

New Law for the High Seas

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Much of the intellectual attraction and intrinsic elegance which characterizes international law of the sea comes from the fact that it ranges from the historical heritage of the past to the potential achievements of the future.

– Tullio Scovazzi¹

INTRODUCTION

In international law as in other fields, elegance is the result of careful design, appropriateness for context, and functional performance. David Caron's interest in thinking systematically about environmental treaty design led him to ponder the policy tools and institutions that can be created by States when they negotiate treaties.² This essay examines aspects of design for a once-in-a-lifetime opportunity to fashion a new treaty for the high seas, the ocean space that lies more than two hundred nautical miles offshore,³ and which provides more than half of the oxygen we breathe. This paper also suggests some of the issues that

DOI: <https://doi.org/10.15779/Z38RX93D7B>
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1. Tullio Scovazzi, *The Evolution of International Law of the Sea: New Issues, New Challenges*, in 286 COLLECTED COURSES OF THE HAGUE ACADEMY OF INTERNATIONAL LAW 39, 53 (Hague Acad. of Int'l Law ed., 2000). Though Albert Einstein said, about his own exegesis of the theory of relativity, "I adhered scrupulously to the precept of that brilliant theoretical physicist L. Boltzmann, according to whom matters of elegance ought to be left to the tailor and to the cobbler." ALBERT EINSTEIN, RELATIVITY: THE SPECIAL AND GENERAL THEORY 5 (Robert W. Lawson trans., 1916).

2. David D. Caron, *Analyzing and Understanding Treaties in the Area of International Environmental Law*, in TEACHING INTERNATIONAL ENVIRONMENTAL LAW: IDEAS AND EXPERIENCES FROM THE SEMINAR ROOM AND THE LECTURE HALL 8 (Eric S. Howard ed., 1994). In addition to the subjects covered in this essay, Caron's treaty analysis includes an assessment of treaty norms, incentives and sanctions, compliance monitoring, enforcement, and dispute settlement. *See generally id.*

3. More precisely, the high seas are ocean waters beyond two hundred nautical miles (nm) from any State's coastal baseline (or twelve nm for States that have not claimed an Exclusive Economic Zone) and the seabed beyond two hundred nm (or extended continental shelf boundaries where they have been claimed). Tullio Treves, *High Seas*, MAX PLANCK ENCYCLOPEDIA OF PUB. INT'L L., <http://www.mpepil.com> (last updated Jan. 2009). *See also* Joanna Mossop, *Protecting Marine Biodiversity on the Continental Shelf Beyond 200 Nautical Miles*, 38 OCEAN DEV. & INT'L L., 283–304 (2007).

negotiators will confront in their attempts to govern other areas beyond sovereign State control, including outer space and cyberspace.

States began to work in earnest on the new agreement on September 4, 2018, the opening of an Intergovernmental Conference (IGC). The United Nations General Assembly (UNGA), in resolution 72/249, set the following mandate:

. . . to elaborate the text of an international legally binding instrument under the United Nations Convention on the Law of the Sea [UNCLOS] . . . [on] the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction [BBNJ], in particular, together and as a whole, marine genetic resources [MGR], including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and capacity-building and the transfer of marine technology[.]⁴

The geographic scope alone is huge: the high seas constitute about half of Earth's surface, and 95 percent of the volume of the world ocean. UNCLOS's high seas provisions "apply to all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State,"⁵ subject to the rights of any coastal State regarding certain natural resources of its continental shelf.⁶

Governance thus requires a multilateral solution, as the high seas border over 150 States, and even land-locked States have interests in its resources and planetary functions such as climate regulation. The temporal scope should be as ambitious: the principles and institutions created by this agreement are intended to conserve ocean biodiversity for future generations. Multilateral treaties are difficult to negotiate and rarely amended, so what is decided now will be with us for the foreseeable future.

Caron reminded us that understanding the problem that a treaty is intended to solve is the first step both for analyzing and for drafting a treaty. Fitting the scope and function of the treaty to the problem will determine the legal rules, policy instruments, and essential parties needed for its success.⁷ The problems the BBNJ treaty is intended to solve are multifaceted and based on a "delicately crafted" political agreement,⁸ with an overall focus on high seas biodiversity. Current conservation concerns—aside from the ocean warming, acidification, and deoxygenation caused by climate change—are chiefly habitat and species collapse from fishing, noise, and other pollution, physical damage from

4. G.A. Res. 72/249, U.N. Doc A/RES/72/249, ¶¶ 1–2 (Dec. 24, 2017).

5. United Nations Convention on the Law of the Sea art. 86, Dec. 10 1982, 1833 U.N.T.S. 397, http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf [hereinafter UNCLOS].

6. *Id.* at arts. 76–77.

7. Caron, *supra* note 2, at 8.

8. Eden Charles, *Foreword* to GLEN WRIGHT ET AL., *THE LONG AND WINDING ROAD: NEGOTIATING A TREATY FOR THE CONSERVATION AND SUSTAINABLE USE OF MARINE BIODIVERSITY IN AREAS BEYOND NATIONAL JURISDICTION* 5 (2018), <https://www.actu-environnement.com/media/pdf/news-31928-iddri-haute-mer.pdf>.

commercial shipping, and harmful impacts from land-based activities such as plastic and other pollution from solid waste disposal.⁹ Pollution and physical removal of habitat by deep seabed mining are among the most significant future impacts that are expected to damage high seas biodiversity. There are also potentially valuable resources—including genetic information, fish, and minerals—that those who have the technical capability can take or that could be considered the shared property of the international community.

These varied problems require a variety of approaches. Like the climate change agreements, the BBNJ agreement will need to be regulatory, to manage human activities in the high seas.¹⁰ Like the deep seabed mining agreement, it should define and allocate property rights,¹¹ in this case for marine genetic resources. Like the migratory and endangered species agreements,¹² it should create policy tools to ensure management for long-term viability of marine creatures' populations. Unlike any international agreement to date, it should manage marine ecosystems to preserve ocean biodiversity for future generations.

While the BBNJ is unique in its attempt to address the problem of managing high seas biodiversity, it will benefit from the development of multilateral environmental agreements (MEAs) since the 1970s. Some of the earliest MEAs dealt with pollution—accidental¹³ or chronic¹⁴—and with management of living resources such as whales and fish.¹⁵ Because these issues required regular inputs of new scientific information, the agreements usually created a treaty body responsible for integrating science into policy making, and provided rules to facilitate amendment of the treaty or of its annexes according to new scientific information. The Montreal Protocol, for example, is regularly updated with new research about ozone-damaging substances, not only through amendments, but also through a simplified adjustment procedure that allows for a quicker

9. Patricio Bernal et al., *Overall Assessment of Human Impact on the Oceans*, in I THE FIRST GLOBAL INTEGRATED MARINE ASSESSMENT: WORLD OCEAN ASSESSMENT 935, 935–37 (United Nations ed., 2017) [hereinafter World Ocean Assessment].

10. See U.N. Framework Convention on Climate Change art. 4, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107 [hereinafter UNFCCC].

11. UNCLOS, Agreement on the Implementation of Part XI of the Convention, *supra* note 5.

12. See Convention on the Conservation of Migratory Species of Wild Animals 96–113, June 26, 1979, 1651 U.N.T.S. 333, 19 ILM 15 (1980); ATS 1991/32; BTS 87 (1990), Cm. 1332; Convention on International Trade in Endangered Species of Wild Fauna and Flora art. IX, Mar. 3, 1973, 993 U.N.T.S. 243 [hereinafter CITES].

13. Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency art. 1, Sept. 26, 1986, 1457 U.N.T.S. 24643.

14. Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 1513 U.N.T.S. 293, S. TREATY Doc. 9, 99th Cong., 1st Sess. (1985), reprinted in 26 ILM 1529; Montreal Protocol on Substances that Deplete the Ozone Layer art. 2, Sept. 16, 1987, 1522 U.N.T.S. 3, S. TREATY Doc. 10, 100th Cong., 2d Sess., reprinted in 26 ILM 1550.

