Stuck Between a Polymetallic Nodule and a Hard Place: Harmonizing Deep-Sea Mineral Exploitation and Prevention of Harm to the Marine Environment Under the United Nations Convention on the Law of the Sea

The United Nations Convention on the Law of the Sea and accompanying 1994 Agreement Relating to the Implementation of Part XI of the Convention create the requirement to regulate and facilitate deep-sea mining while simultaneously protecting the marine environment for the Common Heritage of Mankind. At the time of the initial drafting of the Convention, there was a pretense that extraction of seabed resources could be managed in a manner that was not destructive of the marine environment. However, recent research has shown that harm to the marine environment from seabed mining is likely to occur. Due to the potential harm of current seabed mining technology, prospective exploitation projects in the deep-sea of the Pacific Ocean must be regulated in a manner compliant with the Convention. The International Seabed Authority, and its subordinate Legal and Technical Commission, must determine proper regulations and procedures to review and adopt exploitation proposals while complying with the Convention's requirement to avoid harm to the marine environment and promote the Common Heritage of Mankind. The expiration of a procedural deadline, in July 2023, accelerated the timeframe in which the International Seabed Authority must adopt exploitation regulations. Now the Authority must adopt regulations against the ticking clock or risk permitting underregulated mining to occur.

INTRODUCTION

In March of 1873, the H.M.S. *Challenger* dredged up a portion of the ocean floor while sailing in the North Atlantic, harvesting a collection of "peculiar black oval bodies."[1] A chemical analysis of the collected material revealed a composition of ferric oxide (36.08%) and manganese oxide (29.32%).[2] This constituted the first polymetallic nodule extraction from the deep-sea floor.[3] Polymetallic nodules are potato-sized deposits found atop and within deep-seabed sedimentary layers.[4] They are aggregates of valuable precipitated metal oxides—such as nickel, cobalt, copper, titanium, and rare earth metals—formed around a nucleus.[5] Due to the technological difficulties associated with deep-sea collection, harvesting of nodules was not seriously considered until the 1960s.[6] There were several attempts testing mining prototypes in the 1970s, but none were financially feasible. Given the uncertainty of the legal regime governing deep-sea resources,[7] an international debate arose on whether resources beyond national

1. Wyville Thomson, *Notes from the "Challenger" II.*, 8 NATURE 51, 52 (1873).

2. JOHN MURRAY & ALPHONSE FRANÇOIS RENARD, REPORT ON DEEP SEA DEPOSITS BASED ON THE SPECIMENS COLLECTED DURING THE VOYAGE OF THE H.M.S. CHALLENGER IN THE YEARS 1872 TO 1876, at 465 tbl. 98 (1891).

3. Some sources incorrectly assert that the first collection occurred in 1868 in the Kara Sea during Nordenskiöld's expedition on the *Sofia*. This assertion is incorrect as the *Sofia* was not in the Kara Sea during that time period; the first recorded collection remains that of the HMS Challenger. *See* Igor M. Belkin, Per S. Andersson & Jörgen Langhof, *On the Discovery of Ferromanganese Nodules in the World Ocean*, 175 DEEP-SEA RSCH. I 1, 2 (2021).

4. James Hein et. al., *Deep-Ocean Polymetallic Nodules as a Resource for Critical Materials*, 1 NATURE REV. EARTH & ENV'T 158, 158 (2020).

5. *Id.*

6. LUS CUYVERS, WHITNEY BERRY, KRISTINA GJERDE, TORSTEN THIELE & CAROLINE WILHEM, DEEP SEABED MINING: A RISING ENVIRONMENTAL CHALLENGE 2 (2018).

7. *Id.*; E.D. BROWN, THE UN CONVENTION ON THE LAW OF THE SEA, 1982: A GUIDE FOR NATIONAL POLICY MAKING, LEGISLATION AND ADMINISTRATION 161 (1993) ("Prior to 1967, the international community had not concerned itself with the legal regime governing the exploitation of the mineral resources of the Area of seabed lying seaward of the outer limit of the continental shelf.").

jurisdictions should broadly benefit all of mankind[8] or narrowly benefit those who take direct possession.[9] After nearly ten years of deliberation, the United Nations adopted the United Nations Convention on the Law of the Sea (the Convention) in 1982, which came into full force over a decade later in 1994 with the 60th nation's ratification.

The Convention's seabed mining regime and requirement of transfer of technology was a constant point of contention. As a result, key industrialized nations, including the United States,[10] United Kingdom,[11] and Germany,[12] refused to ratify it. To address those nations' concerns, and to attract their assent, the U.N. adopted the 1994 Agreement on the implementation of Part XI of the United Nations Convention on the Law of the Sea (1994 Agreement).[13] The 1994 Agreement

8. In 1967, Dr. Pardo of Malta argued before the United Nations that the seabed resources within the Area outside of national jurisdictions should be governed by the Common Heritage of Mankind Principle. This argument instigated the push for the Third United Nations Conference on the Law of the Sea and the adoption of the Convention in 1982. BROWN, *supra* note 7.

9. The United States was a predominant supporter of the "freedom of the high seas" argument on the legal nature of deep-sea mineral collection and was adamantly opposed to the restriction of nodule-collection. Jon Van Dyke & Christopher Yuen, *"Common Heritage" v. "Freedom of the High Seas": Which Governs the Seabed?*, 19 SAN DIEGO L. REV. 493, 497 (1982) ((citing *Hearing Before the H. Subcomm. on Oceanography of the H. Comm. on Merchant Marine and Fisheries*, 93rd Cong. 50 (1974) (statement of Charles N. Brower, Acting Legal Adviser, United States Department of State): "At the present time, under international law and the High Seas Convention, it is open to anyone who has the capacity to engage in mining of the deep seabed subject to the proper exercise of the high seas rights of the countries involved"); Deep Seabed Hard Mineral Resources Act, Pub. L. No. 96-283, 94 Stat. 553, 30 U.S.C. § 1401-1605 ("[I]t is the legal opinion of the United States that exploration for and commercial recovery of hard mineral resources of the deep seabed are freedoms of the high seas. . . ."); *id.* § 2(a) (12), 30 U.S.C. § 1401 (a) (12)); E.D. Brown, *Freedom of the High Seas Versus the Common Heritage of Mankind: Fundamental Principles in Conflict,* 20 SAN DIEGO L. REV. 521, 523 (1983).

10. Presidential Statement on United States Ocean Policy 1983, 1 PUB. PAPERS OF THE PRESIDENT 378 (Mar. 10, 1983) ("[T]he United States will not sign [the Convention] . . . because several major problems in the Convention's deep seabed mining provisions are contrary to the interests and principles of industrialized nations . . . .").

11. HC Deb (2 Dec. 1982) (33) cols. 404–10 ("[T]he provisions relating to deep seabed mining including the transfer of technology are not acceptable.").

12. E.D. Brown, *'Neither Necessary nor Prudent at this Stage:' The Regime of Seabed Mining and its Impact on the Universality of the UN Convention on the Law of the Sea*, 17 MARINE POL'Y 81, 82–83 (1993).

13. E.D. Brown, *The 1994 Agreement on the Implementation of Part XI of the UN Convention on the Law of the Sea: Breakthrough to Universality?*, 19 MARINE POL'Y 5, 10 (1995) ("The aim of the [1994 Agreement] . . . . is to promote the universality of the UN Convention by so revising it as to make it acceptable to the major industrialized powers."); *see also* Written

contained specifications for the profits from the international seabed outside of any nation's jurisdiction (the Area) and provisions for the prospecting, exploration, and exploitation of the Area.[14] Prospecting is the search for mineral deposits in the Area, including estimation of compositions, sizes and distributions of deposits, and economic values.[15] Exploration includes searching, with exclusive rights, for deposits in the Area, use and testing of mining systems, and conducting studies on related activity.[16] Exploitation is the actual mining of resources: recovery and extraction of minerals from the Area for commercial purposes, including construction and operation of mining, processing, and transportation systems.[17]

Part XI Section 4 of the Convention establishes the International Seabed Authority (ISA) to "organize and control activities in the Area, particularly with a view to administering the resources of the Area."[18] Part XI Section 2 establishes that "[n]ecessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities."[19] These two provisions dictate the dual, and conflicting, purpose of the ISA: (1) administering the resources of the Area, and (2) protecting the marine environment.[20] Notably, the Convention designates the resources

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Testimony of Hillary R. Clinton, Secretary U.S. Department of State Before the Senate Foreign Relations Committee, Accession to the 1982 Law of the Sea Convention and Ratification of the 1994 Agreement Amending Part XI of the Law of the Sea Convention, U.S. SENATE (May 23, 2012), www.foreign.senate.gov/imo/media/doc/REVISED_Secretary_Clinton_Testimony.pdf [https://perma.cc/X66T-RLSP].

14. 1994 Agreement on the Implementation of Part XI of the United Nations Convention on the Law of the Sea, Nov. 16, 1994, 1836 U.N.T.S 42 [hereinafter 1994 Agreement].

15. Int'l Seabed Auth. [ISA], Decision of the Council of the International Seabed Authority relating to amendments to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and related matters, Annex: Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, Reg. 1 § 3(e), Doc. ISBA/19/C/17 (July 22, 2013).

16. *Id.* Reg. 1 § 3(b).

17. *Id.* Reg. 1 § 3(a).

18. U.N. Convention on the Law of the Sea art. 157, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter The Convention].

19. *Id.* art. 145.

20. SECRETARIAT OF THE INT'L SEABED AUTH, THE INTERNATIONAL SEABED AUTHORITY: STRUCTURE AND FUNCTIONING 1 (2022).

of the Area as the "Common Heritage of Mankind,"[21] establishing that these resources belong to all of humanity, both present and future.[22]

Part I will provide historical context while introducing seabed mining, the Convention, the ISA's organs, and the current circumstances surrounding exploitation regulations and pending exploitation activities in the Area. Part I is intended to establish a rudimentary understanding of deep-sea mining and its environmental effects, the Convention and its organs that govern seabed mining, and the Convention's member states' responses to the current seabed mining dispute. Part II emphasizes the need for urgent action due to recent developments. It will discuss Nauru's triggering of the two-year deadline to adopt exploitation regulations, the Convention and ISA's environmental considerations, the systems establishing liability for activities in the Area, the review process for work approval, and the mounting call for a moratorium or pause on exploitation by member States and the global public. The intention of Part II is to highlight why the dispute around seabed mining has only just arisen and the elements of the Convention that make this a particularly concerning development. Finally, Part III will provide recommendations, and will discuss procedural issues that the ISA must address in relation to exploitation regulations and activities, recommend actions that the ISA can take to facilitate the exploitation review and management process, address the liability structures in place and how they should be interpreted for exploitation activities, as well as analyze the calls for a moratorium or pause and their ramifications. Part III is intended to elucidate the issues of seabed mining referred to in the first two Parts, and to highlight potential paths forward for policy and lawmakers.

I. FROM PAST TO PRESENT: SEABED MINING, THE CONVENTION, AND REGULATION DRAFTING IN THE CONTEXT OF PENDING EXPLOITATION

In September 1987, the Montreal Protocol was signed into effect, calling for global allegiance to prevent further damage to the

21. The Convention, Preamble ("[T]he area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the Common Heritage of Mankind . . . .").

22. Common Heritage of Mankind is the concept that all resources must be shared by all humans without spatial or temporal limit. *See* YOSHIFUMI TANAKA, THE INTERNATIONAL LAW OF THE SEA 19 (2012).

rapidly-depleting ozone layer.[23] The Protocol was negotiated under "conditions of uncertainty, over both the existence and extent of environmental harm and the costliness of taking action to mitigate it."[24] Widely regarded as a unique success of international cooperation,[25] it stands as a model for mitigating future environmental harm prior to an indisputable showing of that harm.[26] The Montreal Protocol was a successful reactive approach to solve a present and developing issue. Deep-sea mining in the Area similarly presents a novel opportunity for global cooperation to prevent harm before its origination.

The United Nations Convention on the Law of the Sea developed from a similar goal as that of the Montreal Protocol—to formulate an international agreement on complex, and environmentally impactful, global issues. The Convention was created to "promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment."[27] To accomplish these goals, it establishes an international legal regime governing the resources of the Area,[28] and institutes the International Seabed Authority "through which States Parties . . . organize and

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23. Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 80 Stat. 271, 1522 U.N.T.S. 234.

24. Elizabeth R. DeSombre, *The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular*, 19 UCLA J. ENV'T L. & POL'Y 49, 49 (2000).

25. Dale S. Bryk, *The Montreal Protocol and Recent Developments to Protect the Ozone Layer*, 15 HARV. ENV'T L. REV. 275, 275 (1991) ("The Montreal Protocol . . . is a unique example of the international community giving ongoing attention to a problem that is not yet fully understood."). The Protocol successfully reversed the increase of ozone-depleting gasses into the atmosphere through global cooperation. *Ozone Layer Recovery is on Track, Due to Success of Montreal Protocol*, UNITED NATIONS: UN NEWS (Jan. 9, 2023), https://news.un.org/en/story/2023/01/1132277 [https://perma.cc/4YJM-FC39].

26. The Montreal Protocol was the first treaty on environmental matters that was based on a preventative approach, not as a response to a result. RICHARD ELLIOT BENEDICK, OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET 2 (1991) ("At the time of negotiations and signing, no measurable evidence of damage existed."); Bryan A. Green, *Lesson from the Montreal Protocol: Guidance for the Next International Climate Change Agreement*, 39 ENV'T L. 253, 268 (2009) (emphasizing that while "[e]ach international environmental problem is unique . . . broad use of the interpretation and methods set forth in the Montreal Protocol can enhance the effectiveness of other international treaties."). The growing understanding of the severity of ozone depletion and public awareness of the issue increased the States' urgency in collaborating to address the problematic relationship between CFCs and stratospheric ozone. Peter M. Morrisette, *The Montreal Protocol: Lessons for Formulating Policies for Global Warming*, 19 POL'Y STUDS. J. 152, 154 (1991).

27. The Convention, Preamble.

28. *Id.* art. 1 ("'Area' means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction").

control activities in the Area."[29] The ISA is tasked with the regulation and authorization of deep-sea mining.[30]

The issue of deep-sea mining is not a novel point of contention. Seabed mining was historically a proxy for political and military power-struggles over matters of national security.[31] Following technological developments, the concept shifted into a vessel for esoteric debate and now, more recently, into an actionable prospect.[32] Throughout the 20th century, deep-sea mining, which occurs at depths greater than 200 meters below sea level,[33] was considered as nebulous and ambitious as space mining is today.[34] While the awareness of this resource is not new,[35] the potential to carry out full-scale mining operations is a recent development. The current focus of such operations are polymetallic nodules.[36]

Commercial interest in extracting these resources emerged in 1960, with John Mero's publication in Scientific American calling attention to the "potato" shaped nodules in what appeared to be a second gold rush: "[t]he depths of the ocean are strewn with curious nodules that are rich in manganese, copper, cobalt, and nickel. Special devices may make it possible to mine the bottom for these valuable

29. *Id.* art. 157.

30. Within the power to "organize and control activities in the Area" (*Id.* art. 157, ¶ 1) falls the exploitation (*Id.* art. 153, ¶ 1) of seabed resources within the Area, including regulation and authorization of the mining of these resources.

