

SYMPOSIUM ON GOVERNING HIGH SEAS BIODIVERSITY

THE HIGH SEAS FREEDOM TO LAY SUBMARINE CABLES AND THE PROTECTION OF THE MARINE ENVIRONMENT: CHALLENGES IN HIGH SEAS GOVERNANCE

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The freedom to lay submarine cables and pipelines, one of the most venerated high seas freedoms under the 1982 United Nations Convention on the Law of the Sea (UNCLOS),¹ faces an uncertain future under the new international legally binding instrument (ILBI) being negotiated in the United Nations. UN General Assembly Resolution 72/249, authorizing the intergovernmental conference for the new ILBI, does not expressly mention submarine cables or pipelines but states that “the work and results of the conference should be fully consistent with the provisions of” UNCLOS.² The issues in a new ILBI that are likely to have an impact on the freedom to lay submarine cables and pipelines in areas beyond national jurisdiction are (1) area-based management tools, and (2) environmental impact assessments (EIAs), which are mechanisms used to protect and preserve the marine environment and biodiversity.³ The challenge for high seas governance (and indeed, the perennial challenge for the law of the sea) is how to balance these two ostensibly competing, but equally valuable, interests: the protection of the marine environment and biodiversity and the high seas freedom to lay submarine cables in areas beyond national jurisdiction.

Submarine Cables and Pipelines: Similarities, Differences, and Importance

UNCLOS uses the phrase “submarine cables and pipelines” several times but does not define it. There are two main types of submarine cables: communications cables used to transmit data communications and power cables used to transmit electrical power. Submarine pipelines are used to transport oil and gas resources. All are designed for underwater use and are laid on or buried under the seabed.

Submarine communications cables, power cables, and pipelines are different sizes, consist of different material, serve different functions, and have varying degrees of importance to the international community. *Submarine communications cables* consist of glass fiber optics encased in an electrical conductor, an internal steel core, and a protective sheath of high-grade marine polypropylene with a maximum diameter of fifty millimeters. They provide 95 percent of international telecommunications and have been described as “critical communications infrastructure”

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¹ [UN Convention on the Law of the Sea](#), Dec. 10, 1982, 1883 UNTS 396 [hereinafter UNCLOS].

² [G.A. Res. 72/249](#) para. 6 (Dec. 24, 2017).

³ The final report of the Preparatory Committee dated July 31, 2017, noted that EIAs and area-based management tools were two issues on which there was a great deal of convergence among most delegations, but the modalities would be subject to further negotiations. [Report of the Preparatory Committee established by the General Assembly Resolution](#), UN Doc. A/AC.287/2017/PC.4/2 (July 31, 2017) [hereinafter Report of the Preparatory Committee].

and “vitaly important to the global economy and the national security of all states.”⁴ The global cable network forms the backbone of the Internet, and thus e-mail, social media, phone, and banking services—services we now take for granted. *Submarine power cables* can be as wide as three hundred millimeters and are made out of copper or aluminum, insulation, a water-blocking sheath, and armor. They are increasingly being utilized in areas under national jurisdiction, driven by the liberalization of the world’s power markets. Reliance on *submarine pipelines* is also increasing, as they are considered the most reliable way to transport large volumes of oil and gas.

Among the various types of submarine infrastructure, submarine communications cables are the most widely used in areas beyond national jurisdiction; approximately 314,350 kilometers of such cables have been laid in such areas.⁵ In comparison, the cable industry states that no power cable is laid or planned to be laid in areas beyond national jurisdiction at this time.⁶ Information is not available on how many pipelines will be laid in areas beyond national jurisdiction, but their use is not as extensive as communications cables. The focus of this essay will be on communications cables due to their prevalence in areas beyond national jurisdiction, with the caveat that power cables and pipelines may be more extensively used in areas beyond national jurisdiction in the future and should accordingly be addressed in any future framework governing the high seas.