15. International Convention for the Regulation of Whaling (ICRW) art. III, Dec. 2 1946, 161 U.N.T.S. 72.

response.¹⁶ In addition, UNCLOS, the ozone, climate change, and biodiversity agreements introduced treaty elements intended to address the disparate situation of States that had been colonized and that therefore lagged in economic development.¹⁷ These included recognition of some resources as the common heritage of humankind,¹⁸ finance for capacity building and technology transfer,¹⁹ and facilitative compliance mechanisms.²⁰ The BBNJ agreement will likely follow suit.

The status of the high seas as an area beyond national jurisdiction (ABNJ) influences every aspect of the new agreement. Caron referred to the complications that arise due to the presence of a border.²¹ Here, the border between sovereign space and common space is a further complication. Bilateral solutions are not possible, nor can private law provide much help; and the area to be governed is, by definition, not subject to the national law of any State. Furthermore, international law has not fully defined the rights of the international community or individual States as against a high seas polluter or plunderer State.

Yet a new treaty for the open ocean offers the possibility for States to agree to a set of rules, institutions, and procedures that are better suited to the needs of the twenty-first century than either customary international law or the last century's agreements can provide. For example, although environmental impact assessment (EIA) is now recognized as an international obligation,²² UNCLOS article 206 only alludes to the process in passing. The specifics of how and when assessment should take place can be settled in the BBNJ agreement. The treaty could also create institutional clearinghouses to better coordinate and share the burgeoning scientific research that informs both conservation and sustainable use of the ocean. Biodiversity threats that cannot be easily eliminated (like the effects of climate change) can be partially mitigated, and human activities that conflict

16. Montreal Protocol, *supra* note 14, at art. 2. The adjustment process also illustrates a common procedural measure: the parties are to make every effort to reach agreement on adjustment by consensus, but if that proves impossible, then a two-thirds majority vote will make the decision binding on all parties. *Id.* This is in contrast to CITES or the ICRW, which allow parties to take a reservation to a new listing of a species or restriction on hunting.

17. Lee A. Kimball, *Developing a Policy Structure to Respond to Global Change*, in *ECOLOGICAL AND SOCIAL DIMENSIONS OF GLOBAL CHANGE* 321 (David D. Caron et al. eds., 1994).

18. UNCLOS, *supra* note 5, at art. 125; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 27 Jan. 1967, 610 U.N.T.S. 8843.

19. United Nations Framework Convention on Climate Change art. 9, May 9, 1992, S. Treaty Doc. No. 102-38, 1771 U.N.T.S. 107; United Nations Convention on Biological Diversity art. 6, June 5, 1992, 31 ILM 818, 1760 U.N.T.S. 69 [hereinafter Convention on Biological Diversity].

20. Montreal Protocol, *supra* note 14, at art. 10; UNFCCC, Procedures and Mechanisms Relating to Compliance under the Kyoto Protocol, annex to decision 27/CMP.1, FCCC/KP/CMP/2005/8/Add.3, ¶ 4 (2005).

21. Caron, *supra* note 2, at 9.

22. *Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. Rep. 14 ¶ 204 (Apr. 20); *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion, Case No. 17, 2011 ITLOS Rep. 10, ¶¶ 145, 147–148 (Feb. 1).

with each other could be peacefully coordinated through BBNJ agreement mechanisms implementing Area-Based Management Tools (ABMT).²³ This would contribute to implementation of two UNCLOS obligations: to preserve the marine environment and to use the high seas only for peaceful purposes.

Moreover, this agreement can strengthen existing ocean governance.²⁴ Because the BBNJ agreement is an implementing agreement, and thus intended to develop UNCLOS principles and rules, it will be subject to principles that the parties to UNCLOS previously accepted, such as the obligation to protect the marine environment and the rights of freedom of the seas for some high seas activities. One of the central achievements of UNCLOS was to define the extent of State jurisdiction, rights, and duties over different maritime zones, including the high seas.²⁵ In fact, these divisions effectively created today's legal definition of the high seas. The BBNJ agreement can further develop the rights and duties of States (and nonstate actors) regarding high seas areas and in relation to adjacent coastal States. Where UNCLOS principles are wanting—for example, they do not account adequately for human activities impacting the ocean, especially industrial fishing, mining, and climate change—the BBNJ agreement can supply governance tools that address current ocean conditions, remaining consistent with these principles. UNCLOS also created institutions that can and should be used by the new agreement. The International Tribunal for the Law of the Sea (ITLOS) provides a forum for dispute settlement and a source of

23. Sustainable Development Goal 14 (“Conserve and sustainably use the oceans, seas and marine resources for sustainable development”) is implemented through targets including Target 14.5, which states “[b]y 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.” G.A. Res. 70/1, Transforming our World: The 2030 Agenda for Sustainable Development ¶¶ 14, 14.5 (Sept. 25, 2015). The International Union for Conservation of Nature (IUCN) defines a protected area as “[a] clearly defined geographical space, recognised, dedicated and managed through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values” and a conserved area as “a geographically defined space, not recognised as a Protected Area, which is governed and managed over the long-term in ways that deliver the effective and enduring in situ conservation of biodiversity, with associated ecosystem services and cultural and spiritual values.” IUCN, IUCN GREEN LIST OF PROTECTED AND CONSERVED AREAS: USER MANUAL, VERSION 1.1, 8 (2018), <https://iucn.my.salesforce.com/sfc/p/#24000000e5iR/a/1o000005FBq/Od6wezU5G3bMvrKX10MyUYrN.LykKS7SicquUy241e4>. See also Lisa A. Levin & Nadine Le Bris, *The Deep Ocean under Climate Change*, 350 SCI. 766, 768 (2015) (“Spatial planning to restrict direct human disturbance—for example, by creating networks of deep-water marine protected areas—may help to establish refugia for endangered species and habitats and can reduce cumulative stresses. Protections to reduce physical and chemical disturbances from bottom trawling, mine tailings disposal, oil and gas extraction, or even seabed mining in areas subject to the greatest stress of warming, acidification, or deoxygenation will lessen chances of habitat loss and extinction of species and the ecological functions they support.”).

24. As Koivurova and Caddell argue, the BBNJ Agreement can provide “a firm platform to build on current cooperative arrangements for these vulnerable and rapidly changing marine ecosystems” in the Arctic. Timo Koivurova & Richard Caddell, *Managing Biodiversity Beyond National Jurisdiction in the Changing Arctic*, 112 AJIL UNBOUND 134, 134 (2018).

25. See, e.g., Scovazzi, *supra* note 1, at 94.

authoritative treaty interpretation through its advisory opinions.²⁶ Some of UNCLOS's principles and provisions will be implemented for the first time by this agreement, and having recourse to ITLOS for authoritative interpretation and dispute settlement will be valuable.

This Article engages in a design exercise, beginning in Part I with a review of how the BBNJ negotiation developed from the UNCLOS review process. Part II examines the problem the BBNJ agreement is intended to address, the selection of policy tools available, and the elements of the BBNJ "package" in light of concerns about pollution, environmental management, and resource allocation. In Part III, the Article turns to the question of necessary parties for success, and concludes with consideration of an essential party that is often not in the actual, physical room: the ocean environment. Elegant-looking structures, designs that work smoothly and precisely, are usually the result of careful attention to the devilish details. Let us turn to them.

I. DEVELOPMENT OF THE BBNJ NEGOTIATION

The BBNJ negotiation was the result of years of work within the United Nations that also led to two other UNCLOS implementing agreements. In 1994, both UNCLOS and an agreement on deep seabed mining in ABNJ,²⁷ the first implementing agreement to UNCLOS, came into force. In 1995, a second UNCLOS implementing agreement was adopted to address the conservation and management of straddling and highly migratory fish stocks (Fish Stocks Agreement); these include popular fish like pollock, mackerel, tuna, and swordfish.²⁸ A host of regional and sectoral agreements and nonbinding agreements developed independently both before and after UNCLOS.²⁹

Entry into force of UNCLOS nonetheless left gaps and inconsistencies in management of the world ocean. UNCLOS stated "that the problems of ocean space are closely interrelated and need to be considered as a whole," a sentiment repeated in each annual UNGA resolution on the Law of the Sea, beginning with

26. See generally Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, *supra* note 22 (outlining institution of proceedings to obtain advisory opinion); Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC Advisory Opinion), Advisory Opinion, 2015 ITLOS 4 (Apr. 2).