31. *Statement of Malta Representative Pardo*, U.N. GAOR, 22nd Sess., 1st comm. 1515th mtg., ¶¶ 45–55, U.N. Doc. A/C.1/PV.1515 (Nov. 1, 1967).

32. Although initially proposed and tested as a source of mineral resources in 1960, deep-seabed mining has been neither financially nor technologically feasible. However, companies have recently re-invested in efforts to commence mining activity in the near future. *See generally* Ole Sparenberg, *A Historical Perspective on Deep-sea Mining for Manganese Nodules, 1965–2019*, 6 EXTRACTIVE INDUS. & SOC'Y 842 (2019).

33. *See generally Issues Brief: Deep-sea Mining*, INTERNATIONAL UNION FOR CONSERVATION OF NATURE (May 2022), https://www.iucn.org/sites/default/files/2022-07/iucn-issues-brief_dsm_update_final.pdf [https://perma.cc/T8WH-Z4XH].

34. *Compare* John L. Mero, *Minerals on the Ocean Floor*, 203 SCI. AM. 64, 64 (1960) (discussing the feasibility of seabed mining), *with* Scot W. Anderson, Korey Christensen & Julia LaManna, *The Development of Natural Resources in Outer Space*, J. ENERGY & NAT. RES. L. 227, 231–34 (2018) (discussing generally the technical feasibility of space mining).

35. *See generally* Mero, *supra* note 34.

36. The Metals Company (TMC)—the parent company of the mining company, Nauru Oceans Resources Inc. (NORI)—is currently seeking contracts to begin seabed mining in the Area and advertises its intention to harvest polymetallic nodules to source metals for batteries. *Nodules*, THE METALS COMPANY, https://metals.co/nodules/ (last visited Jan. 15, 2023) [https://perma.cc/D4VP-9965].

substances."[37] Mero's publication spurred an effort to harness this valuable resource. A host of mining companies sought contracts to explore the newly appreciated resource, conducting multiple successful tests between 1972 and 1979.[38] This added to the international interest to form an agreement delineating resource management of the Area. Following discussion at the United Nations in the 1970s, active moratoriums were placed on deep seabed mining, [39] and have remained largely in place until the present day.

In the last two years, deep-sea mining has re-entered public interest in force.[40] This is due mainly to demand for alternate sources of metals used in batteries for renewable technology (such as electric vehicles and batteries for other energy-storage uses),[41] and the active efforts of the Republic of Nauru to begin exploitation of polymetallic nodules in the Pacific Ocean.[42] On June 25, 2021, the Republic of Nauru issued a letter to the ISA declaring their intention to apply

37. *See* Mero, *supra* note 34, at 64.

38. Int'l Seabed Auth. [ISA], *Workplan for the Formulation of Regulations for the Exploitation of Polymetallic Nodules in the Area*: *Rep of the Secretary-General*, ¶¶ 10–13, Doc. ISBA/18/C/4 (Apr. 25, 2012).

39. David Hegwood, *Deep Seabed Mining: Alternative Schemes for Protecting Developing Countries from Adverse Impacts*, 12 GA. J. INT'L & COMP. L. 173, 183–92 (1982).

40. *See e.g.*, Danica Coto, *Hunt for Deep Sea Minerals Draws Scrutiny Amid Green Push*, Associated Press (Nov. 2, 2022), https://apnews.com/article/science-business-europe-united-nations-puerto-rico-999427c16a6fb3681dc7b28a652c448e [https://perma.cc/4QD6-C7HX]; Derrick Penner, *Deepsea Mining Proposal of Vancouver's The Metals Company Under Scrutiny*, VANCOUVER SUN (Sept. 2, 2022), https://vancouversun.com/news/local-news/deepsea-mining-proposal-of-vancouvers-the-metals-company-under-scrutiny [https://perma.cc/T53P-XN56]; Elizabeth Kolbert, *Mining the Bottom of the Sea*, THE NEW YORKER (Dec. 26, 2021), https://www.newyorker.com/magazine/2022/01/03/mining-the-bottom-of-the-sea [https://perma.cc/37EC-37V6].

41. Tobias Carroll, *EV Battery Demand Sparks Increase in Seabed Mining—And Controversy*, INSIDE HOOK (Apr. 25, 2022), https://www.insidehook.com/daily_brief/science/ev-battery-demand-sparks-increase-seabed-mining-and-controversy [https://perma.cc/TH3V-AGDK]; Tatiana Schlossberg, *The Race for Electric Vehicle Parts Leads to Risky Deep-Ocean Mining*, PBS (Aug. 4, 2021), https://www.pbs.org/newshour/science/the-race-for-electric-vehicle-parts-leads-to-risky-deep-ocean-mining [https://perma.cc/L7ZA-KTQJ].

42. Elizabeth Claire Alberts, *Regulator Approves First Deep-Sea Mining Test, Surprising Observers*, MONGABAY (Sept. 16, 2022), https://news.mongabay.com/2022/09/regulator-approves-first-deep-sea-mining-test-surprising-observers/ [https://perma.cc/RG28-MQDJ]; Helen Reid, *Pacific Island of Nauru Sets Two-year Deadline for U.N. Deep-sea Mining Rules*, REUTERS (June 29, 2021), https://www.reuters.com/business/environment/pacific-island-nauru-sets-two-year-deadline-deep-sea-mining-rules-2021-06-29/ [https://perma.cc/4J83-CW5X].

within two years for approval to begin exploitation in the Area.[43] While the legal duties imposed by this invocation of the ISA's two-year rule are currently subject to debate,[44] the action forced the ISA to accelerate its effort to draft exploitation regulations (the Regulations) for operations in the Area. If the two-year rule is interpreted to require a provisional acceptance, it could permit mining without an adequate regulatory framework.[45] This could lead to harmful unconstrained mining, and the creation of an inequitable system of regulation for future contractors bound by subsequently accepted (and likely stricter) Regulations. The ISA convened an unprecedented three times in its twenty-seventh session and made considerable progress in drafting exploitation regulations.[46] The ISA continued its efforts as the primary focus of the first part of the twenty-eighth session in March of 2023, but failed to come to an agreement on the exploitation regulations. The ISA focused on the same in the second part of the twenty-eighth session in July 2023, but did not reach an agreement.[47] The drafting of

43. Int'l Seabed Auth. [ISA], *Letter dated 25 June 2021 from the President of the Republic of Nauru addressed to the President of the Council of the International Seabed Authority*, Annex I, Doc. ISBA/26/C/38 (June 25, 2021).

44. Pradeep A. Singh, *The Invocation of the 'Two-Year Rule' at the International Seabed Authority: Legal Consequences and Implications*, 37 INT. J. MARINE COASTAL L. 375, 375 (2022). The ISA has continued to deliberate on the application of the two-year rule and failed to come to a consensus in part two of the twenty-eighth session in July, 2023. *See generally,* Int'l Seabed Auth. [ISA], *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*, ¶ 3, Doc. ISBA/28/C/25 (July 21, 2023).

45. Delegates to the ISA conducted an informal intersessional dialogue on the issue of interpreting the two-year rule; the brief on this dialogue was adopted by the Council at its 301st meeting on March 8, 2023. *See generally* Int'l Seabed Auth. [ISA], *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 of the Law of the Sea*, Doc. ISBA/28/C/9 (Mar. 31, 2023). The brief outlined the general consensus and remaining disputes, and provided a baseline for delegations to comment on in advance of the second meeting of the twenty-eighth session of the ISA in July 2023. *See Statement of the President on the Work of the Council of the International Seabed Authority During the First Part of the Twenty-Eighth Session*, ¶ VI(12)–(14) (Apr. 3, 2023).

46. Press Release, *ISA Council Closes Part III of its Meetings and Concludes its 27th Session*, INT'L SEABED AUTH. [ISA] (Nov. 14, 2022), https://isa.org.jm/news/isa-council-closes-part-iii-its-meetings-and-concludes-its-27th-session [https://perma.cc/RJ8Z-PLEK].

47. The second part of the twenty-eighth session occurred from July 10–21, 2023. Int'l Seabed Auth. [ISA], *Statement by the President of the Council on the Work of the Council During the Third Part of the Twenty-Seventh Session*, Annex II, Doc. ISBA/27/C/21/Add.2 (Dec. 14, 2022). No decision was reached on exploitation regulations. *See generally* Int'l

exploitation regulations presents the ISA with an opportunity to consider the severity of the potential environmental harm posed by deep-sea mining and develop a framework of precaution akin to that of the revered Montreal Protocol.[48]

A. The Conflicting Narratives of Seabed Mining

The debate surrounding seabed mining involves a multifaceted discourse that has captivated scientists, industry stakeholders, and the public alike. The general approaches to seabed mining can be distilled into a set of narratives, which are not the focus of this Note, but are important foundations for the circumstances that prompted it. These narratives simply act to inform the regulatory tools that the ISA can use to limit environmental harm, since the Convention already established the legal outcome of this debate over forty years ago in permitting seabed mining. The current Secretary of the ISA reiterated this reality: "it is useless and counter-productive to argue that an a priori condition for deep-sea mining is an existential debate about whether it should be permitted to go ahead or not. The international community passed that point already many years ago."[49]

Axel Hallgren and Anders Hansson, in their 2021 article, helpfully set out four predominant narratives for the seabed mining regime: (1) "A Green Economy in a Blue World,"[50] (2) "Sharing of the Deep Sea Profits,"[51] (3) "Depths of the Unknown,"[52] and (4) "Let the Minerals Be."[53] The first narrative focuses on the growing need for minerals due to increasing population, global development, and efforts to transition to renewable energy.[54] Invested mining companies promote

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Seabed Auth. [ISA], *Decision of the Council of the International Seabed Authority on a Timeline Following the Expiration of the Two-year 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*, Doc. ISBA/28/C/24 (July 21, 2023).

48. *See infra* Part III.

49. Michael W. Lodge & Philomène A. Verlaan, *Deep-Sea Mining: International Regulatory Challenges and Responses*, 14 ELEMENTS 331, 336 (2018). Michael Lodge is the current Secretary-General of the ISA.

50. Axel Hallgren & Anders Hansson, *Conflicting Narratives of Deep Sea Mining*, 13 SUSTAINABILITY 5261, 5266 (2021).

51. *Id.* at 5267.

52. *Id.* at 5268.

53. *Id.* at 5271.

54. *See id.* at 5266–67.

this narrative fervently.[55] An additional element of this first narrative is the position that seabed mining would pose less social and environmental harm than terrestrial mining, citing the processing and transportation footprint, displacement of local inhabitants, and concentration of higher-grade metals.[56] The benefits of this "Green Economy" are difficult to ascertain without further research, and rely predominantly on the successful implementation of many social and environmental safeguards.[57] The second narrative focuses primarily on the sharing of the Area's resources, and the benefits that this presents for all States, including developing nations.[58] This narrative draws off of the Common Heritage of Mankind principle which is discussed further in Part II.B. The third narrative is the converse of the first narrative. It is premised on the recognition of the deep sea—the largest set of ecosystems on the planet—as fundamental to sustaining life on earth.[59] This approach cautions against invasive activities in the Area, highlighting the uncertainty of the detrimental impacts mining may cause. This narrative is closely tied to the Precautionary Principle which will be explained further in Part II.B and is a common position of the scientific community and a growing portion of the public. The final narrative stems from a similar vein of thought as the third, that the minerals of the deep sea should be left alone due to the lack of trust in our regulatory schemes paired with the potential harms.[60] The increasing calls for a moratorium on seabed mining are linked to this lack of faith in our regulatory system, and the risk of a race to the bottom if mining goes forward under the present circumstances.

A common element to each narrative is the necessity to mitigate environmental harm where feasible. Among these harms are permanent localized and/or regional loss of biodiversity,[61] pollution of the

55. *See Nodules, supra* note 36, at 3. The Metals Company, an industry leader in the push for seabed mining, emphasizes deep-sea mining of polymetallic nodules as a solution for the "urgent, growing need for battery metals to transition to clean energy and electric vehicles." *Id.*

56. *See* Hallgren & Hansson, *supra* note 50, at 5266.

57. *See id.* at 5267.

58. *See id.* at 5268.

59. *See id.* at 5268–70.

60. *See id.* at 5271–72.

61. *See generally* Tanja Stratmann, Karline Soetaert, Daniel Kersken, & Dick van Oevelen, *Polymetallic Nodules are Essential for Food-Web Integrity of a Prospective Deep-Seabed Mining Area in Pacific Abyssal Plains*, 11 SCI. REPS. 12238 (2021); C. L. Van Dover, J. A. Ardron, E. Escobar, et al., *Biodiversity Loss from Deep-Sea Mining*, 10 NATURE GEOSCIENCE 464 (2017). A recent study published in May 2023 discovered over 5,000 new unnamed species in the Clarion-Clipperton Zone. *See* Muriel Rabone, et al., *How Many*

water column,[62] extinction of endemic species,[63] and destruction of carbon captures and subsequent reintroduction of carbon dioxide into the atmosphere.[64] Regardless of whether deep-sea mining will commence, a precautionary approach to mitigate these harms is essential. The Convention enables the ISA to ensure this mitigation.

B. The Convention & the ISA

The Convention establishes a wide range of rights and responsibilities of States in relation to the world's seas. The ISA is tasked with overseeing various State activities within the Area,[65] most notably, regulating and facilitating the exploration and exploitation of seabed resources[66] while paradoxically ensuring protection of the marine environment.[67] The ISA is comprised of three[68] active main organs: a policy-making Assembly comprised of member States (the Assembly),[69] a thirty-six-member executive Council (the Council),[70] and a

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Metazoan Species Live in the World's Largest Mineral Exploration Region?, 33 CURRENT BIOLOGY 2383 (2023).

62. *See generally* Benjamin Gillard, Rob P. Harbour, & Nicolas Nowald, 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 MARINE SCIENCE 1 (Feb. 16, 2022).

63. Virginie Tilot, Rupert Ormond, Juan Moreno Navas, & Teresa S. Catalá, *The Benthic Megafaunal Assemblages of the CCZ (Eastern Pacific) and an Approach to their Management in the Face of Threatened Anthropogenic Impacts*, 5 FRONTIERS MARINE SCIENCE 15 (2018) ("faunal communities particular to the nodule ecosystem may even be threatened with extinction.").

64. Beth N. Orcutt et al., *Impacts of Deep-Sea Mining on Microbial Ecosystem Services*, 65 LIMNOLOGY & OCEANOGRAPHY 1489, 1499 (2020).

65. The Convention art. 157.

66. *Id.* art. 170.

67. *Id.* art. 145.

68. The ISA is technically divided into four organs, the fourth being the "Enterprise"; however the Enterprise has "yet to be set in motion" and is therefore not relevant for the purposes of this Note. *See* SECRETARIAT OF THE INT'L SEABED AUTH, *supra* note 20. After the publication of this Note, the relevance of the Enterprise may increase dramatically, as the ISA has recently established the position of an Interim Director General of the Enterprise and approved a budget for their actions. Int'l Seabed Auth. [ISA], *Decision of the Council of the International Seabed Authority relating to the establishment of the position of an interim director general of the Enterprise*, Doc. ISBA/28/C/23 (July 21, 2023).

69. The Convention art. 159–60.

70. *Id.* art. 161–63.