Applicable Legal Regime in Areas Beyond National Jurisdiction

Since the nineteenth century, the freedom to lay submarine communications cables (at that time, submarine telegraph cables) in the high seas has been unchallenged, although initially states did not codify that freedom in any treaty.⁷ It was only in 1950 that the International Law Commission (ILC) recognized the principle that all states were entitled to lay submarine telegraph or telephone cables in the high seas⁸ and suggested that states extend to pipelines the same freedom, despite debate as to whether the laying of pipelines was part of the peaceful practice of states.⁹ After Sweden installed the first submarine power cable between its mainland and Gotland in 1954, the ILC also included the freedom to lay power cables as part of high seas freedoms.¹⁰ UNCLOS, which purported to establish a legal order for the oceans that would facilitate international communications, reflected the freedom to lay submarine cables and pipelines as part of the freedom given to all states in the high seas. This freedom is subject to states’ obligations (1) to exercise due regard for cables and pipelines already in position and not to prejudice the possibility of repairing existing cables or pipelines; and (2) to exercise due regard for the interests of states in their exercise of other high seas freedoms and with respect to activities in the Area.¹¹

While UNCLOS affords the freedom to lay cables and pipelines to “all States,” in reality, private companies or consortiums of private companies from different jurisdictions own and operate cables, although they engage

⁴ [G.A. Res. 65/37A](#) para. 112 (Dec. 7, 2010).

⁵ DOUGLAS R. BURNETT & LIONEL CARTER, [INTERNATIONAL SUBMARINE CABLES AND BIODIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION: THE CLOUD BENEATH THE SEAS](#) 61 (2017).

⁶ *Id.* at 41. There are power cables laid or planned to be laid in regional seas where boundaries have not been agreed upon; hence, these power cables could conceivably fall within areas beyond national jurisdiction.

⁷ MYRES MCDUGAL & WILLIAM T. BURKE, [THE PUBLIC ORDER OF THE OCEANS: A CONTEMPORARY INTERNATIONAL LAW OF THE SEA](#) 781 (1962).

⁸ Int’l Law Comm’n, [Report on Its Second Session](#), UN Doc. A/CN.4/34, at 384 (1950).

⁹ [Summary Records of the 65th Meeting](#), [1950] 1 Y.B. Int’l L. Comm’n 199, U.N. Doc. A/CN.4/Ser.A/1950.

¹⁰ Tara Davenport, [The Installation of Submarine Power Cables under UNCLOS: Legal and Policy Issues](#), 56 GERMAN Y.B. INT’L L. 107, 116–18 (2014).

¹¹ [UNCLOS](#), *supra* note 1, arts. 87 & 112. “The ‘Area’ means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.” *Id.* art. 1(1)(1).

vessels from various flag states to lay and repair cables. This practice has gone unopposed since the inception of the industry, and it has been argued that the term “all States” in Article 87 refers to the right of states or their nationals to lay cables or pipelines.¹² Unlike vessels, there is no flag registry for cables and pipelines.

Submarine Cables and Pipelines, the Marine Environment, and the New ILBI

Submarine communications cables are said to have a low impact on the marine environment.¹³ This is due to, *inter alia*, the fact that the physical footprint of a communications cable is small; the marine-grade polyethylene that sheaths the cable is inert; in depths greater than two thousand meters, cables are laid directly on the seabed and hence seabed disturbance is minimal (although in shallower depths, they are buried for protection, which may cause greater disturbance); and cable-laying is usually a one-off operation (only when faults occur are cable repairs required, which is infrequent in areas beyond national jurisdiction.) Further, the presence of a cable itself is said to have minimal impact on marine biodiversity in areas beyond national jurisdiction.¹⁴ Accordingly, while the installation of submarine cables potentially could disturb the benthic environment, the disturbance effects are said to be localized and relatively limited.¹⁵ Studies on the environmental impact of submarine power cables are inconclusive, though concerns have been expressed about the impact of the electromagnetic field.¹⁶ Pipelines have the greatest potential to harm the environment.

States have mentioned submarine cables and pipelines during the meetings of the Preparatory Committee (PrepCom), and their comments reflect a divergence of opinion on how the ILBI should treat cables and pipelines. For example, Papua New Guinea and the African Group suggested that states should conduct EIAs for cable-laying activities, along with marine geoengineering, deep-sea fisheries, bioprospecting, deep seabed mining, and offshore aquaculture.¹⁷ On the other hand, Japan noted that not all activities should be subject to an EIA and that laying submarine cables has minor, if not negligible, impacts.¹⁸ Similarly, Indonesia and the United States noted the need to distinguish submarine cables from pipelines.¹⁹ Meanwhile, environmental NGOs support some form of regulation for submarine cables and pipelines, arguing that the freedom to lay cables is subject to the general duty of states to protect and preserve the marine environment under UNCLOS.²⁰

The cable industry, represented by the International Cable Protection Committee, a nongovernmental organization consisting of industry and some governments, has argued that submarine cables should be excluded from the scope of any new instrument.²¹ It contends that EIA requirements for cable laying and repair in areas beyond national jurisdiction are unnecessary, given their low environmental impact. It has also argued that EIAs are not

¹² 3 [UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY](#) 264 (Myron Nordquist et al. eds., 1995).