27. G.A. Res. 48/263, Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (Aug. 17, 1994). Ranganathan pointed out that, for a framework treaty, UNCLOS itself included an unusual amount of detail by creating the International Seabed Authority and other treaty bodies that oversee deep seabed mining in ABNJ. Surabhi Ranganathan, *The Law of the Sea and Natural Resources*, in COMMUNITY INTERESTS ACROSS INTERNATIONAL LAW 121, 125 (Eyal Benvenisti & Georg Nolte eds., 2018).

28. See Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks art. 5, Aug. 4, 1995, 2167 U.N.T.S. 3.

29. See *infra* notes 45–52 and accompanying text.

resolution 48/28 (1993).³⁰ And yet, the deep seabed mining agreement and the Fish Stocks Agreement, to a significant degree, treated resource extraction as isolated from each other and from overall management of the ocean.

Three efforts were deployed to address the need for integration. In 1999, UNGA created the Open-ended Informal Consultative Process on Oceans and Law of the Sea to strengthen the UNGA debate on the subject and to improve coordination and cooperation between States.³¹ In 2015, the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects released the First World Ocean Assessment to provide a scientific basis for policy making.³² The Ad Hoc Open-ended Informal Working Group (BBNJ Working Group) was created in 2004 to study conservation and sustainable use of BBNJ.³³

In 2015, the BBNJ Working Group recommended development of an international legally binding instrument for the conservation and sustainable use of marine biodiversity in ABNJ under UNCLOS, and UNGA Resolution 69/292 officially launched a two-year preparatory committee process (the PrepCom) to make substantive recommendations to the UNGA on the elements of a draft text.

The issues and points of difference between States became clearer over the course of two years of formal sessions, working groups, and intersessional meetings, and many workshops, trainings, side events, conferences, briefing papers, books, and articles, resulting in a final report from the PrepCom to the UNGA.³⁴ According to the final report, most delegations agreed that BBNJ guiding principles could include, *inter alia*, respect for the sovereignty and territorial integrity of all States, and use of marine biological diversity of ABNJ for peaceful purposes only, reference to the legal principles of precaution and polluter-pays, operational principles including the ecosystem approach, science-based approach, and using the best available scientific information and knowledge, including traditional knowledge, and public participation and

30. G.A. Res. 49/28 (Dec. 16, 1994). The annual UNGA resolution on oceans and the law of the sea provides a useful means of tracking issues and activities, such as capacity building, human trafficking, land-based pollution of the ocean, and implementation of sustainable development initiatives like the Johannesburg Plan of Implementation.

31. Results of the review by the Commission on Sustainable Development of the sectoral theme of “Oceans and seas”: international coordination and cooperation, G.A. Res. 54/33 (Nov. 24, 1999).

32. Bernal et al., *supra* note 9, at 936–40.

33. Oceans and Law of the Sea ¶ 73, Nov. 17, 2004, G.A. Res. 59/24.

34. Report of the Preparatory Committee established by UNGA resolution 69/292: Development of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (31 July 2017), http://www.un.org/ga/search/view_doc.asp?symbol=A/AC.287/2017/PC.4/2. Documentation of the process, including the important role of civil society, can be found in the reports of Earth Negotiations Bulletin – IISD Reporting System, <http://enb.iisd.org/vol25/>. The texts of interventions submitted to the United Nations PaperSmart are also available, <http://papersmart.unmeetings.org/en/>.

transparency.³⁵ Certain positions seemed to remain rigid: for example, the United States' position regarding intellectual property rights to marine genetic resources developed by U.S. companies remained unchanged;³⁶ the Russian Federation's reluctance to move any issues forward continued.

II. SCOPE AND FUNCTION OF THE TREATY

The motivation for the BBNJ initiative was expressed in the BBNJ Working Group co-chairs' 2014 report:

Concerns were expressed over the unprecedented rate of loss of marine biodiversity . . . with increased human activity in areas beyond national jurisdiction, both in terms of extent and scope, there was an increased chance of putting at risk and damaging biodiversity, ecosystems processes and function and, in some instances, permanently altering the marine environment . . . threatening the survival of mankind given that the healthy functioning of those diverse systems sustained life on Earth.

Some delegations highlighted the accumulation of a number of threats to ecosystems beyond areas of national jurisdiction, including unsustainable resource utilization, destruction of habitats, pollution, ocean acidification and climate change. A view was expressed that unsustainable fishing, in particular overfishing, illegal, unreported and unregulated [IUU] fishing and certain destructive fishing practices, was the greatest threat to marine biodiversity in those areas.³⁷

In addition to the important biodiversity impacts of IUU and poorly managed high seas fishing mentioned here by the BBNJ Working Group, shipping is a major cause of concern.³⁸ While the UNGA recognized that a significant amount of the damage to the ocean is from land-based pollution,

35. Report of the Preparatory Committee, *supra* note 34, at 9. The ecosystem approach appears as early as the 1982 Convention for the Conservation of Antarctic Marine Living Resources. *See also* Cymie R. Payne, *The Ecosystem Approach: New Departures for Land and Water*, 24 *ECOLOGY L.Q.* 619, 619 (1997).

36. The United States is isolated in this regard: it signed but never became a party to the Convention on Biological Diversity (CBD), unlike every other UN member State (and three States that are not members of the United Nations). Work in the CBD institutions necessarily is reflected in the approach to biodiversity taken by every BBNJ delegation, particularly the Aichi Targets, a framework for biodiversity conservation for the entire United Nations, *available at* <https://www.cbd.int/sp/targets/>, and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, *available at* <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>.

37. Letter Dated 5 May 2014 from the Co-Chairs of the Open-ended Informal Working Group to the President of the General Assembly, ¶¶ 9–10, U.N. Doc. A/69/82 (2014).

38. *Summary of the First Global Integrated Marine Assessment*, in I THE FIRST GLOBAL INTEGRATED MARINE ASSESSMENT: WORLD OCEAN ASSESSMENT 16, 29 (United Nations ed., 2017) (“[S]hipping brings with it increased risks of marine pollution both from acute disasters and chronic pollution and the potential introduction of invasive non-native species. . . . Pollution from ships takes the form of both catastrophic events (shipwrecks, collisions, and groundings) and chronic pollution from regular operational discharges.”).

including plastics and climate change-related pollution,³⁹ those concerns were not explicitly included in the BBNJ negotiating “package” that the UNGA approved.⁴⁰ This seems to suggest that only maritime activities will be covered by the agreement, but there is not a bright line identifying activities within its scope. For example, States have taken different positions on whether the obligation to undertake an assessment for activities that will have a significant negative impact on high seas biodiversity applies to activities that take place within national waters, or whether that obligation only applies to activities that occur in ABNJ.⁴¹

While numerous agreements are currently in place to deal with high seas resources, the BBNJ negotiation reflects the decision that there are too many gaps and too much fragmentation for these to effectively govern the vast and rich high seas.⁴² Hundreds of international agreements relate to fisheries alone.⁴³ The Food and Agriculture Organization (FAO) lists six global and transoceanic fishery agreements, and thirty-four additional regional organizations.⁴⁴ Some of these are regional fisheries management organizations that have been established for particular target species⁴⁵ and for regions,⁴⁶ with authority to manage—or in some cases only to advise on managing—fisheries, through controls on fishing gear, fishing effort, trade, and other measures. Four Regional Seas programs address ABNJ.⁴⁷ Besides these, there are instruments like the 2009 FAO

39. Oceans and the Law of the Sea, G.A. Res. 66/231, ¶ 148 (Dec. 24, 2011); see Lisa A. Levin & Nadine Le Bris, *The Deep Ocean under Climate Change*, 350 SCIENCE 766, 766–68 (2015).

40. *Id.* at ¶ 167, Annex; Kristina M. Gjerde, *Perspectives on a Developing Regime for Marine Biodiversity Conservation and Sustainable Use beyond National Jurisdiction*, in OCEAN LAW DEBATES 354, 354–380 (Harry N. Scheiber et al., eds. 2018).