Secretariat that manages the operations of the Authority.[71] The Council further has two subsidiary bodies:[72] the Legal and Technical Commission (LTC),[73] and the Finance Committee.[74] The LTC serves the critical functions of drafting regulations, managing environmental impact and assessment, reviewing applications for activity, and other specialized actions.[75]

After the initial 1982 publication of the main text, the Convention was subject to extensive negotiations resulting in amendment. The object of these negotiations was to remedy the complaints of global superpowers regarding the Convention's governance of deep-sea activity. While the negotiations did not lead to ratification by all target nations, most notably the United States, they did lead to ratification by the 60 nations required for the Convention to come into effect.[76] The resulting 1994 Agreement made substantial amendments to Part XI of the original 1982 publication. Article 4 of the 1994 Agreement binds all parties to the Convention to the amendments.[77] The 1994 Agreement made several key adjustments to the initial text of the Convention:

(i) It restructured the Council selection mechanisms of the Convention, essentially ensuring global superpowers a permanent seat on the Council,[78]

(ii) It created rules governing the proposal and approval process for exploration and exploitation of the resources in the Area,[79] and

(iii) It created requirements for the ISA to draft and adopt "rules, regulations and procedures" for

71. *Id.* art. 166.

72. *Id.* art. 163.

73. *Id.* art. 165.

74. 1994 Agreement annex, § 9 et seq. The Finance Committee manages the budget and financial components of the ISA. SECRETARIAT OF THE INT'L SEABED AUTH, *supra* note 20.

75. The Legal and Technical Commission, ISA, https://www.isa.org.jm/authority/legal-and-technical-commission (last visited Dec. 17, 2022) [https://perma.cc/HFT9-8WJ4].

76. The Convention art. 308.

77. 1994 Agreement art. 4.

78. Bryon C. Brittingham, *Does the World Really Need New Space Law*, 12 OR. REV. INT'L L. 31, 53 (2010).

79. The Convention annex III, art. 3, § 1.

> approving plans of exploration and exploitation of the Area.[80]

The 1994 Agreement effectively created the current structure of the ISA's governance of the Area, and specifically incorporates their treatment of deep-sea mining activities.

C. The Legal and Technical Commission

The LTC is established under Article 165 of the Convention. It is provided with broad discretion and is under little oversight. The LTC currently operates behind closed doors and holds its meetings in private, unless explicitly decided otherwise.[81] The duties and powers of the LTC are in relevant part:

> [R]eview formal written plans of work for activities in the Area . . . and submit appropriate recommendations to the Council . . .;
>
> supervise . . . activities in the Area . . . in consultation and collaboration with any entity carrying out such activities . . .;
>
> prepare assessments of the environmental implications of activities in the Area;
>
> make recommendations to the Council on the protection of the marine environment;
>
> formulate and submit to the Council the rules, regulations and procedures [for activities in the Area], taking into account . . . the environmental implications of activities in the Area; . . .
>
> make recommendations to the Council to disapprove areas for exploitation by contractors or the Enterprise in cases where substantial evidence indicates the risk of serious harm to the marine environment.[82]

This broad delegation of duties places a significant portion of the ISA's substantive power into the hands of the LTC. The repetitious requirement that the LTC "report to the council," does little to limit this power. The LTC is the first point of review for all plans of work

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80. 1994 Agreement annex, § 1(15).

81. Int'l Seabed Auth. [ISA], *Rules of Procedure of the Legal and Technical Commission*, r. 6, Doc. ISBA/6/C/9 (July 13, 2000), (https://www.isa.org.jm/documents/rules-procedure-legal-and-technical-commission) [https://perma.cc/KZ8J-PYEJ].

82. The Convention art. 165(2).

in the Area.[83] Similarly, the LTC is formally integrated into even the most critical actions of the ISA, including conducting the original drafting of regulations that apply to all activities in the Area.[84] In sum, the Convention grants the LTC the power to review activity proposals and submit recommendations to the Council. These recommendations are provided considerable deference by the Council. The Council, in practice, either accepts recommendations or denies and permits the LTC to resubmit them. The LTC's expansive discretion provides it with substantial influence on the seabed mining regime.

D. Regulations and Applications for Exploitation in the Area

The ISA's primary function is to control activities in the Area through regulation of prospecting, exploration, and exploitation activities as described under Annex III. As of July 2023, the ISA has adopted three sets of prospecting and exploration Regulations.[85] The ultimate intention of the Convention is for the ISA to combine these existing regulations with the finalized exploitation Regulations into a Mining Code.[86] As of January 31, 2023, thirty-one exploration contracts were in force, the majority of which were for polymetallic

83. *Id.* art. 153(3) ("Activities in the Area shall be carried out in accordance with a formal written plan of work drawn up in accordance with Annex III and approved by the Council after review by the Legal and Technical Commission.").

84. *Id.* art. 162(2)(o)(ii) ("[The Council shall] adopt and apply provisionally, pending approval by the Assembly, the rules, regulations and procedures of the Authority, and any amendments thereto, taking account the recommendations of the Legal and Technical Commission or other subordinate organ concerned. These rules, regulations and procedures shall relate to prospecting, exploration and exploitation in the Area and the financial management and internal administration of the Authority. . . . All rules, regulations and procedures shall remain in effect on a provisional basis until approved by the Assembly or until amended by the Council in the light of any views expressed by the Assembly.").

85. Regulations pertaining to polymetallic nodules were adopted in 2000. *See* Int'l Seabed Auth. [ISA], *Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area*, Doc. ISBA/6/A/18 (July 13, 2000). The Regulations for Polymetallic Nodule exploration and prospecting were later revised consistent with the Polymetallic Sulphides and Cobalt-Rich Ferromanganese Crusts Regulations. *See* Int'l Seabed Auth. [ISA], *Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area*, Doc. ISBA/19/C/17 (July 22, 2013). Regulations for polymetallic sulphides were adopted in 2010. *See* Int'l Seabed Auth. [ISA], *Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area*, Doc. ISBA/16/A/12/Rev.1 (May 7, 2010). Regulations for cobalt-rich crusts were adopted in 2012. *See* Int'l Seabed Auth. [ISA], *Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area*, Doc. ISBA/18/A/11 (July 27, 2012).

86. Michael W. Lodge, *The Deep Seabed, in* THE OXFORD HANDBOOK OF THE LAW OF THE SEA 226, 241 (Donald R. Rothwell et al. eds., 2015).

nodules.[87] At this time of publication, the ISA is currently drafting the proposed exploitation Regulations and made significant progress to that end in part one and two of the twenty-eighth session.[88] Exploitation Regulations are to be drafted in accordance with sections 6, 7, and 8 of the Annex to the 1994 Agreement.[89] The broad guidance provided within these sections grants the ISA discretion in drafting, resulting in increased difficulty of achieving consensus among the States. The process established by the Convention for exploitation creates a framework that the ISA must follow. However, the way the ISA implements its duties in responding to exploitation proposals, its member States' calls for moratoriums, and its own internal governance, provides fertile area for improvement.

1. State Sponsorship

The proposal and approval process for deep-sea mining activities includes the requirement that entities seeking to conduct activities in the Area receive sponsorship of a State Party to the Convention.[90] Under Article 4 of Annex III to the Convention, non-State entities are qualified to apply to the Authority for approval of activities if they are both: (1) nationals or under effective control of a State Party[91] and (2) sponsored by a State, or States if the entity has more than one nationality.[92] If the entity has more than one nationality, such as in the case of partnerships or consortiums, or a State different to the State of nationality practices effective control, then all State Parties involved or

87. Int'l Seabed Auth. [ISA], *Status of Contracts for Exploration and Related Matters, Including Information on the Periodic Review of the Implementation of Approved Plans of Work for Exploration*, ¶ 2, Doc. ISBA/27/C/28 (May 18, 2022).

88. Press Release, *ISA Council Closes Part III of its Meetings and Concludes its 27th Session* (Nov. 14, 2022), https://isa.org.jm/news/isa-council-closes-part-iii-its-meetings-and-concludes-its-27th-session [https://perma.cc/9TGR-MSNQ]; Press Release, *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/ [https://perma.cc/QJP6-WC96]. As of the close of the second part of the twenty-eighth session, on July 21, 2023, the ISA had yet to adopt any regulations governing the exploitation phase of seabed mining. Int'l Seabed Auth. [ISA], *Decision of the Council of the International Seabed Authority on a timeline following the expiration of the two-year 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*, Doc. ISBA/28/C/24 (July 21, 2023).

89. 1994 Agreement annex, §§ 6–8.

90. The Convention annex III, art. 3.

91. *Id.* annex III, art. 4(1).

92. *Id.* annex III, art. 4(3).

in control must also sponsor the entity.[93] This requirement creates legal responsibility for State Parties, and prevents private entities from entering into direct contracts for exploration or exploitation with the ISA, absent a State sponsor.[94] Sponsoring States are required to legally and contractually bind a sponsored contractor to carry out their activities in the Area in compliance with the terms of the contract and the obligations of the Convention.[95] Sponsoring States are shielded from liability for contractors' actions in that they are not "liable for damage caused by any failure of a contractor sponsored by [the Sponsoring State] to comply with its obligations if that State Party has adopted regulations and taken administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction."[96] This has the effect of preventing complete liability for sponsor States so long as they have taken reasonable measures to ensure compliance within the framework of their legal system. The intention of this requirement is to ensure that the obligations that bind State Parties are extended to the entities they sponsor.[97]

The sponsorship regime is widely used today and is the primary way in which seabed mining will likely soon commence, the first efforts of which are proposed to be undertaken by NORI.[98] NORI is the sponsored entity of the Republic of Nauru, a State Party to the

93. *Id.*

94. The one major exception to this avoidance of direct contractual relationships between the ISA and a non-State entity, absent a State sponsor, is the Enterprise. *See* The Convention art. 170 ("The Enterprise shall be the organ of the Authority which shall carry out activities in the Area directly . . . as well as the transporting, processing and marketing . . . minerals recovered from the Area."). The Enterprise was a central focus of the 1982 draft of the Convention, with the intention to have a mining body operating within the ISA that would divide its resources and profits amongst Sate Parties. The 1994 Agreement effectively gutted the prospect of the Enterprise. No actions have been taken to establish or consider the function of the Enterprise since the 1982 drafting. While mentions of the Enterprise dot the words of the Convention like ruins of a once grandiose plan, it remains just that, a plan of a previous era that never saw the light of day.

95. The Convention annex III, art. 4(4).

96. *Id.*

97. *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Case No. 17, Advisory Opinion of Feb. 1, 2011, ITLOS Rep. 2011, 10, 243.

98. The Metals Company, through subsidiary NORI, expects to be conducting mining operations by 2025. The Metals Co., Quarterly Report, at 23 (Form 10-Q) (Aug. 14, 2023) ("NORI intends to submit an application to the ISA for an exploitation contract for NORI Area D following the conclusion of the July 2024 meeting of the ISA's twenty-ninth session. Assuming a one-year review process, we expect to be in production in the fourth quarter of 2025, if the application is approved.").

Convention.[99] To fulfill its duties under the Convention, Nauru passed a legislative seabed act securing compliance by sponsored entities with the provisions of the Convention.[100] After passing this act, it entered into a contractual relationship with NORI; this contract established the responsibilities of the parties, their compliance with the Nauru seabed act, and the financial aspects of the seabed mining sponsorship agreement.[101] Finally, Nauru informed the ISA of its sponsorship of NORI and subsequently notified the ISA of its intentions to apply for seabed mining activities in the Area.[102]

2. Qualifications

After an entity has satisfied the requirements of sponsorship, they must meet specific qualification standards under Article 4 of Annex III to the Convention. These qualifications require that the applicant formally agree to: (1) accept the obligations created by Part XI of the Convention, the Regulations adopted by the Authority, the decisions of the organs of Authority, and the terms of their contract with the Authority;[103] (2) accept the Authority's control—authorized by the Convention—of their activities in the Area;[104] (3) provide written assurance that contractual obligations will be fulfilled in good faith;[105] and (4) comply with provisions on the transfer of technology.[106] Once the applicant has acquired sponsorship and undertaken the requirements listed above, they are eligible to submit a proposal for a plan of work.[107]

99. Sponsorship Agreement by and among The Republic of Nauru, The Nauru Seabed Minerals Authority, and Nauru Ocean Resources Inc., June 5, 2017, https://www.sec.gov/Archives/edgar/data/1798562/000121390021020731/fs42021ex10-14_sustainable.htm (last visited Oct. 25, 2023).

100. International Seabed Minerals Act, 2015 (Act No. 26/2015) (Nauru).

101. *See* Sponsorship Agreement by and among The Republic of Nauru, *supra* note 99.

102. ISA, *supra* note 43.

103. The Convention annex III, art. 4(6)(a).

104. *Id.* annex III, art. 4(6)(b).

105. *Id.* annex III, art. 4(6)(c).

106. *Id.* annex III, art. 4(6)(d).

107. *Id.* annex III, art. 6(2).

3. Work Plans

Applications for an approval of a plan of work must be accompanied by an environmental impact assessment of the proposed activities and a description of a program for oceanographic and baseline environmental studies.[108] If the applicant's proposal complies with the provisions of the Convention and the relevant Regulations, the Authority shall approve them.[109] Plans of work shall be "drawn up in accordance with Annex III and approved by the Council after review and recommendation by the LTC."[110] The LTC, if it deems the proposal sufficient, then submits a recommendation for approval of a plan of work to the Council. The process for the Council's approval or rejection of a plan, following an LTC recommendation, makes the former a simple task and the latter an arduous one.[111] Due to the difficulty for the Council to reject a work plan following recommendation by the LTC, the LTC maintains significant control over the approval of work proposals. Additionally, the provision that a LTC recommendation for denial can be overridden by Council decision-making has the effect of making approval functionally easier to achieve than disapproval. Plans of work for exploration are approved for a fifteen-year period, after which contractors may apply for five-year extensions.[112]

108. 1994 Agreement annex, § 1, art. 7.

109. The Convention annex III, art. 6(3). There exist several exceptions to this approval, including: (1) if the Area covered by the proposal is included in a previously submitted proposal which has not yet received final action; (2) if the Area is included in an area that the Council has deemed is at risk of serious harm to the marine environment; or (3) if the proposal is submitted by a State or under sponsorship of a State that already holds plans of exploration or exploitation of polymetallic nodules that aggregate to 30 percent of a circular area of 400,000 square kilometers surrounding the center of the proposed plan, or the State's work plans for polymetallic nodules taken together constitute 2 percent of the available seabed area for activity. *Id.* annex III, art. 6(3)(c).

110. *Id.* art. 153(3).

111. The Council is required to approve a recommendation by the LTC "unless by a two-thirds majority of its members present and voting . . . the Council decides to disapprove a plan of work," if the LTC recommends the disapproval of a plan, the "Council may nevertheless approve the plan of work in accordance with its rules of procedure for decision-making on questions of substance," after the LTC has made a recommendation for approval of a work proposal to the Council, the Council has sixty days to make a decision on the approval unless the Council decides to extend the period. 1994 Agreement annex, § 3, art. 11(a).

112. *Id.* annex, § 1, art. 9.