¹³ BURNETT & CARTER, [supra note 5](#), 29–41.

¹⁴ Douglas Burnett et al., [Submarine Cables in the Sargasso Sea: Legal and Environmental Issues in Areas Beyond National Jurisdiction, Workshop Report](#), Annex 7 (Jan. 16, 2015).

¹⁵ A. EASSOM ET AL., [UNEP-WCMC HORIZON SCAN OF PRESSURES ON BIODIVERSITY BEYOND NATIONAL JURISDICTION](#) 19 (2016).

¹⁶ BURNETT & CARTER, [supra note 5](#), at 41–43.

¹⁷ Int’l Inst. for Sustainable Dev., [Summary of the First Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction](#) 12, 25:106 EARTH NEGOTIATIONS BULLETIN (Apr. 11, 2016) [hereinafter Int’l Inst. for Sustainable Dev., Summary of the First Session]; Int’l Inst. for Sustainable Dev., [PrepCom 2 Highlights: August 30, 2016](#), at 2, 25:111 EARTH NEGOTIATIONS BULLETIN (Aug. 31, 2016) [hereinafter Int’l Inst. for Sustainable Dev., PrepCom Highlights].

¹⁸ Int’l Inst. for Sustainable Dev., PrepCom Highlights, [supra note 17](#), at 2.

¹⁹ Int’l Inst. for Sustainable Dev., Summary of the First Session, [supra note 17](#), at 12.

²⁰ BURNETT & CARTER, [supra note 5](#), at 60.

²¹ [Submission by the ICPC to the PrepCom: Submarine Cables and BBNJ](#) (Aug. 1, 2016); *see also* BURNETT & CARTER, [supra note 5](#), 63.

legally required by Article 206 of UNCLOS, which mandates an EIA for planned activities that may “cause substantial pollution of or significant harmful changes to the marine environment.” There is a lack of baseline data about the deep-sea environment, which would be necessary in order to properly evaluate the environmental impact of any activity. With regard to area-based management tools, the cable industry has highlighted that marine protected areas (MPAs) and cables are not mutually exclusive; depending on the nature of the MPA, submarine cables may not be incompatible with the objective of the MPA, provided that such MPAs collectively do not close off vast areas of high seas to the laying and repair of new or existing cables.

The cable industry is concerned that onerous EIA requirements and restrictive area-based management tools would significantly increase both the costs and time incurred in cable operations, which already require a considerable capital investment from cable owners. This is especially true of cable *repairs*, which need to be completed quickly to restore connectivity. The industry is also acutely aware that it lacks a champion either in the form of states or an intergovernmental organization. Cables are not flagged in any state, and private companies from different jurisdictions operate the cables. Flag states of cable ships may have little interest in asserting rights on behalf of the cable industry under UNCLOS. This understandably makes the industry anxious that states will pass regulations without the industry’s input.²²

High Seas Governance: The Need for a Flexible and Cooperative Approach

The argument that submarine cables should be completely excluded from the ILBI given their minimal environmental impact and critical importance is not tenable in the long run. Such exclusion could set a precedent for other marine industries, which may also argue that they should not be subject to new obligations in areas beyond national jurisdiction. Further, given the current push to negotiate a “comprehensive global regime,” it would be remiss to exclude submarine cables and pipelines. Instead, as Andrew Friedman has argued, this is an excellent opportunity to formalize a flexible and cooperative approach among industry, states, and other relevant stakeholders that protects the environment and marine biodiversity without unduly restricting the high seas freedom to lay cables.²³ This approach, in turn, would ensure that the ILBI can flexibly adapt to accommodate new (or currently unregulated) marine industries.

First, industry must recognize that the “doctrinaire, absolutistic conception of freedom of seas”²⁴ that was prevalent during the time of Grotius is no longer the dominant paradigm of the oceans. As a “living” constitution for the oceans, UNCLOS has evolved to take into account the best interests of the international community, which currently places high importance on the protection of the marine environment and biodiversity. Regulations such as MPAs and EIAs may not necessarily contravene the high seas freedoms to lay cables and pipelines. It will all depend on the scope of such regulations and the extent to which they cause unreasonable and arbitrary interference with rights affirmed under UNCLOS.

