President of the Republic (Sharm el-Sheikh, Egypt—November 7, 2022)*, https://id.ambafrance.org/Speech-by-Mr-Emmanuel-Macron-President-of-the-Republic-Sharm-el-Sheikh-Egypt (last updated May 22, 2023).
103. *See* Deep Sea Conservation Coalition, *supra* note 7.
104. European Commission, *Setting the Course for a Sustainable Blue Planet—Joint Communication on the EU's International Ocean Governance Agenda*, SWD (2022) 174 final, JOIN (2022) 28 final (June 24, 2022), https://eur-lex.europa.eu/resource.html?uri=cellar:f98c2653-f399-11ec-a534-01aa75ed71a1.0001.02/DOC_1&format=PDF.
105. European Parliament, *European Parliament Resolution of 9 June 2021 on the EU Biodiversity Strategy for 2030: Bringing Nature Back Into Our Lives* (2020/2273(INI)) (2022/C 67/03), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021IP0277&from=EN.
106. Council of the EU, *Council Conclusions on International Ocean Governance*, 15973/22 (Dec. 13, 2022), https://data.consilium.europa.eu/doc/document/ST-15973-2022-INIT/en/pdf.
107. *See* Elizabeth Claire Alberts, *France's Macron Joins Chorus Calling for Deep-Sea Mining Ban*, Mongabay, (Nov. 8, 2022), https://news.monga

ing Canada, Brazil, and Russia, believe that no exploitation should be done until the ISA has adopted robust rules and regulations governing such activities.[108] In total, 21 countries have now taken positions in favor of suspending deep seabed mining.[109]

Recently, Germany took the extraordinary step of criticizing the ISA secretary-general's perceived interference in the ISA's decisionmaking process, accusing the secretary-general of "actively tak[ing] a stand against positions and decision making proposals from individual delegations."[110] The secretary-general has denied such an "unsubstantiated allegation" and claimed that his actions have been "fully consistent with the competences recognized to [him], suggesting general and non-controversial considerations for evaluating all proposals and suggestions relating to the matter under consideration."[111] Considering the legal gaps in deep seabed mining regulations discussed in Part III, the next phases of the controversy may be pursued in alternative venues, as more fully discussed in Part IV below.

III. Legal Gaps in Deep Seabed Mining Regulations

Much of the opposition to TMC's plan stems from the fact that the Draft Regulations have not been finalized. This lack of clarity has given TMC the permission structure to proceed with its aggressive timeline. No serious commentator has suggested that the Draft Regulations could have been finalized in a way that would satisfy objecting parties prior to the expiration of the two-year deadline that Nauru triggered in 2021. Nauru has acknowledged this.[112]

This proved true when the ISA closed its session on July 21, 2023, without finalizing the Draft Regulations, instead focusing on finalizing them before the end of 2025.[113] While the ISA stated that commercial exploitation should not be "carried out in the absence of" final rules and regulations,[114] in the interim, the possibility of Nauru applying for a provisional mining license remains present.[115] Though parties have yet to put forth strong legal merits on their claims, in the absence of robust rules and regulations, uncertainty exists in the following areas, which fundamentally touch upon the crux of the dispute: protecting the marine environment.

A. EIA

EIA is part of a process for evaluating the likely impacts of a proposed activity on the environment and to assist in the planning and environmental management by providing "clear, well organized information on the environmental effects, risks, and consequences of development options and proposals."[116] The ICJ has recognized that EIAs must abide by the principle of precaution, as such is a customary rule of international law.[117] While early EIA requirements focused on avoiding and mitigating the worst impacts of a proposed activity, this approach has been widely criticized as ineffective.[118] Contemporary EIA requirements therefore seek to account not only for cumulative environmental impacts, but also potential risks and uncertainties.[119] Notwithstanding the evolution of EIA requirements, both substantively and procedurally, UNCLOS has failed to keep up with the trends, thereby failing to ensure that the marine environment is adequately protected.

1. UNCLOS

UNCLOS requires a sponsoring State to undertake an EIA related to activities in the Area.[120] However, the language lacks detail and standards, merely requiring that States "shall, as far as practicable, assess the potential effects of such activities on the marine environment" when they "have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment."[121]

The vagueness and generality of EIA-related provisions in UNCLOS can be due to the limited understanding of EIAs in the 1970s and early 1980s when UNCLOS was being negotiated.[122] For example, Article 205 regulates the States' obligation to publish assessment and monitoring reports or provide the reports to the competent international organizations, but does not explain what the communication procedure is and who the competent orga-

bay.com/2022/11/frances-macron-joins-growing-chorus-calling-for-deep-sea-mining-ban/.

108. *See id*.

109. *See* Deep Sea Conservation Coalition, *Resistance to Deep-Sea Mining: Governments and Parliamentarians*, https://savethehighseas.org/voices-calling-for-a-moratorium-governments-and-parliamentarians/ (last visited Aug. 17, 2023).

110. Letter from Franziska Brantner, Parliamentary State Secretary, German Federal Ministry for Economic Affairs and Climate Action, to Michael Lodge, ISA Secretary-General, and Tomasz Abramowski, ISA President of the Council (Mar. 16, 2023), https://int.nyt.com/data/documenttools/0275-23-en-dh-international-seabed-authority/8db587d82e0eef75/full.pdf.

111. Letter from Michael Lodge, ISA Secretary-General, to Franziska Brantner, Parliamentary State Secretary, German Federal Ministry for Economic Affairs and Climate Action (Mar. 17, 2023), https://int.nyt.com/data/documenttools/2023-03-17-michael-lodge-letter-to-parliamentary-state-secretary-dr-brntner-germany/e3c8ac54bae32135/full.pdf.

112. Republic of Nauru, *supra* note 6.

113. *See* ISBA/28/C/24, *supra* note 8; Press Release, ISA, *supra* note 8.

114. ISBA/28/C/25, *supra* note 9.

115. *See* Press Release, Deep Sea Conservation Coalition, *supra* note 10.

116. *See* Maria Rosário Partidário, International Association for Impact Assessment, Strategic Environmental Assessment (SEA): Current Practices, Future Demands, and Capacity-Building Needs (2003), https://www.iaia.org/pdf/EIA/SEA/SEAManual.pdf.

117. Pulp Mills on the River Uruguay (Arg. v. Uru.), Judgment, 2010 I.C.J. 135 (Apr. 20).

118. *See* Kristina M. Gjerde et al., STRONG High Seas Project, Strengthening High Seas Governance Through Enhanced Environmental Assessment Processes: A Case Study of Mesopelagic Fisheries and Options for a Future BBNJ Treaty 19 (2021), https://www.prog-ocean.org/wp-content/uploads/2021/08/Gjerde-K.M.-Wright-G.-and-Durussel-C.-Strengthening-high-seas-governance-through-enhanced-environmental-assessment-processes.pdf.

119. *See id*.

120. UNCLOS, *supra* note 11, arts. 204-206.

121. *Id*. art. 206.

122. *See* Kahlil Hassanali, *Internationalization of EIA in a New Marine Biodiversity Agreement Under the Law of the Sea Convention: A Proposal for a Tiered Approach to Review and Decision-Making*, 87 Env't Impact Assessment Rev. 106554, at 1 (2021).

nizations referred to are.[123] Further, there is no express provision providing for public review and comment.

2. ISA Regulations

As it relates to deep seabed mining, the ISA does not require basic modern environmental assessment for proposed exploration activities.[124] The ISA's current EIA requirements for exploration activities are inadequate from both a procedural and a substantive standpoint. Specifically, once EIAs are approved, there is no ability for the ISA or its Member States to reject or require amendments to an EIA or proposed activity, including where those activities would cause significant environmental harm.[125] The Draft Regulations are similarly deficient, and do not adequately equip the ISA to ensure the effective protection of the marine environment as required under UNCLOS.[126]

Pursuant to the Draft Regulations, an EIA must be prepared in accordance with the guidelines,[127] documents that provide guidance on technical and administrative matters, issued by the ISA,[128] "corresponding to the scale and potential magnitude of the activities, to assess the likely [e]nvironmental [e]ffects of the proposed activities. Such effects shall be discussed in proportion to their significance."[129] Although not yet final, the ISA's Legal and Technical Commission has published draft guidelines for the preparation of EIAs, which includes a 17-page template.[130] However, neither the Draft Regulations nor the guidelines contain specific requirements of what must be included in an EIA.

The Draft Regulations are also inadequate from a procedural standpoint, in that they require an applicant to post its EIA on the ISA's website for only 60 days to invite comments for consideration.[131] The applicant then has 60 days following the close of such comment period to respond.[132] It is then within the ISA's sole discretion whether to approve the underlying project.[133] The Draft Regulations are silent as to an objecting party's rights to object to a project, or otherwise appeal the ISA's decision to approve a project. As it relates to the approval process, the Draft Regulations provide no guidance or transparency on what factors the ISA is to consider prior to approval or rejection.[134]

123. *Id.* at 1-2.
124. *See* High Seas Alliance, How Could the EIA Provisions of the BBNJ Agreement Apply to Activities and Existing Bodies? 4 (2021).
125. *See supra* notes 35, 36, and 37, Part III.
126. *See* High Seas Alliance, *supra* note 124.
127. *Draft Regulations*, *supra* note 38, Regulation 47, Annex IV.
128. *Id.* Regulation 95.
129. *Id.* Annex IV.1(b).
130. ISA Council, *Draft Guidelines for the Preparation of Environmental Impact Statements*, ISA Doc. ISBA/27/C/5 (Jan. 31, 2022), https://www.isa.org.jm/wp-content/uploads/2022/12/ISBA_27_C_5-2117328E.pdf.
131. *Draft Regulations*, *supra* note 38, Regulation 11.1(a).
132. *Id.* Regulation 11.1(b).
133. *Id.* §3.
134. *Id.* Regulation 17.