4. Control of Entities Operating in the Area

The language of "effective control," as required under Article 4 of Annex III discussed above, is not defined anywhere in the Convention or 1994 Agreement. Beyond binding entities to the law, regulations, and administrative procedures of the sponsor State, there is little more effective control that States must practice over entities. Further control of entities may occur from within the Authority under the LTC. The LTC maintains the ability to supervise activities in the Area in consultation and collaboration with entities,[113] and make recommendations to the Council to institute emergency measures suspending or adjusting operations in the Area to "prevent serious harm to the marine environment arising out of activities in the Area."[114] The Council is required to "take[] into account the recommendations of the Legal and Technical Commission."[115] This deference given to the LTC was extensively bolstered by the 1994 Agreement.[116] The ISA has taken no further steps to strengthen its power over entities conducting activities in the Area.

5. Regulation Drafting and Adoption

All proposals for approval of work plans are bound by the adopted Regulations. The 1994 Agreement instructs that the ISA shall elaborate and draft regulations for the approval of plans of work for exploration and exploitation. The relevant provision mandates that, if a request is made by a State whose national intends to apply, the Council shall "complete the adoption of [the Regulations] within two years of the request,"[117] and if the Council has failed to complete the elaboration of the Regulations within the two-year period, and an application for approval of a plan of work for exploitation is pending, it shall "consider and provisionally approve such plan of work" based on the provisions of the Convention and any Regulations the Council adopted provisionally, or on the norms of the Convention and terms of the Annex to the 1994 Agreement.[118] Triggered by Nauru, this two-year

113. The Convention art. 165(2)(c).

114. *Id.* art. 165(2)(k).

115. *Id.* art. 162(o)(ii).

116. *See* discussion in previous paragraph, specifically concerning the restraints on the Council's ability to approve or deny proposals contrary to the requests of the LTC.

117. 1994 Agreement annex, § 1(15)(b).

118. *Id.* § 1(15)(c).

deadline expired on July 9, 2023.[119] The policy framework for drafting exploitation Regulations was set out in extensive detail in the 1982 publication of the Convention.[120] The 1994 Agreement placed a gloss over this framework and created new standards to be followed under sections 6, 7, and 8 of the annex to the Agreement.[121] As of July 2023, the ISA had not adopted Regulations for exploitation in the Area.

In July 2011, the Council requested the Secretariat to prepare a "strategic workplan for the formulation of the regulations for mining deep-sea minerals in the Area."[122] A 2012 Report of the Secretary-General summarized the strategic workplan for the development of exploitation Regulations,[123] noting among the most important elements of the mineral exploitation framework was "protection of the marine environment from the harmful effects of mining."[124] The effort to draft exploitation Regulations became a "top priority" for the ISA in 2014.[125] The ISA has continued to progress in its drafting efforts. However, in part two of the twenty-eighth session, in July 2023, the ISA again failed to achieve any clear consensus. Part two closed to the tune of a broken record, with an emphasis on the need to draft regulations, projecting a goal of adoption in the thirtieth session in 2025.[126]

E. State Parties' Opposition

Given the environmental concerns of deep-sea mining, the Convention's complex framework can be interpreted as forcing the

119. Int'l Seabed Auth. [ISA], *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*, ¶¶ 4–5, Doc. ISBA/28/C/25 (July 21, 2023).

120. The Convention art. 151(7).

121. 1994 Agreement annex, §§ 6–8.

122. Int'l Seabed Auth. [ISA], *Workplan for the Formulation of Regulations for the Exploitation of Polymetallic Nodules in the Area: Rep of the Secretary-General*, ¶ 1, Doc. ISBA/18/C/4 (Apr. 25, 2012).

123. *Id.*

124. *Id.* ¶ 5.

125. Int'l Seabed Auth. [ISA], *International Seabed Authority Ends Historic Session: Makes exploitation regulations and extensions of exploration contracts top priority for 2015 session*, Doc. SB-20-17 (July 28, 2014), https://www.isa.org.jm/news/international-seabed-authority-ends-historic-session/ [https://perma.cc/87KK-35S8].

126. Int'l Seabed Auth. [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/ [https://perma.cc/4H2J-PSYE].

ISA into provisionally accepting exploitation proposals and the wide deference provided to the LTC, member States have started searching for unconventional means to oppose mining operations. The growing opposition to seabed mining has motivated multiple member States to call for moratoriums on exploitation activity in the Area.[127] This has caused concern within the ISA in how to address oppositions. In 2022, France announced its opposition to seabed mining on the second-to-last day of the twenty-seventh Session. [128] In its statement, France emphasized the need for demanding environmental regulations prohibiting irreparable harm to the environment and marine ecosystems.[129] Additionally, France announced that they do not interpret the two-year rule as an obligation for the Council to approve a pending plan for work provisionally and automatically.[130] A sizable group of nations have declared similar positions in the past year, calling for a precautionary pause. Among them are Costa Rica, Chile, Germany, Spain, and Panama.[131] Additionally, New Zealand, Fiji, Samoa, and Micronesia have called for moratoriums.[132] This opposition caused concern on the ninth day of part three of the twenty-seventh Session, as multiple delegates questioned the implications of France's stance in terms of membership in the Council and the status of French-held exploration contracts. This growing call for a ban on deep-sea mining raises questions on multiple fronts. These positions increase the likelihood that the required consensus for adoption of exploitation Regulations will not be met unless strict environmental standards are included. Additionally, they introduce the further issue of a coalition of States opposing key elements of the Convention.

The Convention's framework for seabed mining, and governing organs of the ISA, have so far proved sufficient for the management of exploration activities in the Area. Now, with the burgeoning demand for exploitation, there is a heightened need for the ISA to address the environmental considerations of the Convention, the systems

127. *Germany, France and Spain Create Genuine Possibility for Action on Deep Sea Mining*, ENV'T JUST. FOUND. (Nov. 8, 2022), https://ejfoundation.org/news-media/germany-france-and-spain-create-genuine-possibility-for-action-on-deep-sea-mining [https://perma.cc/4LJP-3JRC].

128. Statement by France, Position AIFM France (Nov. 10, 2022).

129. *Id.*

130. *Id.*

131. 27th Session Part III Daily Bulletin, *Meetings of the ISA Council: Statement by France and comments from delegations* (Nov. 10, 2022), https://mailchi.mp/6c96fea8b43a/27th-session-part-iii-bulletin-council-meetings-day-9 [https://perma.cc/64P7-UMBV].

132. *Id.*

establishing liability for contractors, the review process for work approval, and the mounting call for a moratorium on exploitation.

II. THE PRESENT CONCERN: NAURU, ENVIRONMENTAL HARM, & EXPLOITATION REGULATIONS

Nauru's June 2021 invocation of the two-year rule set into motion a new urgency to address the many undecided questions relating to exploitation. Prior to the invocation, the ISA possessed the time and resources necessary to ensure exploitation regulations complied with the complex provisions under the Convention and 1994 Agreement. After the invocation, a new focus emerged to address the paramount concerns of State consensus, consequences for a failure to meet the deadline, interpretation of the terms of the existing Convention, and opposition of State Parties. Since the two-year period expired on July 9, 2023, these concerns have reached their pinnacle.[133] The ISA now sits precariously next to a figurative naval mine, where the subtle disturbance of a State sponsor initiating a proposal to begin exploitation activity, triggers a mandatory answer to the questions posed in this Note. This Part addresses the issues that emerged after the expiration of the two-year deadline, creating the potential for inadequately regulated seabed mining to proceed: (A) the ISA's failure to adopt exploitation Regulations by the two-year deadline; (B) environmental considerations in relation to Regulation drafting; (C) systems of accountability and liability for contractors; and (D) the review process of proposals for work activity and contractor actions.

A. ISA Failure to Adopt Regulations by the Deadline

The Council's adoption of Regulations for exploitation of the Area is inhibited by the significant hurdle of consensus. Decisions on questions of substance relating to the adoption of regulations for exploitation in the Area "shall be taken by consensus,"[134] defined as the "absence of any formal objection."[135] While State Parties are required to act in good faith and refrain from acting in a manner that constitutes

133. Int'l Seabed Auth. [ISA], *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*, ¶¶ 4–5, Doc. ISBA/28/C/25 (July 21, 2023).

134. The Convention art. 161(8)(d).

135. *Id.* art. 161(8)(e).

an abuse of right,[136] the requirement of consensus could pose a hazard for adopting regulations following the expiration of the two-year deadline. If a single State within the Council formally objects to the adoption of regulations, and an application for approval of plans of work is pending before the Council, then the consequences under section 1, paragraph 15 of the annex to the 1994 Agreement are triggered:

> If the Council has not completed the elaboration of the [exploitation Regulations] within the [two-year period] and an application for approval of a plan for work for exploitation is pending, it shall none the less consider and provisionally approve of such work based on the provisions of the Convention . . . [Regulations] the Council may have adopted provisionally . . . the basis of the norms contained in the Convention and the terms and principles contained in [the Annex to the 1994 Agreement.][137]

The language of this provision is not clarified in either the 1994 Agreement or in the accompanying drafting documents.[138] This allows for varying interpretation.

1. Interpreting Section 1, Paragraph 15, of the Annex to the 1994 Agreement

The first consideration rests on the use of "elaboration." The most generous interpretation takes "elaboration" as referring to the development of the Regulations as separate from adoption. Under this reading, if the Council has fully elaborated the draft Regulations (as it essentially already has)[139] then it would not be subjected to the paragraph 15 provision.[140] In this scenario, the additional terms of section 1, paragraph 15(c) of the annex to the 1994 Agreement would not apply.

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136. *Id.* art. 300.

137. 1994 Agreement annex, § 1, art. 15(c).

138. Pradeep A. Singh, *The Two-Year Deadline to Complete the International Seabed Authority's Mining Code: Key Outstanding Matters that Still Need to be Resolved*, 134 MARINE POL'Y 104804, 104804 (2021) ("a wide range of legal uncertainties exist in relation to the interpretation and application of [the two-year rule]").

139. Int'l Seabed Auth. [ISA], *Draft Regulations on Exploitation of Mineral Resources in the Area*, Doc. ISBA/25/C/WP.1 (Mar. 22, 2019).

140. Singh, *supra* note 44, at 395.

The second consideration looks to the reading of an "application . . . pending."[141] This can be interpreted as either requiring an application be submitted prior to the end of the two-year deadline or extending to applications filed after the two-year deadline but before the elaboration of Regulations is complete.[142] Given that the two-year deadline has passed, if an application is pending and regulation elaboration has not been completed, then the Council shall "consider and provisionally approve" the application.[143] In the context of prospecting or exploration, it is logical to grant provisional approval; in exploitation it is illogical, since revocation or material changes to the contract could lead to excessive costs in a mining operation. If the Council were to provisionally approve an application, and then modify it extensively to meet the later adopted Regulations, the risk could outweigh the benefit of beginning mining operations. Further, the Convention and 1994 Agreement restrain modifications to contracts after formation, requiring consent of the parties.[144] Contracts for activities in the Area are provided the "security of tenure," and cannot be revised, suspended, or terminated unless the contractor has seriously, persistently, and willfully violated the terms of the contract in spite of warnings by the Authority, failed to comply with a binding decision of the applicable dispute settlement body, or an emergency order for suspension or termination has been passed suspending or terminating the contract.[145] There is a conflicting view that if the Council has failed to adopt Regulations when an application is submitted, "it must give provisional approval to an application . . . notwithstanding the fact that the rules and regulations have not been adopted."[146] If this view prevails, then the Council will have no choice but to provisionally accept a submitted application. A provisional acceptance could allow mining to begin without an adequate regulatory framework, potentially permitting harmful activity to occur, and creating an inequitable system of regulation for future contractors bound by the subsequently accepted (and likely stricter) Regulations.

Provisional approval rests on multiple considerations: "the provisions of the Convention," "rules, regulations and procedures that the Council may have adopted provisionally," "norms contained in the Convention," "terms and principles contained in [the annex to the 1994

141. 1994 Agreement annex, § 1, art. 15(c).

142. Singh, *supra* note 44, at 396.

143. 1994 Agreement annex, § 1, art. 15(c).

144. The Convention annex III, art. 19(2).

145. *Id.* annex III, art. 18–19.

146. Bernard H. Oxman, *The 1994 Agreement and the Convention*, 88 AM. J. INT'L L. 687, 693 (1994).

Agreement]," and "the principle of non-discrimination among contractors."[147] Depending on the intentions of the Council, these conditions can either be applied sparingly and exploitation activities can commence relatively unconstrained in the provisional period, or the Council can find that an application cannot satisfy requirements of Regulations that have yet to be adopted and thereby cannot be approved.[148]

Finally, it is unclear how the decision on approval is to be made. The Council is required to make a decision on the approval of the application, but this does not specify whether the decision-making process will be one of substance for the Council, or go through the standard mechanism of recommendation by the LTC and approval by the Council.[149] If this decision is left to the Council, it would be one of substance and must pass by a two-thirds majority of all members present and voting, absent any objection by a majority of one of the Council's chambers.[150] If the decision must go through the standard approval process for applications for work in the Area, it would require review by the LTC, with recommendation for approval or disapproval to the Council.[151] If the Council disagrees with the recommendation of the LTC, it must decide by a two-thirds majority under the process described above to make a contrary finding.[152] It is most likely that the process will require LTC recommendation to the Council.[153]

Even if the Council provisionally approves an application for a plan of work, that does not mean that the work is free to begin. The Convention requires that "every plan of work . . . shall be in the form of a contract concluded between the Authority and the applicant."[154] After the approval of the proposal for a plan of work, the ISA and applicant must negotiate and execute a contract prior to the initiation of the activity.[155] In one instance, this has resulted in a three-year period between the acceptance of a proposal for exploration and the execution of the contract, pending the adoption of Regulations for the activity by

147. 1994 Agreement annex, § 1, art. 15(c).

148. Klaas Willaert, *Under Pressure: The Impact of Invoking the Two Year Rule within the Context of Deep Sea Mining in the Area*, 36 INT'L J. MARINE & COASTAL L. 505, 510 (2021).

149. Singh, *supra* note 44, at 401.

150. 1994 Agreement annex, § 3, art. 5.

151. *See supra*, Part I.D. ¶ 3; *id.* annex, § 3, art. 11(a).

152. 1994 Agreement annex, § 3, art. 11(a).

153. Singh, *supra* note 44, at 401–02; *see also* Int'l Seabed Auth. [ISA], *Rules of Procedure of the Council*, r. 70, Doc. ISBA/C/12 (Dec. 3, 1996).

154. The Convention annex III, art. 3(5).

155. Singh, *supra* note 44, at 408.

the Council.[156] This permits the Council to satisfy the requirements of section 1, paragraph 15, while still providing time for the adoption of exploitation Regulations.