41. Informal working group on environmental impact assessments, Transcript of Oral report of the Facilitator to the plenary, Friday, 14 September 2018 (on file with author).

42. For a discussion of BBNJ institutional design, see Cymie R. Payne, *Introduction to the Symposium on Governing High Seas Biodiversity*, 112 AJIL UNBOUND 118–20 (2018).

43. See generally United Nations Treaty Collection, <https://treaties.un.org> (last visited Feb. 19, 2019). For a more detailed discussion, see ILA Committee on The Role of Sustainable Natural Resources Management in International Law, Conference Report, Johannesburg § 3.2 (2016), available at <https://ila.vettoreweb.com/Storage/Download.aspx?DbStorageId=1551&StorageFileGuid=f9337875-261b-4937-b0ab-f18c04e1aa79>.

44. Food and Agriculture Organization of the United Nations, <http://www.fao.org/fishery/rfb/search/en> (last visited Feb. 19, 2019).

45. Tuna, for example, is monitored and managed by the Commission for the Conservation of Southern Bluefin Tuna, Inter-American Tropical Tuna Commission, the International Commission for the Conservation of Atlantic Tunas (ICCAT), Indian Ocean Tuna Commission, and the Western and Central Pacific Fisheries Commission. See ROBIN ALLEN, INTERNATIONAL MANAGEMENT OF TUNA FISHERIES 8–28 (2010), <http://www.fao.org/3/i1453e/i1453e00.pdf>.

46. See, e.g., Sub-Regional Fisheries Commission, an organization of West African coastal States and its 2012 Convention on the Determination of the Minimal Conditions for Access and Exploitation of Marine Resources within the Maritime Areas under Jurisdiction of the Member States of the Sub-Regional Fisheries Commission.

47. See Convention for the Protection of the Mediterranean Sea against Pollution art. 10, Feb. 16, 1976, 1102 U.N.T.S. 27, 15 ILM 290, as supplemented by the Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf

Agreement on Port State Measures that create obligations for both flag States and port States including: inspections to identify IUU fishing activities, authority to deny port facilities for activities like transshipment, recognition of the port State's right to deny entry to vessels, the obligation to deny entry to IUU fishing vessels other than for enforcement or emergency, and capacity building to assist developing States.⁴⁸ The Convention on Biological Diversity (CBD), the scope of which is primarily limited to areas within national jurisdiction, also applies to "processes and activities, regardless of where their effects occur, carried out under [a State party's] jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction,"⁴⁹ and calls on its 196 parties "as far as possible and as appropriate, [to] cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biodiversity."⁵⁰ Yet, inconsistencies, gaps in geographic and subject matter coverage (including the lack of the "competent international organizations" for biodiversity in ABNJ referred to in CBD, Article 5), and poor implementation of conservation obligations in many existing regimes have led to the decline in ocean biodiversity and the poor prognosis offered by the World Ocean Assessment.

With this understanding of the threats to high seas biodiversity and property rights issues identified by the BBNJ Working Group, and the need to consider the dense but fragmented body of already applicable instruments and frameworks, it is possible to turn to consideration of governance strategies.

A. *The Problem of Pollution: Prevention and Liability*

To manage pollution risks to biodiversity in ABNJ, negotiators can adapt past experience with different types of pollution to the new context of high seas pollution from mining, shipping, and other sources. Some approaches to

and the Seabed and Its Subsoil (Madrid Protocol) Oct. 14, 1994, 1-48454 U.N.T.S. I Biodiversity Protocol—Specially Protected Areas for Mediterranean Importance (SPAMI) and inter-sectoral cooperation; Convention for the Protection of the Marine Environment of the North-East Atlantic, Sept. 22, 1992, 2354 U.N.T.S. 67, 32 ILM 1069 ("OSPAR Convention"); Convention for the Protection of the Natural Resources and Environment of the South Pacific Region art. 4, Nov. 25, 1986, 26 I.L.M. 38; Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, 33 U.S.T. 3476; Protocol on Environmental Protection to the Antarctic Treaty, Oct. 4, 1991, 30 I.L.M. 1455.

48. Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing arts. 3, 9, Nov. 22, 2009, FAO Resolution No. 12/2009.

49. Convention on Biological Diversity, *supra* note 19, at art. 4; *see also id.* art. 3.

50. Convention on Biological Diversity, *supra* note 19, at art. 5; *see also* Lyle Glowka, et al., A GUIDE TO THE CONVENTION ON BIOLOGICAL DIVERSITY 27–28 (IUCN, Gland/Cambridge, 1994), available at <https://portals.iucn.org/library/sites/library/files/documents/EPLP-no.030.pdf>; Scovazzi, *supra* note 1, at 215 (analyzing whether marine genetic material in ABNJ is regulated under international treaty provisions for fishing, scientific research, or something else, concluding that the CBD and UNCLOS both apply but that the regime leaves a vacuum).

pollution management seek to prevent damage, while others impose legal liability in order to incentivize caution and internalize the costs of harm to the polluting activity. Prevention should be a priority for chronic sources of pollution and for situations where the risk and cost of accidents are high or not recoverable, as is likely in the high seas;⁵¹ liability is an important supplemental strategy for the high seas that will be most useful to the extent that it discourages and excludes incompetent operators from high seas activities. Liability generally requires reparation of the harm, but as marine scientific research increasingly demonstrates, reparation in the water column and seabed of the high seas is virtually impossible.⁵² Reparation should, of course, be provided to the extent that it can offset harm.

Before considering preventive and liability-based governance tools, it will be useful to appreciate that pollution can be the result of either chronic or accidental harm. Chronic harms are those that occur as part of a regular activity, such as the noise of ships' propellers, discharges of waste, introduction of alien species through ballast water, and plumes of sediment from processing anticipated at mining sites.⁵³ Accidents, on the other hand, are unintended events, such as oil spills.

Caron suggested that the strategies that a treaty uses will depend on whether the harm is chronic or accidental.⁵⁴ In economic terms, an activity that normally produces environmental damage can be said to externalize that cost of its operation; a regulation that prevents the harm can be described as internalizing the cost to the operator. However, preventive regulations that internalize the cost of an activity's harms will cause dislocation costs (which may also fall on individuals or communities other than the operator). That, in turn, may create political pressure opposing preventive regulation. As a result, Caron proposed that adaptation is the usual treaty response to a chronic problem; and compensation for chronic harm is unlikely.⁵⁵

On the other hand, Caron thought that costly accidents would engender a host of preventive efforts to reduce the risk of harm; response strategies to mitigate the damage; and compensation to wipe out the remaining risk.⁵⁶ More than twenty additional years of assessment of international incidents confirm that accidents trigger interest in regulation⁵⁷ and chronic harm does appear less likely

51. HJ Niner et al., *Deep-Sea Mining With No Net Loss of Biodiversity—An Impossible Aim*, 5 FRONTIERS IN MARINE SCIENCE 1, 5 (2018).

52. *Id.* at 2.

53. D. Freestone et al., *Chapter 50: Sargasso Sea*, in I THE FIRST GLOBAL INTEGRATED MARINE ASSESSMENT: WORLD OCEAN ASSESSMENT 3 (United Nations ed., 2017).

54. Caron, *supra* note 2, at 12, tbl. 1.

55. *Id.*

56. *Id.*

57. Rick S. Kurtz, *Coastal Oil Pollution: Spills, Crisis, and Policy Change*, 21 REV. POL'Y RES. 139, 201 (2004) (finding that the Exxon Valdez oil spill was a catalyst for the 1990 Oil Pollution Act in

to lead to regulatory reform than a dramatic accident. Thus, it can be seen that major oil spills have engendered new treaty-based preventive measures such as better oil tanker design, ship inspection, and spill response training.⁵⁸ Recognizing that prevention sometimes fails and accidents occur, legal liability regimes have also been put in place to provide compensation.⁵⁹ In contrast, day-in, day-out pollution from cruise ships and cargo ships has not attracted the same focused attention and political pressure, so regulation has moved more slowly, if at all.