3. U.S. National Environmental Policy Act

An examination of EIA treatment in instruments other than those under UNCLOS illustrates how EIA requirements have evolved over time. One of the first legal instruments to introduce the concept of EIAs was the U.S. National Environmental Policy Act (NEPA).[135] NEPA is intended to force federal agencies to consider environmental impacts prior to taking actions that may harm the environment. NEPA furthers this objective with requirements for EIAs, which it refers to as "environmental impact statements," that contain information disclosure procedures enforced by citizen litigation. Pursuant to NEPA, where federal agency actions significantly affect the quality of the human environment, the agency must prepare an EIA containing:

> (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[136]

NEPA has served as the baseline for EIAs that the international community has built upon ever since.

4. Canadian Impact Assessment Act

In 1992, Canada passed its Environmental Assessment Act (CEAA),[137] which first established the requirements for Canadian EIAs to predict the environmental effects of proposed projects before they are carried out. The CEAA was subsequently amended in 2012,[138] but was repealed and replaced with the Impact Assessment Act (IAA) in 2019.[139] The IAA sought to overhaul the EIA system and included a revised list of activities that trigger an EIA and other details about how the EIA process works. Canada made clear that the purposes of the IAA include, inter alia, (1) expanded scope of EIAs; (2) early, inclusive, and meaningful public engagement; (3) decisions based on science, Indigenous knowledge, and other sources of evidence; and (4) EIAs based on cumulative effects within a region.[140] Similarly, British Columbia, TMC's province of residence, has adopted its own Environmental Assessment Act, which requires, inter alia, early engagement with stakeholders, public comment periods, and consultations with Indigenous groups.[141]

135. 42 U.S.C. §§4321-4370h, ELR Stat. NEPA §§2-209.
136. 42 U.S.C. §4332(C); NEPA §102(c).
137. CEAA, S.C. 1992, c 37.
138. CEAA, 2012, S.C. 2012, c 19, s 52.
139. IAA, S.C. 2019, c 28, s 1.
140. *Id.* s 6.
141. Environmental Assessment Act, S.B.C. 2018, c 51.

The IAA also includes a detailed list of 20 specific factors to be considered in an EIA, including changes to the environment (including malfunction, accidents, and cumulative effects), mitigation measures, and comments received from the public.[142] Finally, the IAA permits rejection of a proposed activity based on whether the adverse direct or incidental effects are in the public interest.[143] Such public interest determination is based on the EIA and consideration of, inter alia, the project's contribution to sustainability, the extent to which adverse effects are significant, and associated mitigation measures.[144] The IAA, which is applicable to activities in Canada, TMC's country of residence, contains substantive and procedural EIA requirements far more advanced than those currently mandated by the ISA.

5. United Nations Environment Programme Goals and Principles of Environmental Impact Assessment

As it relates to international instruments, the 1987 United Nations Environment Programme (UNEP) Goals and Principles of Environmental Impact Assessment, although not legally binding, provides general guidance on EIA requirements.[145] It defines EIA as "an examination, analysis and assessment of planned activities with a view to ensuring environmentally sound and sustainable development," and notes that "the EIA goals and principles . . . are necessarily general in nature and may be further refined when fulfilling EIA tasks at the national, regional and international levels."[146] Principle 4 provides a detailed list of the *minimum* components of an EIA:

> (a) A description of the proposed activity;
> (b) A description of the potentially affected environment, including specific information necessary for identifying and assessing the environmental effects of the proposed activity;
> (c) A description of practical alternatives, as appropriate;
> (d) An assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including the direct, indirect, cumulative, short-term and long-term effects;
> (e) An identification and description of measures available to mitigate adverse environmental impacts of the proposed activity and alternatives, and an assessment of those measures;
> (f) An identification of gaps in knowledge and uncertainties which may be encountered in compiling the required information;
> (g) An indication of whether the environment of any other State or areas beyond national jurisdiction is likely to be affected by the proposed activity or alternatives;
> (h) A brief, non-technical summary of the information provided under the above headings.[147]

Thus, the international community acknowledged the benefits of a cumulative EIA approach and requiring more detailed minimum requirements for EIAs than those required under UNCLOS, only five years after its adoption.

UNEP has published EIA guidelines multiple times since 1987, including most recently in April 2019 (the UNEP EIA Guidelines).[148] The UNEP EIA Guidelines recommend a holistic approach to EIAs, considering economic, environmental, and societal factors that contribute to environmental problems,[149] and acknowledge the importance of an independent assessment.[150] Importantly, the UNEP EIA Guidelines emphasize the need for strong stakeholder consultation and participation, noting that it "is important not only because it helps to identify key environmental issues from the different stakeholders' perspectives, but also because it can offer options for addressing those issues."[151] The ISA's current EIA framework fails to incorporate UNEP's guidance on strong stakeholder consultation and participation.

6. Rio Declaration on Environment and Development

The 1992 Rio Declaration on Environment and Development[152] was a seminal moment in EIA evolution due to its emphasis on environmental access rights. Specially, Principle 10 of the Rio Declaration states:

> Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.[153]

Further, although not explicitly applicable to proposed activities in the Area, Principle 17 of the Rio Declaration makes clear that EIAs "shall be undertaken for proposed

142. *Id.* s 22(1).
143. *Id.* s 62.
144. *Id.* s 63.
145. UNEP, Goals and Principles of Environmental Impact Assessment (1987), https://elaw.org/system/files/unep.EIA_.guidelines.and_.principles.pdf.
146. *Id.* pmbl.
147. *Id.* princ. 4.
148. UNEP, Guidelines for Conducting Integrated Environmental Assessments (2019), https://wedocs.unep.org/bitstream/handle/20.500.11822/16775/IEA_Guidelines_Living_Document_v2.pdf?sequence=1&isAllowed=y.
149. *Id.* at 11.
150. *Id.* at 19.
151. *Id.* at 38.
152. Rio Declaration, *supra* note 50.
153. *Id.* princ. 10.

activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority."[154]

In addition to emphasizing the importance of EIAs, the Rio Declaration effectively brought the concept of environmental access rights to the attention of the international community and divided that right into three categories: (1) the right to access environmental information; (2) the right to access environmental participation; and (3) the right to access the environmental rule of law and remedies.

7. Escazú Agreement

Built upon the foundation laid by the Rio Declaration, the Regional Agreement on Access to Information, Public Participation, and Justice in Environmental Matters in Latin America and the Caribbean (the Escazú Agreement) was adopted in Escazú, Costa Rica, in 2018.[155] The Escazú Agreement compels States to publicize and disseminate environmental information, including "information on environmental impact assessments processes."[156] Additionally, as it relates to such environmental information, States must ensure access to public participation in the environmental decisionmaking process,[157] and access to judicial remedies if those environmental access rights are violated.[158] Although Nauru is not a Party to the Escazú Agreement, Mexico is,[159] and is the closest State to the CCZ, the area where TMC's mining activity is proposed to occur.

8. BBNJ Treaty

EIA practices under UNCLOS are outdated, inconsistent, and not up to modern standards, considering the EIA evolutions discussed above.[160] As a result, existing EIA regulations under UNCLOS are insufficient to produce a robust EIA that will ensure that deep sea mining will be done in a safe and predictable manner.[161] However, the BBNJ Treaty seeks to alleviate this deficiency, and contains substantial details discussing the adequacy of EIAs with the express objective to "establish[ ] processes, thresholds and other requirements for conducting and reporting" EIAs for areas beyond national jurisdiction, including the Area.[162]

Pursuant to the BBNJ Treaty, Parties "shall ensure that the impacts of planned activities, including cumulative impacts . . . are assessed and evaluated using the best available science and scientific information." Additionally, Parties must ensure that "[m]easures to prevent, mitigate, and manage potential adverse effects of the planned activities under their jurisdiction or control are identified and analyzed to avoid significant adverse impacts."[163] Standards and guidelines related to, inter alia, the content of EIAs, and the assessment of cumulative impacts on the areas beyond national jurisdiction and how those impacts should be accounted for in EIAs, shall be determined by an impartial Scientific and Technical Body.[164] However, at a minimum, an EIA must include

> a description of the planned activity, including its location, a description of the results of the scoping exercise, a baseline assessment of the marine environment likely to be affected, a description of potential impacts, including potential cumulative impacts and any impacts in areas within national jurisdiction, a description of potential prevention, mitigation and management measures, uncertainties and gaps in knowledge, information on the public consultation process, a description of the consideration of reasonable alternatives to the planned activity, a description of follow-up actions, including an environmental management plan, and a non-technical summary.[165]

Procedurally, the BBNJ Treaty includes robust public notification and consultation requirements for EIAs. Specifically, Parties must timely publish notification throughout the EIA process, in a central repository, before a decision is made as to whether to authorize such activity.[166] The BBNJ Treaty makes explicit that "opportunities for participation, including through the submission of comments, shall take place throughout the environmental impact assessment process,"[167] and that public consultation and review by the Scientific and Technical Body is required for each draft EIA.[168]

Final EIAs shall be considered by the impartial Scientific and Technical Body,[169] and a decision to authorize a planned activity, although ultimately made by the Party under whose control a planned activity falls, "shall only be made when, taking into account mitigation or management measures, the Party has determined that it has made all reasonable efforts to ensure that the activity can be conducted in a manner consistent with the prevention of significant adverse impacts on the marine environment."[170] The BBNJ Treaty also identifies processes for settlement of disputes, discussed more fully below.[171] Clearly, the BBNJ Treaty includes EIA requirements much more likely to protect the marine environment than those currently in force under UNCLOS.