2. Intersessional Dialogue on Interpreting Section 1, Paragraph 15, of the Annex to the 1994 Agreement

In the twenty-seventh session, the ISA Council decided to establish an informal intersessional dialogue facilitated by two delegations to "facilitate further discussion on the possible scenarios foreseen in section 1, paragraph 15, of the annex to the Part XI [of the 1994] Agreement and on any other pertinent legal considerations."[157] On March 23, 2023, the co-facilitators presented a brief summarizing their findings. The conclusion contained three areas of consensus on section 1, paragraph 15, of the annex to the 1994 Agreement:

> Subparagraph (c) does not impose an obligation on the Council to automatically approve a pending application for a plan of work. The Council can decide to disapprove a plan of work after having considered it.
>
> There is a role for both the Council and the LTC as its subsidiary body in the consideration of a pending application for a plan of work under subparagraph (c). Article 145 and other provisions of [the Convention] form part of the legal sources and criteria, mentioned in subparagraph (c), based on which the Council shall consider and provisionally approve a plan of work.
>
> Provisional approval of a plan of work under subparagraph (c) is not the same as, and does not amount to, final approval. A provisionally approved plan of work does not equate to a contract for exploitation.[158]

The brief further identified four areas where the views of the member States delegations diverge:

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156. *Id.*

157. Int'l Seabed Auth. [ISA], *Decision of the Council of the International Seabed Authority Relating to the Possible Scenarios and any Other Pertinent Legal Considerations in Connection with 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*, ¶ 1, Doc. ISBA/27/C/45 (Nov. 11, 2022).

158. Int'l Seabed Auth. [ISA], *Co-Facilitators' Briefing Note to the Council on the Informal Intersessional Dialogue Established by Council Decision*, Doc. ISBA/27/C/45 (Mar. 23, 2023), https://www.isa.org.jm/wp-content/uploads/2023/03/Co_Facilitators_Briefing_Note.pdf [https://perma.cc/TZ5D-GY46].

> Is there a legal basis for the Council to postpone (i) the consideration and/or (ii) the provisional approval of a pending application for a plan of work under subparagraph (c), and if so, under what circumstances?
>
> Is article 165(2)(b) applicable and is the LTC therefore required to review a plan of work and submit appropriate recommendations to the Council as part of the process of consideration of such plan of work under subparagraph (c)?
>
> What guidelines or directives may the Council give to the LTC, and/or what criteria may the Council establish for the LTC, for the purpose of reviewing a plan of work under subparagraph (c)?
>
> What considerations and procedures apply after a plan of work for exploitation has been provisionally approved and leading up to the conclusion of a contract for exploitation?[159]

These conclusions of the informal intersessional dialogue do not represent binding interpretations of section 1, paragraph 15, of the annex to the 1994 Agreement; they only serve to aggregate the general consensus and diverging viewpoints of the delegations. On March 31, 2023, the ISA Council decided to continue the informal intersessional dialogue, building off of the results of the co-facilitators brief.[160] The Council further decided that the co-facilitators provide an updated briefing in part two of the twenty-eighth session in July, and allocated time in that session to discuss the outcomes of the intersessional dialogue with the goal of adopting a Council decision on the matter.[161] In part two of the twenty-eighth session in July, the Council decided that if an application for a plan of work for exploitation is submitted prior to the adoption of exploitation Regulations, the Council will continue "its consideration of the understanding and application of paragraph 15 . . . including the possible issuing of guidelines or directives."[162] This decision does nothing to change the current treatment of section

159. *Id.* ¶ 25.

160. Int'l Seabed Auth. [ISA], *Decision of the Council of the International Seabed Authority relating to the Understanding and Application of Section1, Paragraph 15, of the Annex to the Agreement Relating to the Implementation of Part XI of the United Nations Convention of the Law of the Sea*, ¶ 7, Doc. ISBA/28/C/9 (Mar. 31, 2023).

161. *Id.* ¶¶ 9–10.

162. Int'l Seabed Auth. [ISA], *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*, ¶ 3, Doc. ISBA/28/C/25 (July 21, 2023).

2, paragraph 15, post-expiration of the two-year deadline. It only pays lip service to the Council's goal to draft regulations and the possibility of issuing guidelines for provisional approval.

B. Environmental Consideration in the Elaboration of Exploitation Regulations

Deep seabed mining presents heightened challenges of conducting a highly invasive activity in a minimally researched and fragile ecosystem. The preamble of the Convention recognizes the importance of the "protection and preservation of the marine environment,"[163] as a foundational requirement of the agreement. Similarly, article 145 of the Convention mandates that "necessary measures shall be taken . . . with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities."[164] Article 145 specifies that, among other measures, the ISA must adopt rules, regulations, and procedures for the "prevention, reduction and control of . . . hazards to the marine environment . . . [and] interference with the ecological balance," and for the "prevention and conservation of the natural resources of the Area and prevention of damage to the flora and fauna of the marine environment."[165] This mandate applies to all activities in the Area, and thereby binds the actions of the LTC and Council in elaborating Regulations and accepting work proposals. As an articulated requirement, the Convention makes clear the priority of environmental protection in explicitly stating that the LTC, in its formulations of the exploitation Regulations, is required to consider "the environmental implications of activities in the Area."[166] The importance of this environmental mandate was reiterated by the Secretary-General at the close of the ISA's twenty-seventh session in November 2022.[167]

There is a distinct quandary in pairing the protection of the marine environment with deep-sea mining. Regardless, absent unprecedented modification of the Convention and 1994 Agreement, it is

163. The Convention, Preamble.

164. The Convention art. 145.

165. *Id.* art. 145(a)–(b).

166. *Id.* art. 165(2)(f).

167. Press Release, *supra* note 88 ("It is the right of all States . . . to conduct exploration and, eventually, [exploitation] . . . . The only condition around the exercise of these fundamental rights is that all activities in the Area must be carried out in accordance with the rules, regulations, and procedures of ISA, including those relating to the protection of the marine environment.").

mandated that these two interests be jointly satisfied. To comply with the provisions of the Convention and 1994 Agreement, the ISA must consider the precautionary principle and the Common Heritage of Mankind in the elaboration of its exploitation Regulations.

1. The Precautionary Principle

The precautionary principle takes a strong stance on normative values but lacks a uniform definition.[168] The principle developed from the recognition that "[f]orestalling disasters usually requires acting before there is strong proof of harm, particularly if the harm may be delayed and irreversible . . . ."[169] The application of the principle to environmental impacts gained traction in the 1970s following increased awareness that the delicate nature of ecosystems is often discovered only after significant harm has occurred.[170] Following this recognition, the principle emerged in subsequent key policy decisions.[171] The precautionary principle as applied to environmental law is summarized in the Rio convention: "[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[172]

The Convention frames the regulation of seabed resources under inherent concepts of sustainable development: a concern for equity

168. Giandomenico Majone, *The Precautionary Principle and its Policy Implications*, 40 J. COMMON MKT. STUD. 89, 93–95 (2002) (opining that the "precautionary principle is an idea (perhaps a state of mind) rather than a clearly defined concept," and referencing the approaches of governing bodies, academics, and international tribunals).

169. European Environment Agency, *Late Lessons from Early Warnings: The Precautionary Principle 1896–2000*, 13, ENVIRONMENTAL ISSUE REP. NO 22/2001 (Poul Harremoës et al. eds., 2001).

170. *Id.*

171. *See* Montreal Protocol on Substances that Deplete the Ozone Layer, *supra* note 23, Preamble ("[T]o protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it . . . ."); U.N. Framework Convention on Climate Change, Sept. 5, 1992, 1771 U.N.T.S. 107 ("The Parties should take precautionary measures to anticipate, prevent or minimise the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures . . . ."); Treaty on European Union, July 2, 1992, 1755 U.N.T.S. ("Community policy on the environment. . . shall be based on the precautionary principle and on the principles that preventive actions should be taken . . . .").

172. U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (vol. I), annex I, Princ. 15 (June 14, 1992).

between affected parties,[173] an emphasis on scientific information and data, and an approach of prevention of—rather than response to—detrimental actions.[174] These concepts effectively build the precautionary principle into the Convention. This is further reflected by the express implementation of the precautionary principle, as understood under the Rio Declaration, into the ISA's exploration Regulations:

> In order to ensure effective protection for the marine environment from harmful effects which may arise from the activities in the Area, the Authority and sponsoring States shall apply a precautionary approach, as reflected in principle 15 of the Rio Declaration, and best environmental practices.[175]

Outside of the formal implementation of the precautionary principle in the ISA's regulations, the principle has been regarded as having attained the status of customary international law.[176] In the *Pulp Mills* case, the ICJ noted that the due diligence required of Member States of the Convention included the application of the precautionary principle.[177] In the context of seabed mining, this should be understood as requiring States to ensure that the activities conducted by sponsored entities will not cause significant environmental harm prior to granting sponsorship, not as a post hoc consideration.

2. Common Heritage of Mankind

The dark oceans were the womb of life: from the protecting oceans life emerged. We still bear in our bodies—in our blood, in the salty bitterness of our tears—the marks of this remote past.

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173. The 1994 Agreement largely works to provide equitable distribution of the benefits from resources in the Area to developing and land-locked nations. *See e.g.*, 1994 Agreement.

174. Chistopher W. Pinto, *The United Nations Convention on the Law of the Sea: Sustainable Development and Institutional Implications*, OCEAN GOVERNANCE: SUSTAINABLE DEVELOPMENT OF THE SEAS 6 (Peter Bautista Payoyo ed., 1994).

175. Int'l Seabed Auth. [ISA], *Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area*, Reg. 31(2), Doc. ISBA/19/C/17 (July 22, 2013); *see also* Sponsorship Agreement by and among the Republic of Nauru, *supra* note 99, at 6.

176. *See* ARIE TROUWBORST, EVOLUTION AND STATUS OF THE PRECAUTIONARY PRINCIPLE IN INTERNATIONAL LAW 7–31 (2002); Pulp Mills on the River of Uruguay (Arg. v. Uru.), Provisional Measures, 2006 ICJ Rep. 113, 152 (July 13) (Dissenting opinion by Judge ad hoc Vinuesa) ("[t]he precautionary principle is . . . a rule of law within general international law as it stands today.").

177. Pulp Mills on the River of Uruguay (Arg. v. Uru.), Judgement, 2010 ICJ Rep. 14, 55 (Apr. 2010).

Retracing the past, man, the present dominator of the emerged earth, is now returning to the ocean depths . . . a unique opportunity to lay solid foundations for a peaceful and increasingly prosperous future for all peoples.[178]

On November 1, 1967, the U.N. Representative of Malta gave a statement urging the conservation of the seabed in the Area. In his statement, he highlighted the growing concern over military actions in the deep-sea,[179] unrestricted exploitation of seabed resources,[180] and undeterred environmental harm. In conclusion, he urged the U.N. General Assembly to adopt a resolution, acknowledging that "the seabed and the ocean floor are a Common Heritage of Mankind and should be used and exploited for peaceful purposes and for the exclusive benefit of mankind as a whole."[181] This call for designation of the deep sea for the benefit of mankind led to multiple U.N. resolutions, eventually culminating in the adoption of the Convention.[182] The Common Heritage of Mankind principle (CHM) found global consensus[183] in the Convention and is woven throughout its language.[184] As a foundational element of the Convention, it serves two purposes: to obviate the destruction of the Area thereby preserving the resources

178. *Statement of Malta Representative Pardo*, U.N. GAOR, 22nd Sess., 1515th mtg., ¶ 7, U.N. Doc. A/C.1/PV.1515 (Nov. 1, 1967).

179. *Id.* ¶¶ 45–55.

180. *Id.* ¶¶ 29, 91.

181. *Statement of Malta Representative Pardo*, U.N. GAOR, 22nd Sess., 1516th mtg., ¶ 13, U.N. Doc. A/C.1/PV.1516 (Nov. 1, 1967).

182. *See* Edward Guntrip, *The Common Heritage of Mankind: An Adequate Regime for Managing the Deep Seabed*, 4 MELB. J. INT'L L. 376, 379 (2003).

183. *See generally* Elizabeth R. DeSombre, *The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular*, 19 UCLA J. ENV'T L. & POL'Y 49 (2000).

184. *See e.g.*, The Convention, Preamble ("[T]he area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the Common Heritage of Mankind . . . ."); *id.* art. 125 ("Land-locked States shall have the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention including those relating to the freedom of the high seas and the Common Heritage of Mankind."); *id.* art. 136 ("The Area and its resources are the Common Heritage of Mankind."); *id.* art. 150 ("Activities in the Area shall, as specifically provided for in this Part, be carried out . . . with a view to ensuring: . . . the development of the common heritage for the benefit of mankind as a whole . . . ."); *id.* art. 155 ("The Review Conference shall ensure the maintenance of the principle of the Common Heritage of Mankind . . . ."); *id.* art. 311 ("States Parties agree that there shall be no amendments to the basic principle relating to the Common Heritage of Mankind set forth in article 136 and that they shall not be party to any agreement in derogation thereof.").

for future generations, and to prevent the concentration of benefits to a small group of States at the detriment of others. While the first of these purposes is functionally normative, the second is a well-established keystone of the Convention.

Impacts on the global market and developing and landlocked nations is a primary concern in the exploitation of seabed resources.[185] A significant point of contention in the negotiations surrounding the Convention arose from balancing the economic interests of developed nations with mitigating impacts on landlocked nations and States lacking the economic strength to exploit these resources. The Convention's CHM applications have focused primarily on this contention. Developing nations produced most of the minerals available on the seabed, and developed nations created most of the demand.[186] If developed nations were able to exploit the seabed without regard for the developing nations, this could have colossal economic ramifications.[187] The CHM purported to prevent that inequity. In the 1994 Agreement, member States aimed to find a balance between these interests. While the reformation on Committee membership, economic allocations, and activity approval process satisfied most, it failed to garner the support of the United States. The final draft of the Convention contained extensive provisions aimed at preventing this ill effect on developing nations, using the CHM as a guide.[188]

An additional contention arises in the extent to which the CHM applies. As a baseline, the CHM requires the sharing of profits accrued from activity in the Area, focusing primarily on exploitation of mineral resources.[189] However, the value in the seabed does not stop there. The CHM can be interpreted as requiring the sharing of value beyond

185. For a comprehensive review of the positions on market impacts and differing state interests, see Edwin Egede, *Africa and Part XI of Law of the Sea Convention (LOSC) 1982 Provisions, as Amended by the 1994 Implementation Agreement, in* AFRICA AND THE DEEP SEABED REGIME: POLITICS AND INTERNATIONAL LAW OF THE COMMON HERITAGE OF MANKIND 75, 99–114 (2011). *See also* The Convention art. 151 (particularly where the article sets production caps on minerals, as this is intended to prevent the flooding of the international market).

186. DONALD DENMAN, MARKETS UNDER THE SEA? A STUDY OF THE POTENTIAL OF PRIVATE PROPERTY RIGHTS IN THE SEABED 17 (1984).

187. Hegwood, *supra* note 39, at 183.

188. *See e.g.*, The Convention art. 140(1) ("Activities in the Area shall, as specifically provided for in this Part, be carried out for the benefit of mankind as a whole, irrespective of the geographical location of States, whether coastal or land-locked, and taking into particular consideration the interests and needs of developing States . . . .").

189. *See generally id.* Part XI.

mining operations, including technology,[190] scientific information (with which the United States took issue), and valuable microbial samples (of particular interest to pharmaceutical developments). Regardless of the debate surrounding the application of the CHM, it is critical to acknowledge its role in the drafting of the Convention, and the consideration it requires in authorizing activity in the Area. The CHM requires that States abstain from creating sponsorship agreements for activities in the Area that will inequitably benefit their own nation while subverting the shared economic and resource rights of all States. For seabed mining, States must take into consideration the future effects of their activities in the Area, so as not to deny future generations their right to the shared benefit.