However, the major strategies used to govern chronic and accidental environmental damage are similar. Before-the-fact preventive efforts and after-the-fact “polluter pays” approaches to restore the situation *ex ante* are used in both situations. Preventive tools to manage pollution include reporting, such as the UN Framework Convention on Climate Change requirement that Annex I countries report annually on their sinks and sources of greenhouse gases,⁶⁰ and command and control regulation, such as the ship design measures and operational requirements used to reduce and mitigate accidents by the oil tankering industry that the International Maritime Organization (IMO) manages.⁶¹

The BBNJ Working Group identified two preventive policy tools and included both as elements of the “package”: prior assessment of activities with EIA and establishing high seas locations where the highest risk activities would be limited or prohibited using ABMT. EIA, a form of reporting, serves to identify potentially harmful activities. ABMT can be used either to direct harmful activities to regions where they do not threaten vulnerable biodiversity or to prohibit them entirely. Measures like ship design will remain the responsibility of the IMO, though how and where ships operate could be influenced by ABMT developed under the BBNJ agreement. Some species-level protections will continue to be provided by other treaty regimes that prohibit killing or harming individual members of certain species; notably the International Convention for the Regulation of Whaling’s moratorium on hunting the great whales, and the Convention on International Trade in Endangered Species (CITES) prohibition

the context of additional status quo-disruptive factors); IMO, Background (ship design regulation followed Erika and Prestige oil spills) *available at* <http://www.imo.org/en/ourwork/environment/pollutionprevention/oilpollution/pages/background.aspx>.

58. International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) Annex I, Regulations 13F and 13G; European Commission, Maritime safety: IMO introduces new double-hull requirements at worldwide level to close the gap with new EU safety rules, IP/03/1667 (2003). http://europa.eu/rapid/press-release_IP-03-1667_en.htm?locale=en [hereinafter International Convention for the Prevention of Pollution from Ships].

59. International Convention on Civil Liability for Oil Pollution Damage art. 3, Nov. 27, 1992, 1956 U.N.T.S. 255; International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage art. 4, Nov. 22, 1992, 1953 U.N.T.S. 330.

60. UNFCCC, *supra* note 10, at art. 4.

61. International Convention for the Prevention of Pollution from Ships, *supra* note 58, at art.1.

on “introduction from the sea” into trade of some shark species, manta rays, and others.⁶²

As Caron observed, chronic externalities of well-established high seas activities like shipping and fishing are difficult to manage through preventive measures because of the costs of environmentally safe gear, operational rules, and geographic restrictions, and because of the perception that there is an unfettered right to engage in navigation and fishing on the high seas. This view persists, although States agreed in UNCLOS that the freedoms of the high seas are tempered by obligations of due regard for other high seas activities and obligations to protect and preserve the marine environment and to conserve its living resources.⁶³

Even promoters of future activities that are relatively novel—for example, deep seabed mining—tend to espouse a sense of entitlement that makes robust regulation on behalf of other values difficult. This is reflected in the arguments put forward by the fishery and submarine cable sectors that their industries should be excluded from the BBNJ agreement⁶⁴ and insistence by the International Seabed Authority (ISA) that it has sole jurisdiction over the seabed in ABNJ,⁶⁵ even though its mandate is limited to mining of minerals.

Additional measures, which can mitigate, if not prevent, damage, include advance coordination to supply materiel and personnel to respond after an incident has occurred. The BBNJ negotiation has not considered whether to include provisions for emergency measures to contain damage from accidents, to protect vulnerable and valuable environments, or to restore damaged environments, but it should. Response measures could be handled through regional or sectoral bodies, or developed through protocols to the BBNJ agreement as the need arises and as the capability for emergency response develops. Although response measures for accidents in ABNJ are very limited

62. CITES, *supra* note 12, at art. I(e) (“transportation into a State of specimens of any species which were taken in the marine environment not under the jurisdiction of any State”); *see also* CITES, Resolution Conf. 14.6 (Rev. CoP16).

63. UNCLOS, *supra* note 5, at arts. 87 (Freedom of the High Seas), 116–120 (Freedom to Fish, Cooperation and Conservation), 192–237 (Protection and Preservation of the Marine Environment).

64. The International Cable Protection Committee, Submarine Cables and BBNJ, 25 (2016) (“The submarine cable service respectfully urges the diplomats involved in the BBNJ process not to change or condition the existing provisions in UNCLOS that deal with submarine cables and not to impose any new and additional EIA and MPA requirements for cables in a new implementing agreement.”), *available at* <https://perma.cc/NV8W-Q83W>. *See also* Tara Davenport, *The High Seas Freedom to Lay Submarine Cables and the Protection of the Marine Environment: Challenges in High Seas Governance*, 112 AJIL UNBOUND 141, 141–43 (2018).

65. ISA, *Statement by the International Seabed Authority* (Sept. 5, 2018), <http://statements.unmeetings.org/media2/19408113/international-seabed-authority.pdf>.

now, it should be a goal to develop effective containment and control procedures for every activity undertaken in the high seas.⁶⁶

Liability and reparations for avoidable damage also should be addressed in the agreement. Customary international law is understood to require reparations when a State breaches its international obligations and causes damage to another State or States,⁶⁷ and MEAs often include language regarding responsibility, liability, and compensation. Under UNCLOS, article 235, which as a principle of the framework convention would apply to the implementing BBNJ agreement, “States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.” The Fish Stocks Agreement, also an UNCLOS implementing agreement, elaborates on this with its article 35: “States Parties are liable in accordance with international law for damage or loss attributable to them in regard to this Agreement.” Similarly, responsibility, liability, and compensation can be included in the final articles of the BBNJ agreement. This would strengthen the norms of harm prevention, create a disincentive for noncompliance, impose accountability, and provide resources for restoration.

B. The Problem of Environmental Management: Assessment and Coordination

Another challenge for the BBNJ agreement to address is that the “oceans, seas[,] and coastal areas form an integrated and essential component of the Earth’s ecosystem and are critical to sustaining it,”⁶⁸ yet the health of marine biodiversity is injured by alien invasive species, resource extraction, abandoned fishing gear, and direct damage by ships, trawls, and other activities.⁶⁹

MEAs for biodiversity protection and habitat management rely on some of the same tools that have traditionally been used to manage pollution and some additional ones. Monitoring and reporting information remains important. The strategy of listing valuable and vulnerable areas is a frequently used management strategy. The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat requires all three strategies: listing sites, monitoring their health, and reporting obligations.⁷⁰

66. A good example is the Polar Code for the Arctic. *See generally* International Code for Ships Operating in Polar Waters (Polar Code) and related amendments, IMO resolution MEPC.264(68), MEPC 68/21/Add.1.

67. Draft Articles on State Responsibility for Internationally Wrongful Acts, in Rep. of the International Law Commission on the Work of its Fifty-third Session, U.N. GAOR, 56th Sess., Supp. No. 10, U.N. Doc. A/56/10 (2001).

68. Future We Want, G.A. Res. 66/288, ¶ 158 (July 27, 2012).

69. *Id.* at ¶¶ 163–177.

70. Convention on Wetlands of International Importance especially as Waterfowl Habitat art. 2, Feb. 2, 1971, 996 U.N.T.S. 245, TIAS 11084, 11 I.L.M. 963 (1971) (Ramsar Convention).

Another tactic, coordination, can contribute to monitoring for biodiversity protection: for example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973) requires countries to provide import and export permits for any listed species that is traded between two member States; compliance is monitored by matching the import permits with export permits.⁷¹ Coordination can also entail establishing international standards that allow interoperability between countries and creating baseline norms for all participants in certain industries, as the Statute of the International Atomic Energy Agency (1956) does.⁷²

Planning, yet another approach, plays an important role for habitat conservation, as in regional seas programs, such as the Convention for the Protection of the Marine Environment of the North-East Atlantic (“OSPAR Convention”), that identify activities and designate where they can be conducted to avoid conflicts and harmful impacts.⁷³

Command and control regulation is a governance approach that is already used in the high seas for resource extraction by regional fisheries management organizations and the ISA. The International Commission for the Conservation of Atlantic Tunas does this with area closures, catch limits, and gear restrictions.⁷⁴ UNCLOS and the 1994 Implementing Agreement prohibit deep seabed exploration, prospecting, and mining except subject to contracts and approvals that the International Seabed Authority issues under UNCLOS, the 1994 Agreement, and its own rules.⁷⁵

The BBNJ agreement as currently sketched out will rely on monitoring, reporting, listing, and coordination for habitat and biodiversity management. EIA, in particular, is intended to provide information about new activities in the high seas. It does not, however, deliver any kind of overall status report of the condition of the ocean with respect to species or ecosystems that accounts for current activities. Strategic Environmental Assessment, which evaluates plans and projects, could offer a broader review of a region or a resource, but it would still not provide an overall ocean assessment and management plan.⁷⁶ Such a

71. Convention on International Trade in Endangered Species of Wild Fauna and Flora art. VI, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243; Cymie R. Payne, *Introductory Note to Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Compliance Procedures*, 46 INTERNATIONAL LEGAL MATERIALS 1174, 1174 (2007).