Multiple governments have raised specific concerns regarding the adequacy of TMC's EIA, including concerns

154. *Id.* princ. 17.
155. Regional Agreement on Access to Information, Public Participation, and Justice in Environmental Matters in Latin America and the Caribbean, U.N. col. 3397C.N.195.2018 (Apr. 9, 2018), https://treaties.un.org/doc/Treaties/2018/03/20180312%2003-04%20PM/CTC-XXVII-18.pdf.
156. *Id.* art. 6.3.
157. *Id.* art. 7.
158. *Id.* art. 8.
159. *Id.* Preface.
160. *See* High Seas Alliance, *supra* note 124, at 6.
161. *See, e.g.*, Jennifer Durden et al., *Environmental Impact Assessment Process for Deep-Sea Mining "The Area,"* 87 Marine Pol'y 194 (2018).
162. BBNJ Treaty, *supra* note 55, art. 21 bis.
163. *Id.* art. 30.
164. *Id.* art. 41 bis.
165. *Id.* art. 35.2.
166. *Id.* art. 34.
167. *Id.* art. 34.1.
168. *Id.* art. 35.3.
169. *Id.* art. 35.6.
170. *Id.* art. 38.2.
171. *See infra* Section IV.D.

with the stakeholder consultation process.[172] As more fully discussed below,[173] the inadequacy of TMC's EIA, in substance and process, will be at the heart of the dispute going forward, considering its importance in ensuring that the proposed mining activity is done in a manner that protects the marine environment.

B. *Liability Assurances*

While UNCLOS makes clear that the contractor shall be liable for any damage arising out of its wrongful acts,[174] there currently exist no regulations to ensure that TMC or Nauru will be able to cover any damages to biodiversity and marine environments resulting from their exploitation activities. Considering the limited resources of TMC and Nauru's financial condition, this lack of assurances is particularly worrisome here. Nauru has admitted:

> Nauru's sponsorship of [NORI] was originally premised on the assumption that Nauru could effectively mitigate (with a high degree of certainty) the potential liabilities or costs arising from its sponsorship. This was important, as these liabilities or costs could, in some circumstances, far exceed the financial capacities of Nauru (as well as those of many other developing States). Unlike terrestrial mining, in which a State generally only risks losing that which it already has (for example, its natural environment), if a developing State can be held liable for activities in the Area, the State may potentially face losing more than it actually has.[175]

In response to such concerns, ITLOS stated, "Considering that the potential for damage, particularly to the marine environment, may increase during the exploitation phase, it is to be expected that [Members] will further deal with the issue of liability in future regulations on exploitation."[176] ITLOS specifically declined to "lay down such future rules on liability,"[177] and neither the Members nor the ISA have laid down rules on liability since.

Instead, the Draft Regulations propose the establishment of an Environmental Compensation Fund to "prevent, limit or remediate any damage to the Area arising from activities in the Area, the costs of which cannot be recovered from a [c]ontractor or sponsoring State"[178] and to "restor[e] and rehabilitat[e] . . . the Area when technically and economically feasible."[179] The Environmental Compensation Fund's sources of funding are identified, but the Draft Regulations do not contain details regarding amounts of such funding.[180]

Considering scientific uncertainties, and the difficulties of establishing fault and causation for environmental harm, particularly in the Area, Parties will have to establish a mechanism to ensure that funds, possibly from insurance, exist to cover any liability done to the Area by TMC's and Nauru's proposed activities.[181] Additionally, the ISA must ensure that the Environmental Compensation Fund contains ample funds to accomplish its ambitious purposes. In the absence of either such mechanism, it will be difficult for TMC and Nauru to establish that their potential liability is adequately accounted for, thereby ensuring that the marine environment is sufficiently protected from potential damage.

C. *Distribution of Benefits*

Currently, there is no agreed-upon mechanism for the distribution of economic or scientific benefits derived from deep seabed mining.[182] Under the Draft Regulations, the only required distribution from mining proceeds is the royalty that contractors are required to pay directly to the ISA.[183] The BBNJ Treaty does provide for the "fair and equitable sharing of benefits" derived from activities with respect to MGR,[184] defined as "any material of marine, plant, animal, microbial or other origin containing functional units of heredity of actual or potential value."[185] The nodules that TMC is proposing to extract likely do not fall within this definition, but the incidental impacts of the mining activities could impede the sharing of benefits due to potential damage to MGR.

TMC has invested heavily in its exploration activities, and will invest further in its proposed exploitation activities.[186] It will be seeking to recoup those costs and eventually turn a profit.[187] However, since the mining will take place in the Area, any benefits are meant to be for "the common heritage of mankind,"[188] and "carried out for the benefit of mankind as a whole."[189] Prior to the commencement of exploitation activities, there must be an agreement, and eventually a mechanism for collecting, managing, and distributing these funds, in a manner that satisfies the diverse expectations of benefit among the various stakeholders.[190] Additionally, scientific information gathered

172. *See* Deep Sea Conservation Coalition, *supra* note 7.
173. *See infra* Section V.B.1.
174. UNCLOS, *supra* note 11, art. 22, Annex III.
175. ITLOS Advisory Opinion of Feb. 1, 2011, *supra* note 44, ¶ 4.
176. *Id.* ¶ 168.
177. *Id.*
178. *Draft Regulations*, *supra* note 38, Regulation 55(a).
179. *Id.* Regulation 55(e).
180. *Id.* Regulation 56.
181. *See* Keith MacMaster, *Environmental Liability for Deep Seabed Mining in the Area: An Urgent Case for a Robust Strict Liability Regime*, 33 Ocean Y.B. 339 (2019), *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3297577.
182. *See* Sue Farram, *Deep-Sea Mining and the Potential Environmental Cost of "Going Green" in the Pacific*, 24 Env't L. Rev. 173 (2022).
183. *Draft Regulations*, *supra* note 38, Regulation 64.
184. BBNJ Treaty, *supra* note 55, art. 7(a).
185. *Id.* art. 1.11.
186. *See* TMC, *supra* note 75, at 30.
187. *See id.*; Karen Miller et al., *Challenging the Need for Deep Seabed Mining From the Perspective of Metal Demand, Biodiversity, Ecosystems Services, and Benefit Sharing*, 8 Frontiers Marine Sci. 1, 1-7 (2021), https://doi.org/10.3389/fmars.2021.706161.
188. UNCLOS, *supra* note 11, art. 136.
189. *Id.* pmbl.
190. *See* Aline Jaeckel, *Benefitting From the Common Heritage of Humankind: From Expectation to Reality*, 35 Int'l J. Marine & Coastal L. 660 (2020), *available at* https://doi.org/10.1163/15718085-BJA10032.

from such mining activities must be shared in an equitable manner. Arriving at consensus between TMC, Nauru, and developing States will likely be a contentious issue.

D. ISA Competence and Procedure

There is concern regarding whether it is appropriate for the ISA to oversee the approval process[191] in light of, inter alia, the allegations regarding TMC having received key data on the most valuable locations for mining activities from the ISA prior to obtaining a State sponsor.[192] Some believe the ISA has an inherent conflict of interest as it is increasingly subject to lobbying by mining companies, some of whom speak on behalf of government delegations at the ISA meetings.[193] Relatedly, though currently funded by Member State contributions, it will eventually be funded by revenues from the mining contracts it issues,[194] thereby incentivizing it to approve exploitation contracts. Others are concerned that applications for mining contracts are handled by lawyers and geologists, rather than biologists or environmental specialists.[195]

Problems inherent in the approval process may even bring challenges related to the interpretation of the "two-year rule" that lies at the heart of TMC's strategy.[196] Importantly, the ISA has now had two years to consult with Members and organizations such as UNEP on how to improve the EIA process, but has failed to do so. As a result, parties have not been shy about voicing their concerns about the ISA's actions and processes, and such concerns are likely to intensify as the dispute lingers.

E. Dispute Resolution Mechanism

Due to the lack of final regulations governing exploitation activities, there is no dispute resolution mechanism governing how parties should proceed. However, the Draft Regulations do incorporate UNCLOS' settlement of disputes mechanism discussed below.[197] So although it is unclear what venue would actually adjudicate a dispute between TMC or Nauru, and a party objecting to their exploitation activities, parties should initially look to UNCLOS for guidance.

191. *See* Deepsea Conservation Coalition, Deep-Sea Mining Fact Sheet 7: Deep-Sea Mining: Is the International Seabed Authority Fit for Purpose? (2020), https://www.savethehighseas.org/wp-content/uploads/2020/10/DSCC_FactSheet7_DSM_ISA_4pp_web.pdf.
192. *See* Lipton, *supra* note 2.
193. *See* Avia Collinder, *Greenpeace Calls Out Seabed Authority Over Deep-Sea Mining Laxity*, Jam. Observer (Apr. 27, 2022), https://www.jamaicaobserver.com/business/greenpeace-calls-out-seabed-authority-over-deep-sea-mining-laxity/.
194. UNCLOS, *supra* note 11, art. 150(d) & Annex III, art. 13(1)(b); Implementation Agreement, *supra* note 15, Annex, §1(14).
195. *See* Jonathan Watts, *Deep-Sea "Gold Rush": Secretive Plans to Carve Up the Seabed Decried*, Guardian (Dec. 8, 2020), https://www.theguardian.com/environment/2020/dec/09/secretive-gold-rush-for-deep-sea-mining-dominated-by-handful-of-firms.
196. *See* Pradeep A. Singh, *The Invocation of the "Two-Year Rule" at the International Seabed Authority: Legal Consequences and Implications*, 37 Int'l J. Marine & Coastal L. 375 (2022), *available at* https://doi.org/10.1163/15718085-bja10098.
197. *See infra* Sections IV.A.-.C.