C. Systems of Accountability and Liability for Damage

Under the current structure of the Convention and 1994 Agreement there are few safeguards in place to hold contractors and State sponsors accountable for environmental harm. One concern that arises under the review process is that of contractors' engagement in activities in the Area. The ISA has limited mechanisms in place to maintain review of contractors' due diligence. Contractors' mandatory annual reports to the ISA are kept confidential from the public.[191] Similarly, the self-reporting policies implemented in the ISA's exploration Regulations pose a risk of bad actors failing to comply with the terms of their contract. As these compliance reports are not shared with the public, there is little information as to how compliance is being handled within the LTC and ISA.[192]

The lack of holding contractors or sponsoring States liable for damages amplifies concerns of accountability. In its current construction, the ISA has left a gaping hole in its legal recourse for noncompliant contractors or environmental disasters: The ISA does not hold sponsor States strictly liable for the actions of their sponsored entity. This stems from the intention to not bar smaller states from participating in activities in the Area, but it has the detrimental effect of reducing accountability. So long as a state has met the minimal requirements of binding a sponsored entity by contract and its national legal framework

190. *See* 1994 Agreement annex, § 5. Transfer of technology was included in the 1982 publication of the Convention, but the provisions under Annex III, Article 5, were modified and thereby nullified in the 1994 Agreement.

191. Jeff A. Ardron, Henry A. Ruhl & Daniel O.B. Jones, *Incorporating transparency into the governance of deep-seabed mining in the Area beyond national jurisdiction*, 89 MARINE POL'Y 58, 62 (2018)

192. *Id.* at 63.

to the obligations of the Convention and 1994 Agreement, it has no further liability. As the ISA does not account for issues arising from subsidiary entities, this could lead to disastrous outcomes.

The potential NORI exploitation activity can be used as an example. NORI is a subsidiary of The Metals Company (TMC), a Canadian-based corporation.[193] But NORI, as a subsidiary of TMC, is registered in Nauru, and therefore is counted as a national of Nauru for the purposes of the ISA.[194] TMC is not bound by the laws of Nauru, and is not in privity of contract with the nation.[195] Nauru is only liable for NORI to the extent that it is required to bind NORI—by the nation's laws and contract—to comply with the Convention and 1994 Agreement. Nauru has satisfied these requirements.[196] In this scenario, if NORI failed to successfully operate its exploitation activity and caused significant damage to the marine environment, there would be little ability to hold the corporation accountable and recover the damages. NORI, as an isolated entity, has minimal monetary reserves and could not afford to remedy the damages. Under the current framework, there would presumably be no liability for either TMC or Nauru. NORI would be dissolved, Nauru would have no responsibility for their role in the harm, and the damage would remain a burden borne by innocent parties. This current system places significant risks on permitting exploitation activities to proceed.

D. The Review Process of Proposals for Work Activity and Contractor Actions

Under the current form of the Convention and 1994 Agreement, the LTC acts as the main organ for assessing applications for work plans. As the responsible body, the LTC is required to address

193. *See generally* The Metals Co., Prospectus Filed with the SEC (Oct. 22, 2021) (Reg. No. 333-260126).

194. *Id.*; The Convention art. 153 (limiting the entities that can engage in exploration or exploitation under the sponsorship of a State Party to those that are "natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals").

195. Under the Republic of Nauru International Seabed Minerals Act of 2015, Nauru only holds the "Sponsored Party" liable to Nauru and has no mechanisms for seeking enforcement of Nauru law or the Convention against related corporate entities beyond the immediate sponsored party. *See* Nauru International Seabed Minerals Act of 2015, GN No 710/2015 (2015) Part 1 § 4(1) "Sponsored Party," Part 2 § 10(c), Part 4 § 29 1–2.

196. Nauru satisfied these requirements where it bound NORI by its laws, Nauru International Seabed Minerals Act of 2015, *supra* note 195, and by contract, Sponsorship Agreement by and among The Republic of Nauru, *supra* note 99.

the many concerns outlined in the Convention and 1994 Agreement's framework. However, given the lack of transparency in the LTC, this review process may be unsatisfactory. Due to the LTC acting behind closed doors, the ability to review the adequacy of the body's decisions is wanting. Of additional concern is the lack of scientific authority within the LTC.[197] A 2016 Performance Review noted concern in the LTC's employment of "only one marine biologist even though environmental issues are a major component of the Authority's mission and will form a significant part of the exploitation [R]egulations."[198] In a statement summarizing the ISA Review Committee's recommendations, the chair reiterated that "data and information relating to the protection and preservation of the marine environment"[199] is not confidential and must be shared widely. The LTC's "central place within the structure of the Authority . . . engenders particular interest in its work" and it "should be encouraged to hold more open meetings in order to allow for greater transparency."[200] The recommendations to increase transparency and decrease unnecessary confidentiality of the LTC have not been met with any action.[201]

The lack of transparency of the review process within the LTC and the lack of scientific expertise raises significant concerns that States will not be able to adequately assess whether the LTC has conducted appropriate review of applications for plans of work in the Area. As the Council is required to decide based on the brief report of the LTC, it is concerning that the LTC does not provide more transparency to aid that decision. While this issue persists in the LTC's review of current exploration activities, its ramifications exponentially increase in the context of exploitation.

The issues of proper application of the CHM and Precautionary Principle, transparency and scientific authority in the ISA,

197. Klaas Willaert, *Institutional Troubles Within the International Seabed Authority: The Growing Politicisation of the Legal and Technical Commission*, 26 J. INT'L MARITIME L. 60, 65 (2020).

198. SEASCAPE CONSULTANTS LTD., PERIODIC REVIEW OF THE INTERNATIONAL SEABED AUTHORITY PURSUANT TO UNCLOS ARTICLE 154, REPORT 39 (2016). DAVID JOHNSON, PHILIP WEAVER, VIKKI GUNN, WYLIE SPICER, SARA MAHANEY, DIRE TLADI, ANGEL ALVAREZ PEREZ & AKUILA TAWAKE, PERIODIC REVIEW OF THE INTERNATIONAL SEABED AUTHORITY PURSUANT TO UNCLOS ARTICLE 154, at 39 (2016).

199. Int'l Seabed Auth. [ISA], *Letter dated 3 February 2017 from the Chair of the Committee established by the Assembly to carry out a periodic review of the international regime of the Area pursuant to article 154 of the United Nations Convention on the Law of the Sea to the Secretary-General of the International Seabed Authority*, ¶ 29, Doc. ISBA/23/A/3 (Feb. 8, 2017).

200. *Id.* ¶¶ 26–27.

201. Ardron, et al., *supra* note 191, at 65.

environmental concerns of exploitation, and accountability for contractors, have been bubbling under the surface. But Nauru's invocation of the two-year rule, and the deadline's expiration in July 2023, brought these concerns to the surface. This development has prompted the ISA to address these various issues with extensive and unfinished deliberation, but concrete decisions are now an utmost necessity.

III. DRAFTING REGULATIONS, BALANCING DUTIES, AND PREVENTATIVE ACTIONS

The purpose of this Note is not to analyze the environmental implications of seabed mining by engaging in a normative discussion of its merits. To reiterate the statement of Michael Lodge, the current Secretary-General of the ISA: the decision to conduct deep seabed mining was made long ago with the ratification of the Convention in 1994.[202] In consideration of this largely settled decision, this Note aims to discuss necessary procedural changes for the ISA, draw attention to existing mandates in the ISA that require further delineation, and assess the recent calls for a moratorium on exploitation.

A. Procedural Changes to the Convention

To achieve the Convention's dual purposes of prevention of harm to the marine environment and the implementation of seabed mining, the ISA should incorporate impactful procedural changes into the existing Convention. This includes: (1) increased transparency, most importantly in the Legal and Technical Commission's activities; (2) involvement of stakeholders, experts, and independent parties in regulation drafting and review of work plans; and (3) systematic review of internal processes.

1. Transparency

The current processes of the ISA show a concerning lack of transparency. Most problematically, the LTC conducts its meetings and much of its review behind closed doors. The LTC operates in this manner in the interest of confidentiality, due to its close interaction with private commercial parties. However, this is no excuse to entirely bar both the public and the other branches of the ISA from reviewing its process. Where the LTC is directly reviewing confidential interests,

202. Lodge & Verlaan, *supra* note 49, at 336.

it is justifiable to redact relevant parts, but it must err on the side of transparency rather than lean on secrecy.

Where the heightened concern related to exploitation draws increasing attention from third-parties, interest groups, and member States, the transparency of the internal processes becomes an essential safeguard. The recent review of the NORI exploration Environmental Impact Assessment (EIA) and decision on the Environmental Impact Statement (EIS) caused particular concern over transparency. The LTC operated in secrecy while considering whether to permit the company's test mining operations, barring stakeholders from adequately reviewing the company's submission while concurrently rushing the process (and potentially considering factors outside of environmental concerns).[203] Secrecy in this decision does nothing to further the singular goal of properly analyzing an EIA. By creating transparency in this process, interested parties would either be presented with the careful considerations that the LTC is intended to make or would discover a failure on the LTC's part to conduct its responsibilities in accordance with the Convention. Where the LTC "is often viewed as the de facto decision-making body of the ISA," it should not be without the "adequate scrutiny and oversight" that transparency provides.[204]

As a basic principle, secrecy is best reserved for only the proceedings where it is absolutely necessary. Publicizing important actions, such as the ISA's actions that implicate the world's oceans, serves an important role in preventing malicious or improper procedure; "[s]unlight is said to be the best of disinfectants; electric light the most efficient policeman."[205] Regardless of whether the LTC is functioning outside of its obligations under the Convention, or failing to adequately perform its role, transparency will benefit the fluidity of the exploitation application process. If the review of one entity's exploitation plan and accompanying EIA is publicly available, then subsequent entities can frame their plans accordingly. This would not only prevent backlog within the LTC in addressing repetitive concerns, but would also assist mining entities in calculating the financial feasibility of operations in the Area.

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203. Pradeep A. Singh & Maila Guilhon, *A Reflection of the EIA Process for Exploration Activities at the International Seabed Authority in Light of the Recent NORI EIS*, DSM OBSERVER (Dec. 20, 2022), https://dsmobserver.com/2022/12/a-reflection-of-the-eia-process-for-exploration-activities-at-the-international-seabed-authority-in-light-of-the-recent-nori-eis/ [https://perma.cc/4N2Z-ZF7F].

204. Willaert, *supra* note 197, at 68.

205. JUSTICE LOUIS D. BRANDEIS, OTHER PEOPLE'S MONEY: AND HOW THE BANKERS USE IT 92 (1914).

Most importantly, the integral role of EIAs in the work plan review process creates a heightened need for transparency. A lack of transparency significantly limits the effectiveness of EIAs.[206] In order to ensure that harm to the marine environment is given adequate consideration, the review process should be conducted publicly. Furthermore, transparency provides EIAs with credibility in the eyes of interested stakeholders[207] and member States. Increased transparency promotes trust and confidence in regulatory systems.[208] Where the Convention encourages voluntary reporting of non-compliance by entities conducting activities in the Area,[209] the willingness to self-report is encouraged when entities are assured that competitors are complying in a similar manner.[210]

The ISA has made efforts to increase transparency through informal working groups on the draft exploitation Regulations.[211] These working groups "will be open to observers and other stakeholders and shall be held in public unless otherwise decided."[212] However, this will likely do little to improve transparency if the LTC's consideration of the working group's findings is not made publicly available. Additionally, the draft exploitation Regulations include mandates to "promote accountability and transparency,"[213] "promote effective and transparent communication,"[214] and to implement "[a]ccountability and transparency in decision-making."[215] These mandates are a good

206. Shui-Yan Tang, Ching-Ping Tang & Carlos Wing-Hung Lo, *Public Participation and Environmental Impact Assessment in Mainland China and Taiwan: Political Foundations of Environmental Management*, 41 J. DEV. STUD. 1, 1 (2005).

207. *Id.* at 4.

208. James Harrison, *International transparency obligations in fisheries conservation and management: Inter-state and intra-state dimensions*, 136 MARINE POL'Y 1, 2 (2022); *see also* Jenny De Fine Licht, Daniel Naurin, Peter Esaiasson, & Michael Gilljam, *When Does Transparency Generate Legitimacy? Experimenting on a Context-Bound Relationship*, 27 GOVERNANCE 111, 127 (2014) (finding in an empirical study that transparency can increase the legitimacy of a procedure).

209. Ardron, et al., *supra* note 191, at 63.

210. Harrison, *supra* note 208, at 127 (discussing the willingness of fishing entities to comply with regulations when transparency permits them to see their competitors operating on a level playing field).

211. *See generally* Int'l Seabed Auth. [ISA], *Decision of the Council Concerning Working Methods to Advance Discussions on the Draft Regulation for Exploitation of Mineral Resources in the Area,* Doc. ISBA/26/C/11 (Feb. 21, 2020).

212. *Id.* annex I, § 2.

213. Int'l Seabed Auth. [ISA], *Draft Regulations*, *supra* note 139, Reg. 44(d).

214. *Id.* Reg. 3(c).

215. *Id.* Reg. 2(e)(vi).

starting point but will require diligent application to create any noticeable difference in the ISA's procedures.

Following part one of the twenty-eighth session of the ISA, in May 2023, the ISA Assembly published a draft strategic plan for 2024–2028. In this plan, the ISA highlights a need to "[c]ommit to transparency," including "ensur[ing] access to non-confidential information," and "implement[ing] a stakeholder communications and consultation strategy."[216] While this plan emphasizes some of the key issues of transparency, the ISA must address all the aforementioned critiques consistently in order for the strategies to be effective.

2. Involvement of Experts, Stakeholders, and Independent Parties in ISA Procedures

The value of involving experts, stakeholders, and independent parties in the ISA's procedures is akin to that of transparency; it promotes discourse and legitimizes the Authority's actions. The Convention consistently establishes the ISA's focus on preservation of the marine environment.[217] This effort would be ineffective if not supported by experts in the relevant fields. Due to this necessity for experts, the Convention requires that the Council establish subsidiary organs comprised of members "qualified and competent in relevant technical matters."[218] The LTC has served as the primary subsidiary organ for providing technical expertise. However, the nuanced technicality of determining adequate environmental thresholds, testing parameters, and the impacts of exploitation (with its heightened impact compared to prospecting and exploration) requires input from a wide range of niche experts. For these purposes, a temporary expert committee[219] should be given a significant role in the drafting of the exploitation Regulations.[220] The inclusion of such expert committees would further serve to facilitate transparency in the decision-making process by effectively separating the sensitive private interests considered by the LTC from the "data and information relating to the protection and

216. Int'l Seabed Auth. [ISA], *Draft Strategic Plan of the International Seabed Authority for the Period 2024–2028*, Strategic Direction, at 9 (May 26, 2023), https://www.isa.org.jm/wp-content/uploads/2023/05/Draft-SP-2024-2028v.1-26.05.23.pdf [https://perma.cc/ETH5-QCLD].

217. *See* discussion *supra* Section II.B.