72. Statute of the International Atomic Energy Agency art. XII, Oct. 26, 1956, 276 U.N.T.S. 3.

73. Convention for the Protection of the Marine Environment of the North-East Atlantic art. II, Sept. 22, 1992, 2354 U.N.T.S. 67, 32 ILM 1069.

74. International Commission for the Conservation of Atlantic Tunas, established by the International Convention for the Conservation of Atlantic Tunas art. IV–VIII, May 4, 1966.

75. UNCLOS, *supra* note 5, at Part XI; 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, 33 I.L.M. 1309; *see also* UNCLOS, *supra* note 5, at Annex III, art. 3.

76. Rep. of the Preparatory Committee established by General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond

planning process is almost unimaginable in scope, but with so many human activities significantly impacting the ocean, it is unimaginable that humanity would not attempt it.

The BBNJ agreement will have to work in coordination with other agreements. ABMT provides for geographic coordination of activities. While it might route some activities, like fishing or shipping, to certain areas of the ocean space, and other activities, like marine animal reproduction, to other areas, it does not tell fishers how many fish they can catch nor shippers how many trips they can make. On the other hand, command and control regulatory approaches can be implemented through national law governing flagship activities and sectoral legal regimes. Better alignment of conservation goals and methods between the regimes that govern the high seas are needed to achieve the sustainable use and conservation outcomes that the UNGA has called for.⁷⁷

C. The Problem of Allocation

The BBNJ negotiation differs from others such as the Paris Agreement for the climate change regime in a notable respect: it includes the prospect of rich rewards as well as the burden of regulation. The vast majority of ocean species have not been described;⁷⁸ and ocean life is both highly diverse and often adapted to unusual conditions including extreme heat, cold, and pressure, adaptations that are inscribed in marine genetic codes. This adds up to high potential for discoveries through systematically searching for biochemical and genetic information in nature—bioprospecting—that can lead to new products with commercial value.

The potential commercial value of marine bioprospecting in ABNJ is illustrated by a rather charming story:

. . . the ocean pout, *Zoarces americanus*, lives along the Atlantic coast of North America from Labrador to Delaware, down to a depth of more than 300 metres and in waters colder than 10 degrees C (and sometimes much

national jurisdiction, U.N. Doc. A/AC.287/2017/PC.4/2, 5.7, 18 (2017) (“The text could address strategic environmental assessments.”); Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context, art. 4, May 21, 2003, 2865 U.N.T.S. 140. See also Richard Barnes, *The Proposed LOSC Implementation Agreement on Areas Beyond National Jurisdiction and Its Impact on International Fisheries Law*, 31 INT’L J. MARINE & COASTAL L. 1, 1–37 (2016). For a proposal of how to implement strategic environmental assessments in BBNJ, see DEEP-OCEAN STEWARDSHIP INITIATIVE, POLICY BRIEF: STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA). See also ENVISIONING ITS APPLICATION TO MARINE AREAS BEYOND NATIONAL JURISDICTION (ABNJ) (Sept. 2018), available at <http://dosi-project.org/wp-content/uploads/2018/05/DOSI-SEA-Brief-1.pdf>.

77. See Margaret A. Young & Andrew Friedman, *Biodiversity Beyond National Jurisdiction: Regimes and Their Interaction*, 112 AJIL UNBOUND 123, 125 (2018).

78. Camilo Mora, et al., *How Many Species Are There on Earth and in the Ocean?*, 9 PLOS BIOLOGY 1, 2–6 (2011); *About the Census*, CENSUS OF MARINE LIFE, <http://www.coml.org/about-census> (last visited Feb. 20, 2019) (ten-year scientific assessment of marine life, which also created Ocean Biogeographic Information System (OBIS) database, “the world’s largest open access, online repository of spatially referenced marine life data”).

colder). . . . As an adaptation to chilly waters, the ocean pout produces antifreeze proteins, which attach to any ice crystals in the fish's blood and curb their growth, preventing them from damaging cells.

Scientists at Unilever were able to recreate the eelpout's "ice structuring" protein in a form that could be used to solve an important social need: preventing ice cream from losing its smooth texture should it thaw and refreeze during handling.⁷⁹

The hope of receiving benefits from eventual products like this, and even life-saving pharmaceuticals, provides an incentive for some States—especially the developing States—to participate in the negotiation. States with an interest in encouraging investment and wary of the high risk and long time frames of research and development for turning marine genetic resources into commercial products argue that the benefits should accrue to the investors.

There is a history of conflicting views on the property rights to genetic resources between developed and developing States.⁸⁰ For years, developed country industries sought and found biological materials in biodiverse developing countries, which the companies developed into profitable pharmaceuticals and other products. The host countries complained that they were not capturing the value of genetic resources found within their territories, and, in 1992, their concerns were addressed by the CBD. The CBD, in articles 1, 3, and 15, recognized that the genetic information of life forms was subject to host countries' "sovereign right to exploit their own resources" and that access to genetic resources required "fair and equitable sharing of the benefits arising out of the utilization of genetic resources" as determined by the host country. So, although the CBD has limited effect beyond national borders, its parties have explored the issues extensively.⁸¹

UNCLOS does not address rights to exploit marine genetic resources in ABNJ. It was negotiated before marine genetic resources were recognized as valuable, so the parties did not confront the allocation of property rights. UNCLOS parties did, however, designate the mineral resources of the seabed and its subsoil in ABNJ (the Area) as the common heritage of mankind and implemented a benefit-sharing regime.⁸² They did not address whether the associated living resources (or any other high seas resources) shared that status. Some argue that the failure to include means that the intent was to exclude; others

79. Jon Copley, *What Do Sir Roger Moore and a Deep-Sea Fish Have in Common?* (June 2017), http://www.joncopley.com/blog_jun17.html.

80. For a fascinating, critical analysis, see Ikechi Mgbeoji, *Beyond Rhetoric: State Sovereignty, Common Concern, and the Inapplicability of the Common Heritage Concept to Plant Genetic Resources*, 16 LEIDEN J. INT'L L., 821, 822–23 (2003).

81. Its Nagoya Protocol deals in more detail with benefit sharing, but does not address ABNJ. See Nagoya Protocol, *supra* note 36, at art. 5.

82. UNCLOS, *supra* note 5, at pmb., art. 136; Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, G.A. 25/2749 (Dec. 12, 1970).

take the position that the possibility of such benefits was simply not contemplated and that philosophically all such valuable resources should be equitably shared by humankind. Moreover, the fact that some of the living beings whose genetic material is of commercial and scientific interest inhabit the Area, that is the seabed in ABNJ, creates a legal ambiguity. Scovazzi points to often-overlooked UNCLOS article 149, which bestows common heritage status on archeological and historical objects found in the Area; he calls this the “legal attraction [of the space] on the object itself.”⁸³ He shows that the legal attraction appears to exist in article 143 as well, which subjects marine scientific research, without specifying mineral resources, in the Area to a special set of obligations to share the results and to train others, especially from developing States. Certainly Arvid Pardo, the UNCLOS negotiator from Malta who is most identified with the common heritage, considered the high seas to partake of that status in its entirety.⁸⁴

The CBD addressed the ownership of genetic resources, but in the very different context of sovereign territory. Its principle, stated in article 3, is that “States have, in accordance with the Charter of the United Nations and the principles of international law, the *sovereign right to exploit their own resources* pursuant to their own environmental policies . . .” (emphasis added).