IV. Possible Venues for Adjudication

UNCLOS contains certain provisions related to jurisdiction for claims for damage to: (1) common heritage of humankind resources; (2) marine environment and BBNJ; (3) living resources in areas beyond national jurisdiction; (4) persons and property in areas beyond national jurisdiction; and (5) damage to coastal State interests.[198] If parties to a dispute are unable to reach a settlement by negotiation or other peaceful means,[199] they can look to UNCLOS for compulsory procedures entailing binding decisions.[200]

A. Seabed Disputes Chamber

UNCLOS established the Seabed Disputes Chamber of ITLOS to hear disputes related to activities in the Area.[201] UNCLOS Article 187(c) specifically grants jurisdiction to the Seabed Disputes Chamber for disputes concerning the application of a relevant contract and acts or omissions of a party to the contract relating to activities in the Area, but does not extend such jurisdiction to third parties seeking relief against non-State contractors.[202] As such, neither TMC nor NORI could be sued directly in the Seabed Disputes Chamber by a party that was not party to the underlying contract. Recourse would be against Nauru, as the sponsoring State pursuant to Article 187(a), which grants jurisdiction over disputes between State Parties, including those related to the general interpretation of UNCLOS' mining rules.

Nauru would then be forced to seek recourse against TMC in a separate proceeding, possibly under Article 187(c). State actors, such as France or Germany, may look to the Seabed Disputes Chamber to enjoin Nauru's sponsored exploitation activities, but ultimately ITLOS lacks any enforcement mechanism. Additionally, non-State actors, such as NGOs, are without recourse to commence a dispute before the Seabed Disputes Chamber, eliminating this forum as an option for those parties. The ISA itself would be able to pursue Nauru or TMC directly pursuant to Article 187(c), but that seems unlikely considering the facts at issue.

B. Advisory Opinion

ITLOS, through the Seabed Disputes Chamber, is empowered to give advisory opinions at the request of the Assembly or Council.[203] UNCLOS specifically notes that such

198. UNCLOS, *supra* note 11, arts. 186-191.
199. *Id.* art. 283.
200. *Id.* pt. XV, §2.
201. *Id.* arts. 186-187.
202. *Id.* art. 187(c) (providing for Seabed Disputes Chamber jurisdiction over: disputes between parties to a contract, being States Parties, [ISA], state enterprises and natural or juridical persons . . . , concerning: (i) the interpretation or application of a relevant contract or a plan of work; or (ii) acts or omissions of a party to the contract relating to activities in the Area and directed to the other party or directly affecting its legitimate interests.
203. *Id.* art. 191.

opinions "shall be given as a matter of urgency."[204] Notwithstanding their nonbinding nature, advisory opinions could include authoritative statements that contribute to clarification of the applicable law and, in so doing, help to narrow the issues in dispute.[205] Additionally, the judicial determinations in ITLOS' advisory opinions are authoritative for its Members and carry no less weight and authority than those in judgments.[206] In consideration of the above, an advisory opinion may be the easiest and quickest way to bring some clarity to the controversy at hand.

For example, ITLOS could consider and advise on the fundamental question of what protection of marine environment is required under customary law. Such advisory opinion could provide guidance to the parties as they potentially enter negotiations on their respective claims. However, requests for an advisory opinion may only be brought by the Assembly or Council, thereby prohibiting individual States and NGOs from directly utilizing this option. That said, individual States and NGOs can attempt to convince Members of the Assembly or Council to act, particularly considering the Assembly's one-quarter Member threshold for seeking an advisory opinion.[207] Additionally, since an advisory opinion is not binding and ITLOS lacks any enforcement mechanism, such an opinion could not be used to enjoin the mining activity.

C. *Binding Commercial Arbitration*

UNCLOS also provides Parties with the opportunity to submit disputes to binding commercial arbitration in certain circumstances.[208] However, jurisdiction is limited to contract disputes, thereby reserving disputes related to the interpretation of the UNCLOS' mining rules to the Seabed Disputes Chamber's jurisdiction. Further, the same inability for noncontract counterparties to pursue TMC directly pursuant to Article 187(c) is present in commercial arbitration.[209] Similarly, nongovernment actors, such as NGOs, cannot submit a dispute to commercial arbitration pursuant to UNCLOS.

Accordingly, neither commercial arbitration nor an action before the Seabed Disputes Chamber appears to be viable options for non-State actors objecting to the proposed exploitation. State actors remain limited in their remedies against Nauru before the Seabed Disputes Chamber pursuant to Article 187(a), rather than through commercial arbitration pursuant to Article 187(c).

D. *Ad Hoc Expert Panel*

In implementing UNCLOS, the BBNJ Treaty provides a unique forum for certain types of disputes. Where a dispute concerns a matter of a technical nature, such as the adequacy of an EIA, the parties may refer the dispute to an ad hoc expert panel. Pursuant to this provision, the expert panel will confer with the parties and "endeavor to resolve the dispute expeditiously without recourse to the binding procedures for settlement of disputes,"[210] which explicitly refer to the dispute resolution mechanisms under UNCLOS, discussed above.[211] The adequacy of TMC's EIA, particularly considering scientific uncertainty on the impact it will have on the marine ecosystem and biodiversity, appears to be tailor-made for referral to this newly created expert panel.

Since the BBNJ Treaty is under UNCLOS, this remedy is limited to State actors, so an objecting State would have to seek recourse against Nauru, and NGOs cannot utilize this relief.[212] Importantly, the BBNJ Treaty's text was adopted by consensus on June 19, 2023.[213] However, as noted above,[214] the Scientific and Technical Body has yet to develop EIA standards and guidelines for adoption. Accordingly, referral to an ad hoc expert panel is not yet a binding option for objecting parties, but its inclusion in the BBNJ Treaty is likely to support calls for a moratorium, or strategic pause on TMC's activities, until details surrounding this possible venue are finalized.

E. *National Courts*

1. Nauru

Parties may have some recourse against TMC in Nauru's national courts. UNCLOS imposes a requirement that sponsoring States, such as Nauru, ensure that recourse is available in their national courts "for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or jurisdictional persons under their jurisdiction."[215]

Without considering the logistical and political impediments to pursuing TMC in Nauru, such recourse is limited to damage by pollution and is therefore ill-suited for the injunctive type of relief an objecting party is likely to seek against TMC. Nauru does have domestic legislation regarding seabed mining, but the act stresses that Nauru cannot impose "unnecessary, disproportionate or duplicate regulatory burden" on sponsored entities, such as TMC, unless those regulations are consistent with UNCLOS, the ISA's rules, and other standards of international law.[216]

204. *Id.*
205. *See* Shabtai Rosenne, *The International Court of Justice: An Essay in Political and Legal Theory*, 34 Int'l Affs. 76 (1958).
206. Dispute Concerning Delimitation of the Maritime Boundary Between Mauritius and the Maldives in the Indian Ocean (Mauritius v. Maldives), Case No. 28, Preliminary Objections, Judgment of Jan. 28, 2021, ¶ 203, https://jusmundi.com/en/document/decision/en-dispute-concerning-delimitation-of-the-maritime-boundary-between-mauritius-and-maldives-in-the-indian-ocean-mauritius-maldives-judgment-preliminary-objections-thursday-28th-january-2021.
207. UNCLOS, *supra* note 11, art. 159.10.
208. *Id.* art. 188.
209. *Id.* art. 188(2).
210. BBNJ Treaty, *supra* note 55, art. 54 ter.
211. *Id.* art. 55.
212. *Id.*; *see also* UNCLOS, *supra* note 11, art. 187.
213. *See* United Nations, *supra* note 56.
214. *See supra* Section III.A.8.
215. UNCLOS, *supra* note 11, art. 235.
216. International Seabed Minerals Act §30(d) (2015) (Nauru).

With Nauru's national courts unlikely to provide remedies amenable to objecting parties, such parties may look to other national courts for relief.

2. Canada

TMC is a company existing under the laws of British Columbia, Canada.[217] In a recent landmark decision, *Nevsun Resources Ltd. v. Araya*,[218] the Supreme Court of Canada held that Canadian companies can be sued for breaches of customary international law relating to their foreign operations. Canada's Supreme Court further held that any customary international law is automatically considered domestic law unless there is express legislation to the contrary.[219] In theory, objecting parties could bring suit in Canada alleging that TMC has violated the precautionary principle or has failed to adequately assess transboundary environmental impacts, both of which are considered customary international law.

In practice, however, the *Nevsun* decision likely does not extend to the facts at issue. The breaches of customary international law alleged by individual workers in *Nevsun* are crimes against humanity, including slavery and forced labor, which are "not simply of established norms of customary international law, but of norms accepted to be of such fundamental importance as to be characterized as *jus cogens*, or peremptory norms" from which no derogation is permitted.[220] However, the decision provides little guidance on the scope of liability for customary international law outside peremptory norms, such as the precautionary principle, and whether nonindividual actors, such as NGOs, have standing to assert such claims against Canadian corporations. While *Nevsun* does not foreclose the possibility of NGOs pursuing remedies against TMC in Canada, it also does not provide an unambiguous precedent that should give NGOs confidence.

3. United States

Though organized in Canada, TMC was formed pursuant to a SPAC under U.S. securities law.[221] As noted above, TMC is currently subject to multiple lawsuits from investors who claim that TMC made false and misleading statements regarding the environmental and regulatory risks of its deep sea mining plan.[222] The SEC limits the ability to bring such actions to actors who have actually purchased or sold a security, thereby foreclosing a third-party actor from pursuing these claims in the United States.[223] It is not an oversight that NGOs like Greenpeace and the Deep Sea Mining Campaign attempted to convince shareholders of TMC's misdeeds through a letter to the SEC[224] and a shareholder advisory document,[225] respectively, rather than commencing direct legal action themselves. Therefore, U.S. securities law is likely not a viable path for relief for NGOs and national governments.