218. The Convention art. 162(2)(d).

219. The expert committee should include scientists, engineers, and industry specialists.

220. Herald Ginzky, Pradeep A. Singh & Till Markus, *Strengthening the International Seabed Authority's knowledge-base: Addressing uncertainties to enhance decision-making*, 114 MARINE POL'Y 1,9 (2020).

preservation of the marine environment"[221] that is not confidential and is intended to be widely available.[222] The ISA has created three informal working groups to advance the discussions on the draft exploitation Regulations;[223] however, these groups are not provided with any substantial influence in the process. To ensure that the expert recommendations are provided with significant weight, the ISA should create a process similar to that of the LTC recommendations to the Council[224]—requiring deference to the expert committees in the absence of any significant opposition.

The dual values of providing necessary expertise and enabling transparency[225] urge the implementation of a permanent expert committee to serve a secondary review role on ongoing applications for approval of exploitation activities and to aid the LTC in its continuous role of recommending to the Council emergency measures including the "suspension or adjustment of operations, to prevent serious harm to the marine environment."[226] While the LTC has been able to provide this technical support in the last forty years of the Convention, its integral role in the Convention demands delegation of some of its responsibilities to better-situated specialized bodies. The increased risks posed by exploitation require increased scrutiny, a task that is best served by a subsidiary to the LTC. Such specialized committees are also better equipped to monitor compliance and determine serious harm or threats of serious harm to the marine environment, a role assigned to the LTC under the current draft exploitation Regulations and the Convention.[227]

The resources of the Area are the Common Heritage of Mankind. Accordingly, the ISA must ensure that all stakeholders are provided with a meaningful opportunity to participate in the review of exploitation activities. Under the CHM principle, all interested parties should be considered stakeholders. The current structure of reporting mechanisms under the exploration Regulations prevents adequate public participation by combining environmental data with confidential resource data.[228] In doing so, it groups environmental data that should

221. Int'l Seabed Auth. [ISA], *Letter dated 3 February 2017*, *supra* note 199, ¶ 29.

222. Secretary-General of the Int'l Seabed Auth., *Information Sensitivity, Classification and Handling*, at 11, Doc. ISBA/ST/SGB/2021/2 (Aug. 16, 2021).

223. Int'l Seabed Auth. [ISA], *Decision of the Council*, *supra* note 211, annex I § 1.

224. *See* discussion *supra* Part I.B.

225. *See Decision of the Council*, *supra* note 211, annex I § 2.

226. The Convention art. 165(2)(k).

227. *Id.*; Int'l Seabed Auth. [ISA], *Draft Regulations*, supra note 139, Reg. 4 § 4.

228. Ginsky, et al., *supra* note 220, § 4.2.1.

be publicly available[229] with sensitive information designated as confidential.[230] In addition to encouraging public review of all feasible information relating to activity in the Area, the ISA should form a blanket public notice-and-comment procedure. This should apply to both regulation drafting and the review process for plans of approval for work in the Area. Rather than vesting the entire review and approval process in the LTC and Council, the ISA should build in a required additional step to provide the public with ample notice to comment on the ISA's proposed actions. This should then be followed by a response by the ISA to each relevant issue raised by stakeholders. While the ISA has shown a growing acknowledgement of the importance of stakeholder contribution,[231] the Council must create formal obligations for the Authority to adequately implement stakeholder interests. To achieve these formal obligations, the ISA should clearly define "stakeholder" and prescribe a system for including and addressing stakeholder's comments. Where the Area is the common heritage of mankind—not the common heritage of nations—a failure to respond to stakeholder interests, or a process that does not rationally address stakeholder concerns, is not acceptable.

Furthermore, the ISA's published guidance on annual reports places the responsibility of accurate reporting of environmental monitoring and assessment on contractors.[232] The requirement of good faith is built into the Convention and Area activity Regulations, but there is nothing more to safeguard against abuse of this discretion. The introduction of uninterested independent parties into environmental monitoring and assessment would provide a necessary additional step to ensure contractor compliance. The LTC holds the power to supervise activities in the Area,[233] and should request that the Council form a subsidiary independent expert committee, to assist the LTC with monitoring the environmental impacts within contractor's areas. If the results of this committee's annual analysis are the same as that reported voluntarily by the contractor there is no cause for concern. However, gross deviations should trigger further investigation.

Finally, the monumental shift to exploitation will substantially burden the LTC and the Council, requiring additional bodies to take on the increased workload. The implementation of exploration of the

229. *See generally* Secretary-General of the Int'l Seabed Auth.*, supra* note 222.

230. *Id.* at 4, ¶¶ 19–21.

231. Int'l Seabed Auth. [ISA], *Draft Strategic Plan*, *supra* note 216, at 11.

232. *See generally* Int'l Seabed Auth. [ISA], *Recommendations for the guidance of contractors on the content, format and structure of annual reports*, Doc. ISBA/21/LTC/15 (Aug. 4, 2015).

233. The Convention art. 165(2)(c).

Area provides important historical context to the foreseeable burdens imposed on the Authority. Heightened interest in the development of deep-sea minerals from 2012–2013 significantly increased the complexity of the legal and technical aspects of managing exploration contracts, resulting in a time-consuming and resource-demanding burden on the Authority.[234] In 2015, the Secretary-General acknowledged that the increased demands on the LTC were creating a challenge for the Authority.[235] With the final phase of mining approaching rapidly, it is crucial that the ISA implement methods in advance to rectify this foreseeable issue. If the ISA fails to create a framework alleviating the workload of the Council, there is a high likelihood that crucial aspects of governance over exploitation activities may fall to the wayside. The ISA may establish a supporting independent body to facilitate this shift, and then analyze whether it is fit for purposes after the initial phase of exploitation. A preventative approach will better serve the purposes of the Convention, rather than waiting for the inevitable need for additional committees to arise and scrambling for a solution after the fact.

3. Systematic Review of Internal Processes

The ISA should operate a systematic review of the Authority's general operations and a focused review of the Authority's functions in consideration of exploitation activity for the early stages of such activity. Article 154 of the Convention sets out that, every five years, the "Assembly shall undertake a general and systematic review" of the operation of the Convention's "international regime of the Area" in practice.[236] The Convention leaves the extent of this review to the Assembly and does not provide any specific parameters. For the first twenty years following the Convention's entry into force, no Article 154 review was conducted.[237] In 2015, the Assembly established the

234. Int'l Seabed Auth. [ISA], *Report of the Secretary-General of the International Seabed Authority under article 166, paragraph 4, of the United Nations Convention on the Law of the Sea*, ¶ 6, Doc. ISBA/19/A/2, (May 22, 2013).

235. Secretary-General of the Int'l Seabed Auth., *Periodic review of the international regime of the Area pursuant to article 154 of the United Nations Convention on the Law of the Sea*, ¶ 9–10, Doc. ISBA/21/A/4 (June 8, 2015).

236. The Convention art. 154.

237. In 2000, the Secretary-General concluded that it was "too early at the current stage to make a determination as to whether the regime established by the Convention and the Agreement has functioned effectively in practice." Int'l Seabed Auth. [ISA], *Report of the Secretary-General of the International Seabed Authority under article 166, paragraph 4, of the United Nations Convention on the Law of the Sea*, ¶ 63, Doc. ISBA/6/A/9 (June 6, 2000).

first Review Committee to oversee the Article 154 review,[238] producing its final report in 2017.[239] The ISA is currently behind on conducting its next review. The delays caused by Covid-19 and present emphasis on drafting exploitation regulations may explain this delay. However, it is imperative that the ISA take timely action to establish the next review committee and ascertain its focus.

The establishment of a new review committee provides the ISA with the opportunity to create a novel form of review. Rather than setting out initial parameters and permitting a two-year review process, as in the 2017 review, the ISA should create a two-fold review. The first part should follow the 2017 approach, analyzing the broad functions of the ISA and its governance of the Area. The second part should create a multi-year review committee that shifts its focus based on the developing exploitation regime. This will permit the ISA to both address its standard article 154 purposes, while also collecting data to inform the exploitation procedures.

B. Present Issues with Liability and the Two-Year Rule

In this critical period of regulation drafting and increased scrutiny from member States, the ISA has an opportunity to address concerning gaps in the delineation of the Convention's mandates. These gaps have not been the cause of significant issues to-date, but with the shift of the ISA's function into exploitation, they could be detrimental. This includes: (1) the effective control of entities[240] and related limited liability for State sponsors and sponsored entities;[241] and (2) the lack of clarity in the two-year rule for exploitation Regulations.[242]

Article 154 review was not revisited by the Assembly after 2000, until 2015. Int'l Seabed Auth. [ISA], *Periodic review*, *supra* note 235, ¶ 9.

238. *See* Int'l Seabed Auth. [ISA], *Decision of the Assembly regarding the first periodic review of the international regime of the Area pursuant to article 154 of the United Nations Convention on the Law of the Sea*, Doc. ISBA/21/A/9 (July 24, 2015).

239. Int'l Seabed Auth. [ISA], *Letter dated 3 February 2017*, *supra* note 199.

239. The Convention art. 154.

240. *Id.* art. 153(2)(b).

241. *See* discussion *supra* Section II.C.

242. *See* discussion *supra* Section II.A.

1. Effective Control and Limited Liability

The prevention of monopolization of deep-sea minerals is a fundamental motivation for the Convention. The ISA utilizes the complex framework of the Convention to ensure that a small minority of member States do not prevent others from benefiting from the resources managed for the Common Heritage of Mankind. One method to avoid this consolidation of resources is embodied in the State sponsorship articles of the Convention. Generally, Article 139 creates responsibility for member States to ensure that activities in the Area conducted by entities "effectively controlled" by the State or its nationals conform to Part XI of the Convention.[243] This requirement of effective control can be utilized to prevent the circumvention of the Convention's intent. However, this is directly dependent on the interpretation of "effective control," which the ISA has never officially settled.[244] Effective control can be interpreted as regulatory control, economic control, or a combination of the two in consideration of the purposes of Part XI of the Convention.[245] In order to ensure that all interested States and entities comply with the intentions of the Convention, "effective control" should be interpreted to mean economic control and not merely regulatory control.

In 2014, the ISA Secretariat opined that effective control should be interpreted as regulatory control, when analyzing the effective control term in the exploration Regulations.[246] The Secretariat based this interpretation on the requirement that a sponsoring State secure compliance of the sponsored entity within the framework of its legal system, thereby exempting itself from liability for damage caused by that sponsored entity.[247] This emphasis on domestic laws was relied upon by the Secretariat to a fault. The requirement that a sponsoring State provide explicit assent to sponsor an entity and require compliance to its domestic laws in conformity with the Convention, should

243. The Convention art. 139(1).

244. Secretariat of the Int'l Seabed Auth. [ISA], *Analysis of regulation 11.2 of the Regulations on Prospecting and Exploration for Polymetallic Nodules and Polymetallic Sulphides in the Area*, ¶ 10, Doc. ISBA/20/LTC/10 (June 5, 2014); *see also* Int'l Seabed Auth. [ISA], *Decision to the Council of the International Seabed Authority relating to the report of the Chair of the Legal and Technical Commission*, ¶ 18, Doc. ISBA/23/C/18 (Aug. 15, 2017) (noting that, due to time constraints, the Commission was unable to discuss "priority issues" such as "effective control").

245. Andrés Sebastián Rojas & Freedom-Kai Philips, *Effective Control and Deep Seabed Mining: Toward a Definition, Centre Int'l Gov. Innovation*, at 9–10 (Feb. 2019).

246. Secretariat of the Int'l Seabed Auth. [ISA], *supra* note 244, ¶ 10.

247. *Id.* ¶ 12.

be viewed as a baseline and not as a limiting threshold. The acknowledgement of control over the sponsored party exists as a means for the State to avoid liability, in ensuring compliance with the Convention.[248] However, it should not act as a bar on the inquiry into the potential effective control of additional States.

To illustrate this point: under the Secretariat's model, a State is required to determine that it holds sole effective control of the sponsored entity if it will be the sole sponsor. The Convention requires States to adopt within their legal system laws and regulations that secure compliance with Part XI.[249] The Secretariat's effective control test asks whether a State sponsor has regulatory control. If a State has adequately adopted laws securing compliance, it has regulatory control. In this construction, every State that sponsors an entity will have regulatory control, and will thereby satisfy the effective control element. Under the regulatory control interpretation of effective control, there is no further inquiry into whether the economic benefits of that entity will flow into a different State, nor whether a different State can significantly influence the actions of that entity.

This simplified regulatory-only interpretation of effective control undermines the Convention's purposes of maintaining liability for entities conducting activities in the Area and preventing monopolization of deep-sea mineral resources. In determining the qualifications of applicants for work in the Area, Annex III, Article 4 mandates that where an applicant is "effectively controlled" by an additional State beyond that of its nationality, both States must sponsor its application.[250] If effective control were interpreted to include regulatory and economic control, entities that are influenced by economic incentives in nations beyond the immediate sponsor will require the sponsorship of the additional States. This will encourage these secondary State sponsors to secure compliance with Part XI within their legal system or otherwise face liability for the entities' activities in the Area. Extending effective control to economic control creates an additional layer of protection and regulation of entities' actions, as all controlling States will be required to sponsor an application.

NORI, the corporation sponsored by Nauru, is a subsidiary of the Canadian mining corporation, The Metals Company (TMC).[251]

248. The Convention annex III, art. 4.

249. *Id.* annex III, art. 4(4).

250. The Convention annex III, art. 4(3).

251. *TMC Subsidiary NORI Commences Monitoring of the Environmental Impacts of Pilot Nodule Collection System Trials in the Clarion-Clipperton Zone*, THE METALS CO. (Oct. 5, 2022), https://investors.metals.co/news-releases/news-release-details/tmc-subsidiary-nori-commences-monitoring-environmental-impacts [https://perma.cc/6395-SQY4].

Under a regulation-only approach to effective control, sponsorship is solely required from Nauru.[252] Consequently, neither Canada nor TMC are tethered sufficiently to NORI's activities in the Area, but assuredly both have an economic interest. The acknowledgement of this relationship, and the economic interests that flow from it, would introduce an additional safeguard against detrimental effects to the marine environment caused by NORI's activities. To ensure that exploitative activities in the Area have adequate protection against harm, the inclusion of all controlling States is crucial.

In order to prevent parent companies from dodging liability for detrimental effects of subsidiary contractors—if the ISA fails to require joint-sponsorship by States effectively controlling parent companies that control subsidiary contractors—the Council should explicitly establish liability for contractors' parent companies. Where a parent company wholly owns, or owns a majority, of the subsidiary contractor, the exploitation Regulations should require them to be bound to the same contractual obligations of liability for any "damage, including damage to the Marine Environment, arising out of its wrongful acts or omissions,"[253] as found in the draft standard clauses for exploitation contracts. This form of liability has been applied by courts where a large parent corporation based in a developed nation controls the liable subsidiary corporation based in a developing nation[254]—the same structure as that of TMC and NORI. Establishing liability for the parent corporation provides the additional level of responsibility necessary to prevent widespread damage from occurring without any feasible recourse.

2. Two-year Rule

The two-year rule, triggered by Nauru in June of 2020, created many unanswered questions as to how the rule will be addressed by the ISA if an application for exploitation is submitted before the Council has adopted exploitation Regulations given the expiration of the two-year deadline in July 2023. It is prudent that the ISA explicitly decide how the two-year rule will impact the procedure of the ISA.[255]

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252. *See generally* Rojas & Philips, *supra* note 245.