Article 15 further says that “[r]ecognizing the sovereign rights of states over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.” Intellectual property rights, financial transfers, and transfer of technology are then to be negotiated between the State that owns the genetic resources and those that develop them into commercially valuable products. Without the rule of sovereign ownership, the allocation of property rights to genetic resources is perplexing.

And this is the single most divisive issue for the BBNJ negotiation. The position of developing States has been that the high seas are a global commons and that the resources found there should be shared equitably among all States.⁸⁵ The fact that some States have the technical capability of collecting samples of life forms and exploiting the genetic information found therein for commercial advantage should not, in their view, create a property entitlement. Instead, the value should be shared in some way among all States as the common heritage of humankind.

States with advanced technology see ocean resources as subject to the principle of the “freedom of the seas.” In their view, the agreement to designate deep seabed mineral resources as common heritage was a negotiated exception

83. Scovazzi, *supra* note 1, at 218.

84. Arvid Pardo, *Thirteenth Statement to the Committee on the Peaceful Uses of the Seabed and the Ocean Floor March 23, 1971*, in *THE COMMON HERITAGE: SELECTED PAPERS ON OCEANS AND WORLD ORDER 1967–1974*, 221 (1975).

85. WRIGHT ET AL., *supra* note 8, at 34.

to an open access rule that they believe exists in both customary international law and in UNCLOS.⁸⁶ Moreover, they argue, the World Intellectual Property Organization (WIPO) is the proper forum for this issue. Yet WIPO has not made progress in addressing genetic resources in ABNJ.⁸⁷ Despite the lack of international agreement, some private actors have forged ahead, with patents already taken out on more than 1600 genetic sequences from ninety-one species associated with deep sea and hydrothermal vent systems.⁸⁸

John Norton Moore, a self-declared political conservative, argued that the U.S. industry benefited from UNCLOS's arrangement for deep seabed minerals because it provided a stable property regime.⁸⁹ Under the principle of "freedom of the seas," a company that made the substantial investment in prospecting and mining an ABNJ site might be able to claim any minerals it could seize, but it would not be able to exclude other operators. That would render the entire lengthy and capital-intensive enterprise infeasible. The negotiating concession that a different property regime would prevail and that some benefits would go to the international community was, to Moore's mind, a reasonable compromise in light of the security of title that it would give to industry.⁹⁰ The same considerations could be held to apply with regard to marine genetic resources, except that as a practical matter collecting genetic material from ABNJ does not entail the same long-term investment that mining does; a bioprospector is not as dependent as a miner on her ability to physically exclude competitors. Thus, the same equitable arguments supporting the CBD and UNCLOS approaches apply to marine genetic resources in ABNJ, but the different factual context removes one pragmatic incentive to declare marine genetic resources the common heritage of humankind (there may be others).

Resolution of these opposing positions promises to be difficult. Scovazzi suggested that the CBD was, in fact, the instrument that should govern marine

86. See, e.g., United States Statement, Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction Agenda Item 6: General Exchange of Views, Sept. 5, 2018, available at <http://statements.unmeetings.org/media2/19408107/microsoft-word-united-states-opening-statement-bbnj-igc-session-1.docx.pdf>.

87. WIPO, THE CONSOLIDATED DOCUMENT RELATING TO INTELLECTUAL PROPERTY AND GENETIC RESOURCES REV. 2, 3 (2018) (addressing patent disclosure obligations for genetic resources from areas beyond national jurisdictions and associated traditional knowledge), available at http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=340736; Claudio Chiarolla, *The Work of the World Intellectual Property Organization (WIPO) and Its Possible Relevance for Global Ocean Governance*, in COMPREHENSIVE STUDY ON EFFECTIVE AND SUSTAINABLE GLOBAL OCEAN GOVERNANCE, IMO (INTERNATIONAL MARITIME ORGANIZATION)/IMLI (INTERNATIONAL MARITIME LAW INSTITUTE) RESEARCH REPORT TO THE NIPPON FOUNDATION 3 (2016), available at <https://ssrn.com/abstract=3002489>.

88. R. Blasiak et al., *Corporate Control and Global Governance of Marine Genetic Resources*, 4 SCI. ADVANCES 1, 1 (2018).

89. John Norton Moore, *UNCLOS Key to Increasing Navigational Freedom*, 12 TEX. REV. L. & POL'Y 459, 462-63 (2008).

90. *Id.* at 466-67.

genetic resources, while UNCLOS would control fishing and scientific research.⁹¹ Problems would still remain. For instance, it is clear that product development from a fish's genetic code is quite different from supplying the protein needs of a growing population with its flesh, and that basic research into cellular structures is different again.⁹² Yet when a fish is caught, and even when it is taken to a laboratory for study, the distinctions may not seem so clear and the legal labels governing permissible uses may tend to slip off. (Note that fish are used as an example here, but interesting species for genetic exploration are more likely to be extremophiles and the myriad other ocean creatures adapted to different living conditions.)

III. MULTILATERALISM AND NECESSARY PARTIES

The ability to eventually arrive at an agreement with enough parties to make it functional will depend on whether States see cooperation on these issues as sufficiently beneficial to their national interests. A treaty architect has to consider which States must participate for the treaty to stand up. The most direct strategy is to stay focused on the motivations that brought the parties to the negotiating table in the first place. Another way to do this is by providing positive and negative incentives in the substance of the treaty. A third tactic is to set the entry into force clause so that the treaty will only enter into force when the critical parties have joined.

Although a perverse twist of domestic politics—the ability of a small number of senators to block ratification—kept the United States from becoming a party to UNCLOS, the fact that this maritime power achieved its major goals in the treaty negotiation has resulted in the executive branch (presidents and executive agencies, including the U.S. Navy) largely complying with UNCLOS,⁹³ with the exception of the provisions on deep seabed minerals.⁹⁴ The United States, as an important flag State, naval power, and coastal State, remained committed to the UNCLOS negotiation for years because it promised greater stability for rules regarding navigation, including innocent passage of

91. Scovazzi, *supra* note 1, at 213–20.

92. In the BBNJ negotiations these three states are referred to as *in vivo* (normally used to refer to experiments with live beings), *in vitro* (usually referring to experiments on components of living beings, like cells), and *in silico* (referring to computer simulations). The use of terms in the BBNJ context is not precisely what is meant by scientific researchers.

93. Clive Schofield & Ian Townsend-Gault, *Time for the United States to Join the Party: Prospects for US Ratification of the United Nations Convention on the Law of the Sea*, 8 INT'L ZEITSCHRIFT 1, 2–4 (2012). Most provisions of UNCLOS are considered customary international law and are therefore binding on UNCLOS nonparties in any case. J. ASHLEY ROACH & ROBERT W. SMITH, UNITED STATES RESPONSES TO EXCESSIVE MARITIME CLAIMS 4–6 (1996). And, as former ITLOS President Treves says, nonparty States live in a world where most other States are parties, so they must take account of UNCLOS rules. Tullio Treves, *15 UNCLOS and Non-Party States before the International Court of Justice*, in OCEAN LAW AND POLICY 367 (Carlos Eposito et al. eds. 2017).

94. Stephan Dinan, *Skeptical Senate Eyes Sea Treaty*, WASH. TIMES (Mar. 6, 2005), <https://www.washingtontimes.com/news/2005/mar/6/20050306-102143-1173r/>.

warships, freedom of the seas for shipping, and greater control over coastal resources by coastal States.⁹⁵ The United States, though not an UNCLOS party, today consistently takes the position that UNCLOS's rules on those points are legally binding as customary international law.