The Alien Tort Claims Act[226] allows foreign actors to bring civil suits in U.S. courts for "shockingly egregious violations of . . . international law,"[227] even those that have occurred in other countries, when they are (1) brought by a foreign citizen; (2) for a tort; and (3) in violation of the laws of nations.[228] To date, only cases involving gross human rights violations have succeeded,[229] and environmental claims have been dismissed outright.[230] Standing under the Alien Tort Claims Act is limited to foreign citizens, so NGOs will likely not be able to avail themselves of this statute. Even if a foreign citizen plaintiff were identified, precedent suggests such an environmental claim would likely not succeed since TMC's actions are unlikely to be considered gross human rights violations. With national courts unlikely to provide remedies available to objecting parties, such parties will have to turn to other international law bodies for relief.

F. ICJ

The ICJ was granted its powers pursuant to the United Nations Charter.[231] The ICJ is empowered to adjudicate "contentious cases" between States, and to issue advisory opinions on request by other organs of the United Nations.[232] Though no stranger to contentious cases involving environmental issues,[233] the ICJ established the Chamber for Environmental Matters in 1993 to address any environmental case falling within its jurisdiction.[234] However, no cases were ever submitted to the chamber, and it ceased to exist as of 2006.[235]

Regardless, pursuant to its enumerated duties, the ICJ may only hear cases between States, thereby limiting certain objecting parties' remedies against TMC. That said, a State actor seeking relief related to the exploitation activities at issue could pursue Nauru, as the sponsoring State,

217. *See* Sustainable Opportunities Acquisition Corp., *supra* note 71.
218. [2020] S.C.C. 5.
219. *Id.* ¶ 86.
220. *Id.* ¶¶ 99-102.
221. *See* Press Release, TMC, *supra* note 66.
222. Carper v. Metals Co., No. 1:21-CV-05991 (E.D.N.Y. filed Oct. 28, 2021), https://unicourt.com/case/pc-db5-carper-v-tmc-the-metals-company-inc-et-al-1065767; Tran v. Metals Co., No. 1:21-CV-06325 (E.D.N.Y. filed Nov. 15, 2021), https://unicourt.com/case/pc-db5-tran-v-tmc-the-metals-company-inc-et-al-1077085.
223. 15 U.S.C. §78r.
224. Letter from Annie Leonard, *supra* note 99.
225. Deep Sea Mining Campaign, *supra* note 100.
226. 28 U.S.C. §1350 (1994).
227. Zapata v. Quinn, 707 F.2d 691, 692 (2d Cir. 1983).
228. *See* Kadic v. Karadžić, 70 F.3d 232, 240 (2d Cir. 1995).
229. *See*, *e.g.*, United States v. Matta-Ballesteros, 71 F.3d 754, 764 n.5 (9th Cir. 1995); *see also* Siderman de Blake v. Republic of Argentina, 965 F.2d 699, 717 (9th Cir. 1992), *amended by* 98 F.3d 1100 (9th Cir. 1996).
230. *See* Aguinda v. Texaco, Inc., No. 93 Civ. 7527 (VLB), 1994 WL 142006 (S.D.N.Y. Apr. 29, 1994) ("[n]ot all conduct which may be harmful to the environment, and not all violations of environmental laws, constitute violations of the laws of nations. Otherwise more detailed statutes and regulations would be effectively superseded").
231. I.C.J. Stat. art. 1.
232. U.N. Charter art. 96; I.C.J. Stat. arts. 35-38.
233. *See*, *e.g.*, Certain Phosphate Lands in Nauru (Nauru v. Austl.), Judgment, 1992 I.C.J. 240 (June 26); *see also* Gabčíkovo-Nagymaros Project (Hung. v. Slovk.), Judgment, 1997 I.C.J. 7 (Sept. 25).
234. ICJ, Annual Report 1992-1993, at 17 (1993).
235. ICJ, Annual Report 2006-2007, at 307 (2007).

but only if Nauru consents.[236] Dual party consent is the basis of the ICJ's jurisdiction, and that consent manifests itself in special agreements between parties, if not otherwise accounted for in treaties.[237] Considering Nauru's support of TMC's exploitative actions, it seems improbable that it would consent to the ICJ's jurisdiction, which would likely have the effect of substantially delaying the mining in question. Outright cessation of deep sea mining activities ordered by the ICJ is out of the question, since it lacks enforcement powers.[238] Non-State actors, such as NGOs, are without recourse before the ICJ.

G. Permanent Court of Arbitration

The Permanent Court of Arbitration (PCA) was established in 1899 by the First Hague Peace Conference,[239] and conducts international arbitrations between State Parties, international organizations, and private parties.[240] There are no jurisdictional limitations on the type of actor who may be a party before the PCA. However, private parties must agree in writing that their dispute will be heard by the PCA, whether against an international organization[241] or State.[242] Accordingly, TMC would have to consent to have objections to its exploitation activities heard before the PCA. Considering the obstacles in finding another viable venue to pursue claims against TMC, TMC would likely be resistant to the prospect of conferring jurisdiction upon itself voluntarily.

Though the BBNJ Treaty's text has recently been adopted by consensus,[243] it remains unclear which, if any, venue is best *currently* suited to adjudicate the claims at issue. However, an evaluation of those claims is integral in assessing the claims' likelihood of success on the merits, which is likely to impact the parties' positions in potential negotiations regarding the issues, particularly those that relate to protecting the marine environment.

V. Evaluation of Claims

Due to the complex nature of identifying an appropriate venue for adjudication, and the sheer number of stakeholders involved, it is possible that TMC and Nauru will engage in negotiations with their detractors prior to commencing the exploitative activities they are pledging to begin soon. As noted above, parties have yet to put forth strong legal merits on the claims. However, negotiations are likely to include discussions related to the (1) validity of the two-year deadline; (2) protection of the marine environment, including the adequacy of the EIA process; and (3) sharing of knowledge and resources.

A. Two-Year Deadline

Nauru invoked the "two-year rule" seeking to force the ISA to finalize the Draft Regulations by July 9, 2023, pursuant to §1(15)(c) of the Implementation Agreement. Nauru's, and by extension TMC's, position is that if the Draft Regulations are not finalized within this two-year period and "an application for approval of a plan of work for exploitation is pending," the Implementation Agreement requires ISA to "nonetheless consider and provisionally approve such plan of work based on the provisions of [UNCLOS] and any rules, regulations and procedures that ISA may have adopted provisionally, or on the basis of the norms contained in [UNCLOS] and . . . the principle of non-discrimination among contractors."[244]

Notwithstanding that the ISA did not finalize exploitation regulations by July 9,[245] the open question remains whether Nauru will follow through on its promise to submit its application.[246] While the ISA has yet to formally address the implications of the "two-year rule,"[247] commentators who have examined this issue in depth have identified several factors that run contrary to Nauru's interpretation, which would effectively allow for TMC's unregulated mining activity to automatically proceed if the Draft Regulations are not finalized.[248]

First, §1(15)(c) specifically refers to "elaboration" rather than "adoption" of the rules, regulations, and procedures governing exploitation. Accordingly, it may be sufficient that such rules are merely elaborated upon to satisfy the ISA's obligations under the two-year rule. As such, the ISA could agree on something less than final rules and regulations, such as key standards and guidelines, for instance, prior to considering any application for exploitation. Second, §1(15)(c) uses the word "consider" in relation to a plan of work, which indicates that the ISA would have to evaluate and assess the exploitation application based on UNCLOS and any other applicable rules, regulations, and procedures that exist.[249] The phrase "consider and approve" is used elsewhere in UNCLOS to indicate the need for the ISA to exercise judgment when deciding on a particular issue.[250]

236. I.C.J. Stat. art. 36(1).
237. *Id*. art. 40.
238. *See* Hunter et al., *supra* note 49, at 269.
239. Convention for the Pacific Settlement of International Disputes, arts. 20-29, July 29, 1899, 32 Stat. 1779.
240. *See* PCA, *Dispute Resolution Services*, https://pca-cpa.org/en/services/ (last visited Aug. 17, 2023).
241. PCA, Optional Rules for Arbitration Between International Organizations and Private Parties art. 1 (1996), https://docs.pca-cpa.org/2016/01/Optional-Rules-for-Arbitration-Between-International-Organizations-and-Private-Parties-1996.pdf.
242. PCA, Optional Rules for Arbitrating Disputes Between Two Parties of Which Only One Is a State art. 1 (1993), https://docs.pca-cpa.org/2016/01/Optional-Rules-for-Arbitrating-Disputes-between-Two-Parties-of-Which-Only-One-is-a-State-1993.pdf.
243. *See* United Nations, *supra* note 56.
244. Implementation Agreement, *supra* note 15, Annex, §1(15)(c).
245. *See* ISBA/28/C/24, *supra* note 8; Press Release, ISA, *supra* note 8.
246. *See* Eric Lipton, *Pacific Seabed Mining Delayed as International Agency Finalizes Rules*, N.Y. Times (July 23, 2023), https://www.nytimes.com/2023/07/23/us/politics/pacific-seabed-mining-delayed.html.
247. Asterios Tsioumanis et al., *Summary of the 27th Session of the Assembly of the International Seabed Authority*, 25 Earth Negots. Bull. 1 (2022).
248. *See* Singh, *supra* note 196.
249. *Id*. at 400.
250. *Id*. (citing UNCLOS, *supra* note 11, arts. 160.2(f)(i), (ii) and (h), 172, 314.1).

Finally, §1(15)(c) calls for the ISA to "provisionally approve such plan of work," which is not the same as a final exploitation contract. To finalize an exploitation contract, the plan of work would still need to be incorporated into a draft contract, which would then need to be negotiated and finalized with the secretary-general of the ISA.[251] Additionally, the use of the term "provisional" implies that any approval can, and will, be revisited in the future, including after the Draft Regulations have been finalized.[252] TMC would be foolish to expend significant resources upon provisional approval of its exploitation activities when such activities may later be noncompliant with final rules and regulations.