253. Int'l Seabed Auth. [ISA], *Draft Regulations on Exploitation of Mineral Resources in the Area*, annex X § 7.1, Doc. ISBA/25/C/WP.1 (Mar. 22, 2019).

254. PLC v. Lungowe [2019] UKSC 20 (appeal taken from AC), ¶ 2.

255. For an extensive analysis on the implications of the invocation of the two-year rule, see Pradeep A. Singh, *The Invocation of the 'Two-Year Rule' at the International Seabed Authority: Legal Consequences and Implications*, 37 INT. J. MARINE COASTAL L. 375 (2022).

The ISA must make greater efforts to internally decide the answers to the questions posed regarding the two-year rule in Part II.A. The best approach for the ISA would be to restate the ISA's ability to postpone the granting of any contracts for exploitation activities in the Area while the draft Regulations are still pending.

C. Moratorium on Exploitation

At the close of the ISA's twenty-seventh session, eleven member States had joined together calling for a pause or moratorium on the exploitation Regulations until further research into the marine environment could be conducted.[256] At least five additional States had announced their position that mineral exploitation should not begin until Regulations could be adopted,[257] in response to the potential provisional approval[258] of work plans triggered by the two-year deadline. And most notably, on the final day of the session, France announced its complete opposition to seabed mining.[259] This position created concern among other States regarding its conflict with the need for States to fulfill their treaty obligations in good faith by adopting regulations that ensure protection of the marine environment.[260] Concerned States further highlighted the responsibility of States to preserve the rights of parties to the Convention to exploit minerals in the Area, and the importance of multilateralism and international cooperation built into the framework of the Convention.[261]

The States' justifications for a pause heavily rely on the invocation of the precautionary principle, the Common Heritage of Mankind principle, and the paramount weight the Convention places on protection of the marine environment. These justifications are further supported by the requirement of "good faith" in all member State

256. These States are Germany, Palau, Fiji, Samoa, Micronesia, New Zealand, Costa Rica, Chile, Spain, Ecuador, and Panama.

257. These States are Australia, Brazil, Canada, the Netherlands, and Portugal.

258. The Convention art. 162(2)(o).

259. Statement by France, *Position AIFM France*, (Nov. 10, 2022); *see also* Deep Sea Conservation Coalition, *France – Key Statements*, (Nov. 10, 2022), https://savethehighseas.org/isa-tracker/2022/11/10/france-key-statements/ [https://perma.cc/N7PN-DWAV].

260. 27th Session Part III Daily Bulletin, *Meetings of the ISA Council: Statement by France and Comments from Delegations: Comments by Delegations* (Nov. 10, 2022), https://mailchi.mp/6c96fea8b43a/27th-session-part-iii-bulletin-council-meetings-day-9 [https://perma.cc/DH7B-QA7K].

261. *Id.*

actions in relation to the Convention.[262] Where States view the rushed construction of exploitation Regulations as contrary to the purpose and mandates of the Convention, they call for a reconsideration of the two-year deadline invoked by Nauru.

The calls for a moratorium by member States in the ISA's twenty-seventh session were prompted by heightened public concern over deep-sea mining. These calls introduce two areas of interest: what form a moratorium would take in the ISA, and what outcomes a moratorium could trigger. When addressing these questions, it is crucial to consider the delicate role that international treaties serve, and the complexity of the Convention's parameters.

1. A Moratorium in the ISA

Calling for a moratorium or a precautionary pause to the exploitation Regulations and exploitation activity in the Area would require a formal decision by the Assembly for the former, or an informal decision by the Council for the latter.[263] As a general matter, decisions made by the organs of the Authority should be by consensus.[264] A call for a moratorium would likely be treated as a significant question of substance, and referred to the Assembly as the sole organ consisting of all members of the Convention.[265] If it cannot be made by consensus, it would require a two-thirds majority of members present and voting in the Assembly.[266] A call for a precautionary pause could be considered an informal decision, for which the "Council . . . has competence" to make a recommendation to the Assembly.[267]

The growing international opposition to deep-sea mining could influence a call for such a pause or moratorium in the twenty-eighth session of the ISA, now that the expiration of the two-year deadline has passed.[268] This would obviate the need to push through exploitation Regulations within the short time-period. However, the form that this delay would take could create conflict within the ISA. While a growing portion of member States are expressing a unified intention to delay the adoption of exploitation Regulations, or exploitation

262. The Convention art. 157(4).

263. Pradeep A. Singh, *What Are the Next Steps for the International Seabed Authority after the Invocation of the 'Two-year Rule'?*, INT'L J. MARINE & COASTAL L. 152, 161 (2022).

264. 1994 Agreement annex, § 3(2).

265. The Convention art. 16.

266. The Convention art. 159(8); 1994 Agreement annex, § 3(3).

267. 1994 Agreement annex, § 3(4).

268. *See* discussion *supra* Section II.A regarding the two-year rule.

activities, the extent of this delay varies greatly. France's call for an outright ban on mineral extraction, and Chile's call for a fifteen-year extension of the two-year rule, sit on the upper-end of States' stances on the issue.[269] In contrast, Australia, Canada, the Netherlands, and several other States' position on delaying exploitation activities until regulations have been adopted only serve to delay provisional exploitation contracts.[270]

The issue is further complicated by the requirement that exploitation Regulations are adopted by consensus in the Council, defined as "the absence of any formal objection."[271] While other decisions should be reached by consensus, if consensus cannot be achieved, decisions may be made by a two-thirds majority of the Council.[272] These two different decision-making requirements could create a situation where a decision to delay the two-year deadline cannot be met with consensus or majority, but a single State formally objects to the adoption of the Regulations. In this instance, the two-year rule's provisional exploitation approval may be triggered. The power that this gives to a single State directly contradicts the mandate that decision-making should be by consensus and the underlying "principle of the sovereign equality of all [member States]."[273] Any State could formally object to the exploitation Regulations, file an application for exploitation, and force provisional approval. This would trigger an inquiry by the Council into whether this action was in bad faith, of which a positive finding could result in revocation and other penalties. However, it is best to avoid creating this procedural mishap at the outset.

The ISA should address this matter when it convenes for part three of the twenty-eighth session in October and November 2023. It is best advised that the Council decide to delay the provisional acceptance implication of section 1, paragraph 15, of the annex to the 1994 Agreement to achieve the purposes of the exploitation drafting. The intention of the Convention is not to rapidly wade into the mineral exploitation process, but to cautiously and collaboratively decide the best ways to institute a system ensuring equal sharing of resources for the Common Heritage of Mankind, and protection of the marine environment under the precautionary principle. A rushed drafting of the

269. *See* discussion *supra* Section I.E.

270. *Id.*

271. The Convention art. 161(8)(e).

272. 1994 Agreement annex §§ 3(2), 3(5).

273. The Convention art. 157(3).

exploitation Regulations upsets these dual purposes.[274] If the Council of the twenty-eighth session, composed of thirty-six member States, cannot come to an agreement delaying the impact of the expiration of the two-year deadline, preventing the acceptance of provisional work contracts for exploitation, or adopting the exploitation Regulations, the Assembly should make a formal decision on these matters. The Assembly maintains control over the subsidiary organs of the ISA and can decide these issues when the Council fails.[275] Whether the decision comes from the Council or the Assembly, it is imperative that the failure to adopt regulations does not permit un-regulated exploitation activity in the Area to commence.

Finally, if the Council fails to come to a consensus on any of these decisions relating to the exploitation Regulations and the treatment of section 1, paragraph 15, then it could decide to "defer the taking of a decision in order to facilitate further negotiation[s]."[276] The Council may be able to invoke this deferral provision for the multiple issues related to the exploitation Regulations, including the consideration of provisional approval for work, since a consensus was not reached by the July 2023 deadline.

2. Outcomes of a Moratorium

The primary issue in establishing a moratorium on the adoption of exploitation Regulations, or on exploitation of the minerals of the Area, is the frustration of the fundamental principles of the Convention.[277] The precautionary principle, while not explicitly stated in the Convention, is woven into its mandates to protect the marine environment from harm and prevent risks prior to conducting activities in the Area. Under this principle, the call for a moratorium is aligned with the Convention. However, the Common Heritage of Mankind

274. This is further exacerbated by the extensive time the ISA has spent drafting the exploitation regulations. The ISA has expended significant resources to determine appropriate regulations. As these regulations will be extremely difficult to change (in an equitable manner given the reliance of contracts) and will govern all subsequent mining operations in the Area, it is best to ensure that they are as tactfully and intelligently crafted as possible at the time of adoption.

275. The Convention art. 160.

276. 1994 Agreement annex, § 3(6).

277. 27th Session Part III Daily Bulletin, *Meetings of the ISA Council: Statement by France and Comments from Delegations: Comments by Delegations* (Nov. 10, 2022), https://mailchi.mp/6c96fea8b43a/27th-session-part-iii-bulletin-council-meetings-day-9 [https://perma.cc/9TGR-MSNQ] (noting delegations' concerns of the implications a moratorium or pause have on States' rights to exploit minerals in the Area).

principle serves to both support and undermine the call for a moratorium.[278] The preservation of the resources in the Area, by ensuring that exploitation does not irreparably damage the marine environment, supports the Common Heritage of Mankind. The prevention of exploitation activities in the Area disrupts the Common Heritage of Mankind by preventing member States from exploiting the resources as is their right under the Convention. This difference in framing of the principle is best left to the Assembly and should be characterized by comparing the benefit of preserving the marine environment for all nations, rather than permitting exploitation by the few who are prepared. While an extensive moratorium could outweigh this benefit, a short-term pause on exploitation until more research has been conducted is likely acceptable within the frame of the convention.

Of greater concern is the potential call for an extensive moratorium or all-out ban on exploitation. This would significantly change the role of Part XI of the Convention and could create an inquiry by State Parties and the United Nations into whether the ISA is fit for its purpose. With exploitation as one of the two core purposes of the ISA, it could be difficult to justify maintaining the ISA where other UN bodies can better serve the second purpose of protecting the marine environment. However, the ISA and Part XI of the Convention have created delicate systems protecting the marine environment from harm. While some of the parameters set out in the Convention have been ossified as international customary law, the dismantling of the exploitation arm of the Convention would open the Area up to other interested actors. International law is fragile, and Part XI of the Convention offers the best source of protection and regulation of deep-sea mining that is likely possible. Without Part XI of the Convention, the management of the mineral resources in the Area could return to the high seas principle and open them up to unfettered exploitation.[279]

The Convention and the ISA have been given significant respect by the international community.[280] Since the adoption of the Convention, no nations have attempted to exploit the Area in opposition to the ISA's mandates.[281] If the ISA loses legitimacy—by failing

278. *Compare id.*, *with* Singh, *supra* note 263, at 161.

279. Dyke & Yuen, *supra* note 9, at 498.

280. The Convention binds all 157 signatories to comply with the decisions of the ISA and all provisions of the Convention. Additionally, non-signatory nations, such as the United States, have assented to many of the Convention's provisions. *See* Presidential Statement on United States Ocean Policy, *supra* note 10.

281. No deep seabed mining has occurred since the adoption of the Convention. The most recent operations were those in the 1970s that were halted due to the lack of commercial

to sufficiently practice its control of mining in the deep-sea—it could invite the opportunity for non-member states to begin extraction of seabed minerals.

The United States has not ratified the Convention and is not a member State.[282] The U.S. has acknowledged the Convention's power under international customary law for several provisions, most notably the Exclusive Economic Zones,[283] but the U.S. does not accept the ISA's authority over deep-sea mineral resources or its right to control exploitation.[284] The U.S. currently has two exploration agreements with Lockheed Martin in the Clarion-Clipperton Zone of the Pacific Ocean and regulates deep-sea mining under congressional delegation.[285] If the ISA creates an extensive moratorium on deep-sea mining, and the United States decides domestically that it is willing to permit corporate entities to begin extraction of mineral resources, there is little any nation can do to stop this operation. It is unlikely that the U.S. would act in opposition to the ISA in its current state. However, the nation's increased demand for electric vehicles, desire to disassociate with Chinese supply-chains, and absence of legal duty to the Convention, could lead it to authorize exploitation if the ISA is viewed as defunct. This unlikely, but possible, scenario should deter member States from circumventing the ISA's careful structure and encourage a comprehensive approach to the exploitation issue.

CONCLUSION

Since 1994, the Convention has created an unprecedented level of international cooperation on the management of one of earth's largest untouched resources. While the main thrust of the Convention has served to manage international trade, fishing, and military operations,

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feasibility and uncertainty of the deep seabed legal regime. *See* discussion *supra* Introduction. The closest thing to mining that has occurred is the current exploration operations, testing mining equipment, of NORI in the Clarion-Clipperton Zone in the Pacific Ocean; there is no publicly available information about this operation as it is currently underway. *See* THE METALS CO., *supra* note 251.

282. Status of Treaties, United Nations Treaty Collections: Law of the Sea (status as of June 2, 2023), https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=_en [https://perma.cc/75J7-KN5S].

283. *See* Presidential Statement on United States Ocean Policy, *supra* note 10.

284. *Id.*

285. Deep Seabed Mining: Approval of Exploration License Extensions, 87 Fed. Reg. 52743, No. 166 (Aug. 29, 2022).

the relevance of the ISA and Part XI of the Convention, governing the mineral resources in the Area, has lacked major significance. With the invocation of the two-year rule by Nauru—and the expiration of the two-year deadline—as well as the increasing interest in seabed mining in the Area, the ISA's historical role of primarily governing research activities and protecting the marine environment has expanded to a role of prospective regulation of an immense global resource. The calls for moratoriums or pauses, instigated by increasing environmental concerns, create a conflict with Part XI of the Convention's dual purposes: to facilitate mineral exploitation for the Common Heritage of Mankind, and to preserve the marine environment from harm.

The delicate nature of international cooperation calls for a careful approach to the complex issues facing the ISA and sovereign nations. The Convention and ISA should be heralded for their tactful creation and successful implementation, and the authority they possess should not be treated lightly. To maintain the order kept by the ISA, it is imperative that member States and stakeholders use the methods contained in the Convention to address exploitation of the Area's resources.

Rather than undermine the ISA, by calling for an outright ban on mining operations, member States should use the legal tools within the Convention to:

1. Delay exploitation regulations and activities until sufficient research has been conducted.
2. Construct both temporary and permanent expert committees tailored to address the unique concerns of environmental harm, economic interests, and the mineral-extraction industry.
3. Incorporate transparency and inclusion of the public in ISA actions related to activities in the Area, and ensure that procedural issues, such as the LTC's confidentiality, do not stand in the way of this aim.
4. Ensure liability for actors in the Area, focusing on preventing circumvention through corporate structuring.
5. Address the element of "effective control," and its impact on liability.
6. Formally decide treatment of the many procedural issues that these activities call into question (most importantly the two-year rule).
7. Carry out all the aforementioned in accordance with the fundamental principles of the Convention: the common

heritage of mankind, sovereign equality of States, and protection of the marine environment.

If the ISA can tactfully address these paramount issues, it can adequately satisfy the dual purposes of Part XI of the Convention, while maintaining the delicate balance that imbues it with international authority. If the ISA, and member States, fail to act within the Convention's mandates, they welcome the risk that the Area will lack adequate governance and be exposed to unregulated exploitation activities.

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