Nonparties are only able to participate as observers in the UNCLOS institutions—the International Tribunal for the Law of the Sea (ITLOS), the International Seabed Authority, and the Commission on the Limits of the Continental Shelf (CLCS)—so they wield less influence in developing and applying the law of the sea and they are unable to engage in important activities including sponsoring deep seabed mining in ABNJ and submitting extended continental shelf claims to the CLCS. One reason that U.S. senators stated for blocking ratification of UNCLOS was to protect U.S. seabed mining interests from the international regulatory system created by the Convention. The high seas mining regime was created in response to the position of developing countries. However, instead of going ahead and mining in defiance of the treaty's rules, no U.S. company has been willing to undertake deep seabed mining outside the legal regime created by UNCLOS, with one company instead incorporating in the United Kingdom, which is a party.⁹⁶

While the anticipated benefit of avoiding regulation has not accrued to the United States, the cost has: not only the lost business opportunity, but the United States cannot shape the rules that govern deep seabed mining because it is not represented in the governing body, the International Seabed Authority. The net result suggests that UNCLOS included appropriate terms and that U.S. interests were properly addressed in the treaty; and although this important seafaring nation did not become an UNCLOS party through its domestic political miscalculation, the treaty regime itself was not harmed (though concerns regarding the dispute settlement regime are discussed below).⁹⁷

Finding an appropriate balance of interests for the BBNJ agreement is more challenging. There is a common interest in exploring and using marine genetic resources. Nonetheless, it is clear that the United States, and other States including Russia, are moving away from multilateralism and toward bilateralism or even isolationism. This is a trend that the Berkeley study, *Between Empire and Community*, traced back to the Bush administration, while suggesting that it

95. John Norton Moore, *supra* note 89, at 462–63 (2008). James Kraska warns that maritime powers will strive to ensure that a BBNJ agreement does not destabilize this system. James Kraska, *National Security Considerations for a Binding Instrument on Managing Biodiversity Beyond National Jurisdiction*, 112 AJIL UNBOUND 150, 150–51 (2018).

96. Press Release, Lockheed Martin, UK Government Sponsors Lockheed Martin UK Subsidiary for License to Harvest Polymetallic Nodules (Mar. 14, 2013), *available at* <http://www.lockheedmartin.co.uk>.

97. Although the United States has not signed or ratified UNCLOS, it has become a party to one of the two UNCLOS implementing agreements, the Fish Stocks Agreement. Thus, UNCLOS nonparty status is not necessarily a barrier for a State to join UNCLOS implementing agreements, including an eventual BBNJ agreement.

had even earlier roots.⁹⁸ Once again, some States, including the United States, are reluctant to relinquish the advantage of their advanced technologies and financial resources to prospect and develop marine resources in shared ocean space. For developing States, this is another repetition of colonial-era natural resource grabs, and a more equitable arrangement has to be found. It appears that the interests of all parties cannot easily be met.⁹⁹ As already discussed, customary international law and existing treaty arrangements do not adequately address the important concerns about conservation of biological diversity that brought the majority of United Nations members to the table.¹⁰⁰

Giving dimension to these concepts involves a closer look at the activities that take place at sea. At the outset, I noted that the scope of the treaty is geographically global and that all States have interests in the ocean. The realization that a relatively small number of States dominate fishing, shipping, mining, cable laying, and military activities in the ocean leads directly to the recognition that there are certain States that must be party to the agreement for it to succeed. At any rate, those States must adhere to its terms, even if they remain outside as nonparties.¹⁰¹ The question then is, how can those States be induced to join the BBNJ agreement, and if they remain outside it, what is their legal relationship to treaty obligations like EIA and respect for MPAs? A further question, for land-locked States like Switzerland and Nepal: do they have a right to be part of the treaty and thus to have a say in the governance of a planetary system that not only provides access to genetic resources and minerals but that sustains global systems including the climate and the level of oxygen in the atmosphere? And do they have obligations if, for example, natural or legal persons with the nationality of a land-locked country invest in high seas activities? This notion, that there is a common interest of humankind “in a certain minimum of reliable modes of conduct[,]” has gained traction.¹⁰² Given the existential value of these planetary systems, some terms of the agreement must be binding on all States, as a matter of *jus cogens*, and all States must be considered beneficiaries of the rights it creates.

98. David D. Caron, *Between Empire and Community—The United States and Multilateralism 2001-2003: A Mid-Term Assessment*, 21 BERKELEY J. INT’L. L. 395, 395 (2003).

99. For the history of this issue, see WRIGHT ET AL., *supra* note 8, at 41.

100. David Freestone, *The Limits of Sectoral and Regional Efforts to Designate High Seas Marine Protected Areas*, 112 AJIL UNBOUND 129, 133 (2018).

101. Victor Galaz et al., *The Problem of Fit among Biophysical Systems, Environmental and Resource Regimes, and Broader Governance Systems: Insights and Emerging Challenges*, in INSTITUTIONS AND ENVIRONMENTAL CHANGE 147–86 (Oran R. Young et al., eds. 2008).

102. Jutta Brunnée, “Common Interest”—*Echoes from an Empty Shell? Some Thoughts on Common Interest and International Environmental Law*, 49 HJIL 791, 792 (1989) (note that Brunnée proposes that those common interests that “can crystallize into a rule of international law triggering specific duties” should be considered “common concerns”); Qin Tianbao, *China’s Peaceful Development and Global Climate Change: A Legal Perspective*, 3 L., ENV’T & DEV. J. 54, 65 (2007) (discussing a “new theory of state sovereignty balancing national interests and common interests of humankind”).

As a practical matter, the entry into force provision will need to consider which States must be parties for the agreement to function successfully and whether having a quantification of some sort would be a useful tool to build those States' confidence and willingness to participate. An example of how this was done is the Kyoto Protocol, which to come into force required ratification by at least fifty-five of the parties to the United Nations Framework Convention on Climate Change, and also sufficient Annex I parties to account for at least 55 percent of the total 1990 Annex I carbon dioxide emissions.¹⁰³ This ensured that major emitters that ratify the agreement are not put at an economic disadvantage by being the only market participants that are burdened by the treaty's obligations: it is only once their competitors join that their obligations become effective.

This dynamic is more important for MEAs than for many other types of treaties. On the one hand, environmental obligations are often linked to near-term economic performance so nonparticipants will have an economic advantage; on the other hand, a critical mass of actors in a shared physical space have to agree to limit their impacts for the project to be successful. David Caron observed that environmental problems like this—and ozone depletion—require concerted action, and at least the major contributors to the problem, present and future, need to be parties to the regime.¹⁰⁴

For the BBNJ negotiation, there is wide participation in the discussions, including the major maritime States: The United States, China, South Korea, the European Union, and Japan. Not all major fishing nations however are at the table, although fishing is one of the most damaging ocean activities. For example, Taiwan's fleet is second only to mainland China with 12 percent of the world's high seas fishing catch, yet it does not have a seat at the United Nations and therefore could not participate in the negotiation if it wished to.¹⁰⁵ States that have not negotiated their interests in an international agreement may not feel committed to comply with it, and as nonparties they are not legally bound to do so.

CONCLUSION: THE ENVIRONMENT AS A PARTY

When the negotiation is done, one fact will remain: “the environment” is a physical presence, a force that cannot be subjected to law. “Effectiveness” of ocean governance will not be judged by the number of EIAs conducted or the

103. Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 25, Dec. 10, 1997, U.N. Doc FCCC/CP/1997/7/Add.1, 37 I.L.M. 22.

104. David D. Caron, *Protection of the Stratospheric Ozone Layer and the Structure of International Environmental Lawmaking*, 14 HASTINGS INT'L & COMP. L. REV. 755, 773 (1990).

105. For a discussion of the complications that ensue from international relations with the Republic of China (Taiwan) and the People's Republic of China, which both purport to represent the same nation, see Yann-Huei Song, *One China, but Two Sets of Maritime Legislation: Developments, Implications, and Challenges for the United States*, in THE LAW OF THE SEA 209–47 (Harry N. Scheiber ed., 2000).

excellence of the BBNJ instrument's guiding principles. It will only be measurable by empirical data showing that ocean life is in good shape and that ocean systems are contributing to Earth's planetary health. In 1991, writing about regulating chemicals that cause the ozone hole in the atmosphere, David Caron said:

In negotiations concerning environmental matters . . . there is the added and quite different task of the parties seeking to discover precisely what the environment requires. In this sense, the environment is an unobtrusive, but central presence in the negotiations. It is a party that does not volunteer information, but may answer questions if asked correctly. It is also a party that refuses to negotiate.¹⁰⁶

How do we satisfy that final party at the table—the environment, that refuses to negotiate, yet whose demands must be met?

106. Caron, *supra* note 104, at 773.