For the ISA to provisionally approve the exploitation merely because it has not finalized the Draft Regulations within two years is fundamentally inconsistent with the ISA's role and Nauru's treaty obligations to protect the marine environment under UNCLOS, particularly since final Draft Regulations may be completed in 2025.[253] Such a result could seriously jeopardize the ISA's credibility, and future role in the process, particularly considering the Members' ability to impact its governance structure.

In consideration of the above, it is likely in Nauru's and TMC's best interests to ensure that their actions comply with the Implementation Agreement before they begin exploitation activities, and in the ISA's best interests to ensure that it applies a standard of care consistent with modern standards and its role under UNCLOS. Objecting parties are likely aware of the leverage this provides them in opening the door to negotiations on other matters, particularly those related to the protection of the marine environment.

B. Protection of the Marine Environment

The exploitation of polymetallic nodules from the deep seabed proposed by TMC presents serious environmental concerns, including direct destruction of habitats, together with marine degradation through plumes of seafloor sediments generated by mining activities.[254] In order to extract the nodules, TMC is seeking to scrape them from the surface of the deep seabed along with sediment from the ocean floor using underwater extraction machines.[255] The disturbed sediment could disperse across a large area of the sea, and the removal of nodules could effectively destroy the surrounding marine habitat. Mined nodules and sediment would then be pumped up a long tube to a surface vessel where the nodules will be sorted, and the waste returned to the sea.[256]

Although the actual mining of nodules is done at the seabed, it is possible that such activity would also impact the water column above the seabed, and the related ecosystems of the ocean.[257] Some estimates assert that the sediment resulting from mining activities could travel "hundreds or even thousands of kilometres."[258] Additionally, the mining vessels and platforms may cause oil and toxic waste pollution, with one study predicting that each mining vessel would release approximately two million cubic feet of discharge every day, some of it containing toxic substances such as lead and mercury.[259]

While TMC has claimed that its exploitation can be conducted in a manner that does not damage the marine environment,[260] research elsewhere suggests long-term damage to the marine environment is likely.[261] Opponents of deep seabed mining have argued that not enough is known about the deep sea, and scientists assert that the large-scale implications for deep sea biodiversity can only be properly assessed with better knowledge of how the relevant ecosystems function.[262] Clearly, there is not a scientific consensus on the effects that TMC's exploitation activities will have on the marine environment. In that instance, where there is insufficient knowledge or scientific evidence to fully assess the risk of harm to the environment, the precautionary principle supports protective action, or a mortarium on the mining activity, until such knowledge and evidence can be obtained.[263] Considering such customary law in the face of scientific uncertainty, the burden is on TMC to establish that its activities do not cause harm to the marine environment. The only reasonable tool for achieving this end is through an EIA that complies with contemporary requirements, both substantively and procedurally.

251. *Id.* at 407.
252. *Id.* at 408.
253. *See* ISBA/28/C/24, *supra* note 8; Press Release, ISA, *supra* note 8.
254. *See, e.g.*, Rahul Sharma, *Environmental Issues of Deep-Sea Mining*, 11 Procedia Earth & Planetary Sci. 204 (2015) (discussing environmental concerns posed by deep seabed mining from a scientific perspective).
255. *See* Leyland Cecco, *Corruption, Leaked Video Footage of Ocean Pollution Shines Light on Deep-Sea Mining*, Guardian (Feb. 6, 2023), https://www.theguardian.com/environment/2023/feb/06/leaked-video-footage-of-ocean-pollution-shines-light-on-deep-sea-mining.
256. *See* Elizabeth Claire Alberts, *Deep-Sea Mining: An Environmental Solution or Impending Catastrophe?*, Mongabay (June 16, 2020), https://news.mongabay.com/2020/06/deep-sea-mining-an-environmental-solution-or-impending-catastrophe/.
257. *See* Benjamin Gillard et al., *Vertical Distribution of Particulate Matter in the Clarion Clipperton Zone (German Sector)—Potential Impacts From Deep-Sea Mining Discharge in the Water Column*, 9 Frontiers in Marine Sci. 1 (2022), https://www.frontiersin.org/articles/10.3389/fmars.2022.820947/full.
258. *See* Louisa Casson, *5 Reasons Why Deep Sea Mining Will Only Get Our Planet Into Deep Trouble*, Greenpeace (July 8, 2019), https://www.greenpeace.org/international/story/23164/5-reasons-to-stop-deep-sea-mining/.
259. *See* Wil S. Hylton, *History's Largest Mining Operation Is About to Begin*, Atlantic, Jan./Feb. 2020, https://www.theatlantic.com/magazine/archive/2020/01/20000-feet-under-the-sea/603040.
260. *See* NORI, Collector Test Study—Environmental Impact Statement: Testing of Polymetallic Nodule Collector System Components in the NORI-D Contract Area, Clarion-Clipperton Zone, Pacific Ocean (2021), https://static1.squarespace.com/static/611bf5e1fae42046801656c0/t/6152820c295c1543ff79796c/1632797221691/NORI-D+COLLECTOR+TEST+EIS_FINAL_ABBREVIATED_RE.pdf.
261. *See* Erik Simon-Lledó et al., *Biological Effects 26 Years After Simulated Deep-Sea Mining*, 9 Sci. Reps. art. 8040 (2019), https://doi.org/10.1038/s41598-019-44492-w.
262. *See* Bernd Christiansen et al., *Potential Effects of Deep Seabed Mining on Pelagic and Benthopelagic Biota*, 114 Marine Pol'y 1, 3 (2020), https://www.sciencedirect.com/science/article/pii/S0308597X18306407.
263. *See* Farram, *supra* note 182.

1. EIA

☐ *Substance*. Fundamentally, an EIA is intended to show how TMC's mining activities are likely to affect the marine environment.[264] Critics, including national governments,[265] have claimed that the contents of TMC's EIA[266] do not provide adequate information to assess the environmental impact of its mining activities.[267] A general concern raised as to the adequacy of EIAs under the Draft Regulations is insufficient detail on mining operations.[268] Likely out of a concern for its proprietary information, TMC has not provided specifics of its mining technology that is sufficient for third parties to conduct an independent risk assessment. Additionally, TMC has provided minimal information regarding the potential impact of unplanned events.[269] That said, TMC's EIA is arguably compliant with the Draft Regulations due to their lack of specific requirements and vague guidelines.

Although compliant with the Draft Regulations, TMC's EIA is insufficient to truly gauge the cumulative effects TMC's actions will have on the marine environment.[270] Considering that protecting the marine environment is one of the key principles governing the Area,[271] the Draft Regulations must be revised to include a detailed listing of minimum EIA requirements consistent with the UNEP EIA Guidelines,[272] IAA,[273] and BBNJ Treaty,[274] prior to the approval of *any* exploitation activities. Further, ISA's Legal and Technical Commission should prioritize standards and guidelines regarding the content of EIAs, and the assessment of cumulative impacts of mining activities in a manner like that of the BBNJ Treaty's Scientific and Technical Body. TMC's failure to comply with the IAA's substantive EIA requirements, which include changes to the environment (including malfunction, accidents, and cumulative effects), mitigation measures, and comments received from the public,[275] is particularly inexcusable considering that TMC is a Canadian company, and cannot be excused from not understanding modern substantive EIA requirements.

Nauru, as the sponsoring State, should support efforts to improve the substantive contents of TMC's EIA in order to limit its exposure to international condemnation and liability. Under UNCLOS, sponsoring States cannot avoid potential liability by merely ensuring contractors comply with ISA rules, as these may be insufficient to meet the standards required under international law.[276] Such standards include the obligation to apply a precautionary approach,[277] which effectively requires a degree of proactive monitoring and diligence to prevent environmental harm.

Due to the scientific uncertainty associated with TMC's mining activities, if Nauru does not meet these precautionary monitoring obligations, it could be held liable for harm caused by any resulting damage to the marine environment. In consideration of scientific uncertainty, and TMC's inability to produce a robust EIA, a moratorium on TMC's mining activities until modern EIA requirements are finalized are in the best interests of Nauru and the marine environment. Such moratorium is supported by TMC's failure to abide by the precautionary principle and Nauru's failure to protect the marine environment pursuant to its treaty obligations under UNCLOS.

☐ *Process*. The Draft Regulations require TMC to post its EIA on ISA's website for only 60 days to invite comments for consideration.[278] TMC then has 60 days following the close of such comment period to respond.[279] Such limited opportunity for public comment and shareholder consultation falls well short of modern EIA access rights requirements.

Principle 10 of the Rio Declaration proclaims that "[e]nvironmental issues are best handled with the participation of all citizens."[280] As it relates to the EIA process, subsequent binding instruments have memorialized this concept by ensuring (1) the right to access environmental information; (2) the right to access environmental participation; and (3) the right to access environmental remedies.[281] Considering the requirement that TMC post its EIA on ISA's publicly available website, the Draft Regulations are not obviously deficient on the right to access environmental information. However, the Draft Regulations are deficient regarding access to environmental participation and environmental remedies.