Second, those urging regulation must also recognize that flexibility in high seas governance requires a balancing exercise between the marine environment and other activities. This is implicitly required by Article 194(4) of UNCLOS, which obliges states when adopting marine environmental protection measures to refrain “from *unjustifiable interference* with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.” The Tribunal in the 2015 *Chagos Marine Protected Area Arbitration*

²² The ICPC has taken steps to engage with the PrepCom and the negotiations of the intergovernmental conference by holding side events and by applying for observer status before the UN, which would enable it to participate in UN meetings.

²³ Andrew Friedman, *Submarine Telecommunications Cables and Biodiversity Agreement in ABNJ: Finding New Routes for Cooperation*, 32 INT’L J. MAR. COASTAL L. 1, 7 (2017).

²⁴ McDUGAL & BURKE, *supra* note 7, at 11.

interpreted Article 194(4) as requiring “a balancing act between competing rights based upon an evaluation of the extent of the interference, the availability of alternatives and the importance of the rights and policies at issue.”²⁵ In essence, the Tribunal proposed a procedural mechanism that is akin to the proportionality analysis undertaken by many national and international regulators and that “requires a rational fit between means and ends that limit rights no more than reasonably necessary to accomplish the relevant objective.”²⁶ Such analysis is critical to achieving balance between competing interests.

A middle approach would build this balancing exercise into the emerging environmental regime. It is not feasible to apply blanket environmental regulations indiscriminately to all marine activities in areas beyond national jurisdiction; what is required is a case-by-case determination of how different activities should be regulated. This flexibility could be implemented by requiring that a particular activity must meet at least some threshold of likely harm before an EIA would be required,²⁷ with relevant industries having to demonstrate through data that the threshold has not been met. For example, although UNCLOS groups communications cables, power cables, and pipelines together, they are not interchangeable. Although the freedom to lay cables and pipelines is affirmed in the Exclusive Economic Zone and continental shelf, the delineation of a pipeline route is subject to coastal state consent, and the coastal state can impose antipollution regulations on pipelines; that authority does not expressly exist for cables.²⁸ At the very least, it is time to break the artificial legal coupling of cables and pipelines under UNCLOS, in order to reflect the reality that communications cables and pipelines are different public goods that warrant different treatment. Communications cables and power cables might also be differentiated, provided that this distinction is substantiated by environmental data. Such differentiation can be permitted through a “threshold of likely harm” requirement applied separately to each activity.

Flexible approaches are most effective when the parties involved act cooperatively and possess symmetry of information. For example, in order to demonstrate that cable activities may not meet the applicable threshold for an EIA, the cable industry may need to provide basic information on a voluntary basis (based on data collected for new cable laying operations). Such information would need to be subject to strict confidentiality requirements.²⁹ The cable industry is concerned about confidentiality in relation to cable route data both for commercial reasons and because of cybersecurity concerns stemming from the dangers of a single UN agency having control of all this data, but this concern is not insurmountable.³⁰ Given the lack of data on the deep seabed environment, as well as a lack of awareness on the interaction between cables and the marine environment and biodiversity, such disclosures could act as a confidence-building measure between industry and regulators.

Conclusion

The historic function of the law of the sea has always been to balance competing uses and interests. In the face of new challenges and potential conflicts, the way to achieve this balance remains the same: flexibility built upon cooperation, consultation, and compromise.

²⁵ [Chagos Marine Protected Area Arbitration](#) (Mauritius v. U.K.), P.C.A. Case No 2011-03, Award, para. 540 (Mar. 18, 2015).

²⁶ Eyal Benvenisti, [Legal Regulation of the Decision-Making Process Within Global Governance Bodies](#), 33 (Global Trust Working Paper 5, 2014).

²⁷ Most delegates in the PrepCom accepted that an activity must meet at least some threshold of likely harm before an EIA would be required. See Report of the Preparatory Committee, [supra note 3](#).

²⁸ UNCLOS, [supra note 1](#), art. 79(2) & (3).

²⁹ Tara Davenport & Zhen Sun, [Submarine Cables in the Sargasso Sea: Lessons for the PrepCom](#), in LEGAL STATUS OF SUBMARINE CABLES, PIPELINES AND ABNJ (Hakan Karan et al. eds., 2017).

³⁰ BURNETT & CARTER, [supra note 5](#), at 52.