Multiple governments have expressed their objections to TMC's EIA submission and publication, and stakeholder consultation processes.[282] The 60-day comment solicitation period required pursuant to the Draft Regulations is inconsistent with modern EIA regimes, such as the Escazú Agreement, IAA, and BBNJ Treaty. The Escazú Agreement, for instance, requires that Parties ensure access to public participation in the environmental decisionmaking process.[283] Mexico, the State closest to the CCZ where TMC's mining activities are proposed to occur, is Party to the Escazú Agreement, so an argument that Escazú's procedural requirements apply to TMC's EIA could be persuasive. Similarly, the IAA requires early, inclusive, and

264. *See* Christiansen et al., *supra* note 262.
265. *See* Deep Sea Conservation Coalition, *supra* note 7.
266. *See* NORI, *supra* note 260.
267. *See* Deep Sea Conservation Coalition, *supra* note 7.
268. *See* Christiansen et al., *supra* note 262, at 3.
269. *See* NORI, *supra* note 260.
270. *See* Christiansen et al., *supra* note 262.
271. *See supra* Part I.
272. *See supra* Section III.A.5.
273. *See supra* Section III.A.4.
274. *See supra* Section III.A.8.
275. Environmental Assessment Act, S.B.C. 2018, c 51, s 22(1).
276. *See* Duncan Currie, Deep Sea Conservation Coalition, Seabed Mining: Legal Risks, Responsibilities, and Liabilities for Sponsoring States (2020), https://www.savethehighseas.org/wp-content/uploads/2020/10/Seabed-Mining-Liability-Factsheet_DSCC_July2020.pdf.
277. ITLOS Advisory Opinion of Feb. 1, 2011, *supra* note 44, ¶¶ 121-140.
278. *Draft Regulations*, *supra* note 38, Regulation 11.1(a).
279. *Id.* Regulation 11.1(b).
280. Rio Declaration, *supra* note 50, princ. 10.
281. *See supra* Sections III.A.7.-.8.
282. *See* Deep Sea Conservation Coalition, *supra* note 7.
283. *See supra* Section III.A.7.

meaningful public engagement,[284] and TMC cannot be estopped from ignoring such requirements for meaningful public engagement since it is a Canadian company.

The BBNJ Treaty goes even further in requiring Parties to timely publish notification throughout the EIA process, in a central repository, before a decision is made as to whether to authorize such activity.[285] The BBNJ Treaty makes explicit that opportunities for stakeholder participation, including through the submission of public comments, must take place throughout the entirety of the EIA process.[286]

In consideration of the modern EIA participation requirement, at a minimum, TMC must submit a revised draft EIA, based on a robust, unrushed, stakeholder participation process, and subject to public comments, prior to the approval of its proposed mining activities. Such participation is integral not only because it helps identify key environmental issues, but also because it can offer options for addressing those issues from different stakeholders' perspectives.

The Draft Regulations are particularly scant as they relate to access to the environmental rule of law. Pursuant to the Draft Regulations, it is within the ISA's sole discretion whether to approve TMC's proposed activities.[287] The UNEP EIA Guidelines acknowledge the importance of an independent assessment,[288] but multiple parties have questioned the ISA's independence considering its inherent conflict of interest in receiving funding from revenues derived from the mining contracts it approves.[289] Likely exacerbating those concerns is the Draft Regulations' lack of guidance or transparency on what factors the ISA must consider prior to approval or rejection.[290] In contrast, the IAA permits rejection of a proposed activity based on whether the adverse direct or incidental effects are in the public interest,[291] explaining that such determination is based on consideration of, inter alia, the project's contribution to sustainability, the extent to which adverse effects are significant, and associated mitigation measures.[292]

Similarly, the BBNJ Treaty explicitly conditions approval on whether the Party has determined that it has made all reasonable efforts to ensure that the activity can be conducted in a manner consistent with the prevention of significant adverse impacts on the marine environment, taking into account mitigation or management measures.[293] In light of the critiques and accusations leveled at the ISA regarding the flawed approval process,[294] it will be difficult for concerned parties to have faith in the process. In consideration of the lack of ISA decisionmaking transparency, compared to relevant international instruments' enumerated approval criteria, TMC's activities cannot be permitted to proceed under the current process, and the Draft Regulations must be revised to incorporate specific factors to be considered for approval prior to Nauru submitting a revised application.

If the current process were to continue, there is no mechanism in the Draft Regulations for parties to object to, or otherwise appeal the ISA's decision to approve, Nauru's application. Such lack of access to an effective remedy is inconsistent with the Escazú Agreement, which requires access to judicial remedies.[295] The Draft Regulations' failure to provide effective remedies is egregious considering that EIA regimes, such as NEPA, that predate UNCLOS contemplated citizen litigation to ensure information disclosure procedures are followed.[296]

As discussed above, the Draft Regulations incorporate UNCLOS' settlement of disputes mechanism,[297] which arguably can be utilized to appeal the ISA's potential approval of Nauru's application. However, the Draft Regulations must be revised to provide clarity regarding parties' rights to object prior to such approval. In consideration of the international community's evolving position on access to the environmental rule of law and remedies, Nauru's potential application should be rejected, and a moratorium on deep seabed mining should be imposed, until the Draft Regulations are finalized in a manner that ensures objecting parties' right to access environmental remedies is accounted for.

2. Liability Assurances

Pursuant to UNCLOS, TMC, as a contractor, "shall have responsibility or liability for any damage arising out of wrongful acts in the conduct of its operations."[298] Such liability is described as "the actual amount of damage."[299] Each of the exploration regulations expands on this concept in specifying that the amount of damage that a contractor is liable for includes "damage to the marine environment arising out of wrongful acts or omissions of its employees, subcontractors, agents and all persons working or acting for them." Further, "[d]amage includes the costs of reasonable measures to prevent or limit damage to the marine environment," and requires that TMC "maintain appropriate insurance policies."[300]

The Draft Regulations state that the contractor will be liable "for the actual amount of any damage, including damage to the [m]arine [e]nvironment, arising out of its *wrongful acts or omissions* . . . including the costs of reasonable measures to prevent and limit damage to the [m]arine [e]nvironment."[301] The Draft Regulations' condition

284. *See supra* Section III.A.4.
285. *See supra* Section III.A.8.
286. *See id.*
287. *Draft Regulations*, *supra* note 38, §3.
288. *See supra* Section III.A.5.
289. *See supra* Section II.C.
290. *Draft Regulations*, *supra* note 38, Regulation 17.
291. *See supra* Section III.A.4.
292. *See id.*
293. *See supra* Section III.A.8.
294. *See supra* Section II.C.
295. *See supra* Section III.A.7.
296. *See supra* Section III.A.3.
297. *See supra* Sections IV.A.-C.
298. UNCLOS, *supra* note 11, art. 22.
299. *Id.*
300. *See supra* notes 35, 36, and 37, Annex IV, Regulation 16.5.
301. *Draft Regulations*, *supra* note 38, Annex X, §7.1 (emphasis added).

of liability on wrongful acts or omissions could severely limit TMC's liability for unforeseen events. Considering the scientific uncertainty of deep seabed mining's impact on the marine environment, such limitation is inconsistent with the obligation to protect the marine environment.

There is sure to be significant disagreement on the scope of possible amounts necessary to both prevent or limit damage, and to compensate for actual damage to the marine environment. To satisfy objecting parties' concerns and ensure that the marine environment is adequately protected, TMC would presumably have to escrow, or have guaranteed access to, funds that cover the higher estimates of prevention costs. Similarly, TMC will likely have to secure insurance in an amount large enough to address the concerns of parties who believe that pollution, and damage to the marine environment, will be excessive. The challenges will be agreeing on amounts that are not prohibitive relative to the expected economic benefits derived from the mining activities and ensuring that certain potential damages are not of the sort that cannot be remedied at all.

While TMC had only approximately $20 million of cash as of June 30, 2023,[302] it should be able to attract additional capital if the prospects of going forward with mining are substantially improved by a consensual resolution with the objecting parties. If TMC truly believes that its activities can be conducted with minimal environmental harm, it should not hesitate to provide such financial assurances, particularly considering the $31 billion it expects to earn over the life of the exploitation project.[303]

Nauru will likely support high amounts of financial security and insurance to ensure that it is not held liable for damage to the marine environment beyond what is covered by TMC and its insurers. UNCLOS makes clear that a State Party, such as Nauru, will be liable for damage caused by a contractor if the State Party has failed to carry out its responsibilities thereunder.[304] ITLOS explained that those obligations include a due diligence obligation to take necessary and appropriate measures to ensure that the contractor complies with its obligations under UNCLOS, ISA, and related rules and regulations.[305] Nauru's liability is parallel to TMC's, and not residual.[306]

Further, Nauru must ensure that recourse is available in accordance with its legal systems for prompt and adequate compensation on account of damage caused by pollution of the marine environment brought on by TMC, and cooperate in implementing liability assessments and procedures for payment of adequate compensation and compulsory insurance.[307] However, the Draft Regulations do not clarify Nauru's potential liability, and Australia "is of the view that there needs to be more detail regarding the liability of a sponsoring State and how it can take responsibility for ensuring exploitation is undertaken in a safe and environmentally responsible manner."[308] In consideration of the above, the proposed mining activities cannot be approved until mechanisms are in place that ensure TMC and Nauru have the financial wherewithal to protect the marine environment from potential damage.

In the United States, the *Deepwater Horizon* oil spill is illustrative to examine a liability compensation framework to account for the consequences of a major environmental disaster in the marine environment.[309] The United States imposes strict liability on all responsible parties, including the owner and operator of the vessel and related facilities, for oil spills.[310] As a result, BP America Production Co. provided $20 billion to the Oil Spill Liability Trust Fund to compensate for the damage.[311] Neither TMC nor Nauru has established that they are able to compensate for damages on a scale similar to BP in the *Deepwater Horizon* oil spill. In the absence of either party establishing their financial ability to compensate for damage to the marine environment, the potential mining application must be rejected.

The Draft Regulations' Environmental Compensation Fund's purpose is to prevent or remediate any damage to the Area arising from activities in the Area, which cannot be recovered from a contractor, such as TMC, or sponsoring State, such as Nauru.[312] In order to accomplish this purpose, the Environmental Compensation Fund must be administered in such a way to account for any liability gaps, both in amount and timing. The Draft Regulations do not provide a breakdown of its sources of funding,[313] and commentators have recognized that the sources enumerated in the Draft Regulations are neither long-term nor stable.[314] Neither do the Draft Regulations discuss a payment procedure for funds from the Environmental Compensation Fund. As a result, it is unclear how quickly it could disperse funds to respond to an environmental emergency requiring prompt action. Considering the vague language of the Draft Regulations, TMC's exploitation activities cannot be permitted to proceed where the Environmental Compensation Fund is insufficiently funded, and without clear direction as to how it will respond to potential damage to the marine environment.

Despite the above discussion of sufficient funding, it is possible that potential damage to the marine environment is not quantifiable. Considering the abundance of MGR in the Area, damage to such MGR may not be currently cal-

302. *See* TMC, *supra* note 75.
303. *See*, *e.g.*, Lipton, *supra* note 2.
304. UNCLOS, *supra* note 11, art. 139.
305. ITLOS Advisory Opinion of Feb. 1, 2011, *supra* note 44, ¶¶ 121-140.
306. *Id.* at 74.
307. UNCLOS, *supra* note 11, art. 235.
308. Government of Australia, Government of Australia's Submission on the Draft Regulations on Exploitation of Mineral Resources in the Area (2017).
309. *See* MacMaster, *supra* note 181.
310. 33 U.S.C. §§2701 and 2702.
311. *See* U.S. Government Accountability Office, *Deepwater Horizon* Oil Spill: Preliminary Assessment of Federal Financial Risks and Cost Reimbursement and Notification Policies and Procedures (2010), https://www.gao.gov/assets/gao-11-90r.pdf.
312. *Draft Regulations*, *supra* note 38, Regulation 55(a).
313. *Id.* Regulation 56.
314. *See* Jiang Zhou & Lun Xiang, *Framework and Rethink of the Environmental Compensation Fund for the International Seabed Area*, 10 Frontiers in Marine Sci. 1, 5 (2023), https://www.frontiersin.org/articles/10.3389/fmars.2023.1084229/full.

culable or even compensable. Due to the scientific uncertainty surrounding the types of MGR in the Area, and the resulting benefits that could be derived from such MGR, their potential economic value is currently unknown.[315] Conservative estimates of such economic value are in the hundreds of billions of dollars,[316] while other benefits cannot be reduced to economic value.[317] In consideration of the precautionary principle in the face of scientific uncertainty, a mortarium on deep seabed mining should be in place to protect the marine environment, and specifically MGR in the Area.

C. *Sharing of Knowledge and Resources*

The Draft Regulations require that the ISA have regard to "the manner in which the proposed [p]lan of [w]ork contributes to realizing benefits for mankind as a whole."[318] Essentially, the ISA is expected to consider the value of an individual mining operation to all of humankind.[319] Value includes scientific knowledge about the marine environment derived from such mining activities.[320] Regardless of whether this dispute is adjudicated or negotiated, TMC should be proactive in committing to share all scientific knowledge derived from its activities with the international community at no cost. Relatedly, it should provide clarity on what those benefits are, and how they might be measured.

If TMC can establish that there are material benefits to humankind, beyond those that are purely economic, it is likely that at least some objecting parties may be convinced to support its mining activities. Sharing such scientific benefits with the international community should not be particularly controversial considering the "common heritage of mankind" concept that is one of UNCLOS' key principles.[321] Sharing of economic benefits, on the other hand, is likely to be much more contentious.

The ISA is expressly required to "provide for the equitable sharing of financial and other economic benefits from activities in the Area."[322] However, there is no agreed-upon mechanism for the distribution of those economic benefits.[323] Although the original intention of UNCLOS was arguably to generate wealth from seabed mining and redistribute such wealth to developing States, to ensure that all developing States stood to benefit from mining, the Implementation Agreement undermined that principle and instead shifted to a system that encourages the participation of developing States through the sponsorship system discussed herein.[324] The shift from all developing States as passive recipients of financial resources to specific States as active sponsors of specific activities is best epitomized by the Implementation Agreement's designation of reserved areas for exploitation by developing States only.[325] Such is the case with the CCZ and Nauru here.

Although questions remain about the process,[326] TMC will likely argue that Nauru's sponsorship of its activities is consistent with the Implementation Agreement. While insufficient to satisfy UNCLOS' aims, TMC should immediately disclose the details of its compensation to Nauru, which are currently confidential.[327] Public scrutiny into such compensation should, at minimum, ensure that Nauru, a developing State, is treated equitably in this arrangement. Additionally, TMC should agree to make details of its optimistic financial projections[328] subject to third-party review to ensure that any proposals regarding the sharing of those benefits is truly equitable and consistent with UNCLOS. Unless, and until, parties reach an agreement on the equitable sharing of economic benefits, TMC's exploitation activities should not be permitted to proceed, since the sharing of knowledge and resources is a key principle of UNCLOS.

Crucially, TMC's mining activities could result in damage to MGR. MGR are potentially valuable resources whose benefits should be shared fairly and equitably with developing States.[329] Allowing the mining activities to proceed without ensuring that MGR can be protected from potential damage would undermine UNCLOS' key principle that the Area and its resources constitute "the common heritage of mankind,"[330] "the exploration and exploitation of which shall be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States."[331] It is possible that the incidental impact of the mining activities impedes the flow of such benefits to developing countries, which is inconsistent with Nauru's treaty obligations under UNCLOS. In consideration of those treaty obligations, the mining activities cannot be permitted to go forward until mechanisms are in place to ensure such mining is done in a manner that benefits humankind as a whole.

VI. Conclusion

While the need for deep seabed minerals may be necessary to accelerate the world's transition away from fossil fuels, in the face of scientific uncertainty we cannot permit exploitation of these minerals to potentially damage the marine environment. UNCLOS is fundamentally about protecting the marine environment. Protecting the marine

315. *See* Paul Oldham et al., Valuing the Deep: Marine Genetic Resources in Areas Beyond National Jurisdiction §6.0.4 (2014), https://bookdown.org/poldham/valuingthedeep/the-value-of-marine-genetic-resources.html#conclusions-4.
316. *Id.* §6.0.3.
317. *Id.* §6.0.1.
318. *Draft Regulations*, *supra* note 38, Regulation 12.3.
319. *See* Jaeckel, *supra* note 190.
320. *See* Michael W. Lodge, *The Common Heritage of Mankind*, 27 Int'l J. Marine & Coastal L. 733 (2012), *available at* https://brill.com/view/journals/estu/27/4/article-p733_7.xml?language=en.
321. UNCLOS, *supra* note 11, pmbl., art. 136.
322. *Id.* art. 140.
323. *See* Farram, *supra* note 182.
324. *See* Jaeckel, *supra* note 190.
325. *See id.* at 671.
326. *See* Lipton, *supra* note 2.
327. *See* Sustainable Opportunities Acquisition Corp., *supra* note 71.
328. *See, e.g.*, Lipton, *supra* note 2.
329. BBNJ Treaty, *supra* note 55, art. 7(a).
330. UNCLOS, *supra* note 11, art. 136.
331. *Id.* pmbl.

environment and its biodiversity is at the core of the BBNJ Treaty, which implements UNCLOS' key principles.

EIA is the primary mechanism that the international community has agreed be utilized to ensure that certain activities, such as mining, are done in a way that does not harm the environment. Considering the evolution of EIA requirements since UNCLOS' adoption, TMC's mining activities should not be permitted to proceed unless and until the ISA adopts modern EIA requirements and processes consistent with the UNEP EIA Guidelines, IAA, and BBNJ Treaty. These modern EIA requirements are necessary to ensure that such mining activities are done in a manner that protects the marine environment.

Nauru's application for provisional approval of its mining application is a procedural gambit that is fundamentally inconsistent with protecting the marine environment, and is therefore a violation of its treaty obligations under UNCLOS. Such treaty obligations are the highest obligations under international law, and should not be ignored to advance TMC's and Nauru's self-interested activities. The ISA's credibility is at stake here. If the ISA were to provisionally approve the mining application, while the Draft Regulations are expected to be finalized in 2025, it could jeopardize its competence to decide similar matters in the future, particularly considering international opposition to such approval. The ISA's governance structure is determined by its Members, and many of those Members are watching closely to ensure that the ISA acts in a manner consistent with protecting the marine environment.

That the ISA is willing to risk its legitimacy on provisional approval of the mining application at issue is particularly worrisome considering TMC's lack of experience in the field, and TMC's and Nauru's precarious financial positions. TMC is a relatively new company, willing to risk the health of the marine environment on untested technology because it has very little to lose. It recently hired third-party engineers and contractors, Bechtel and PAMCO, because it lacks the internal capacity to advance the project itself. Considering Nauru's historical exploitation by developed States, one can hardly blame it for advocating for the mining activity. That said, the marine environment should not be the latest victim of colonization's ugly history. Neither TMC nor Nauru has established that they are able to compensate for potential damage to the marine environment, and therefore the potential mining application must be rejected.

We must also consider that potential damage to the marine environment is not quantifiable due to scientific uncertainty surrounding the types of MGR in the Area, and the resulting benefits that could be derived from such MGR. Potential damage to MGR could impede the flow of benefits to developing countries, which is inconsistent with Nauru's treaty obligations under UNCLOS. Finally, the unknown nature of potential economic benefits that may be derived from MGR makes it virtually impossible to establish a mechanism that ensures financial and other economic benefits derived from activities in the Area are equitably shared. In consideration of failing to establish that benefit-sharing can be done in a fair and equitable manner, the proposed mining activities cannot be permitted to go forward since they will not benefit humankind as a whole.

Although this Article examines the specific case of TMC and Nauru, the same considerations supporting rejection of the potential application at issue would support a moratorium on all deep seabed mining until regulations are in place that require such activities be done in a manner that ensures the protection of the marine environment, and benefits humankind as a whole. Fundamentally, this controversy is a case study of short-term profit-seeking versus long-term protection. To honor treaty obligations and advance the core principles embodied in UNCLOS and subsequent multilateral environmental agreements, the ISA must reject greed and embrace care in imposing a precautionary pause on deep sea mining.