Rethinking Ocean Boundaries: Navigating Towards an Integrated Framework of Marine Protection and Preservation

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Vittoria Moccia

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Alla casa di Via Mar dei Caraibi,
dove sognavo mari lontani.

Al Mar Mediterraneo di Ostia,
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Abstract

As human activities at sea intensify, particularly within areas beyond national jurisdiction, the need for a more integrated and holistic legal framework for marine protection has become increasingly urgent. This thesis critically examines the possibility of reconciling an integrated framework of ocean protection within current international and regional frameworks in areas within and beyond national jurisdiction. It does so by, firstly, analysing current legal frameworks governing marine environments, highlighting the strengths and limitations of key international and regional instruments, such as the 1982 United Nations Convention on the Law of the Sea and the 1992 Convention on Biological Diversity. While these frameworks have established crucial norms and obligations, they remain fragmented and often ineffective in achieving comprehensive protection across different jurisdictions. This thesis, then, explores how a more cohesive approach can be fostered by integrating various concepts and approaches, including the ecosystem-based approach, valuation of ocean ecosystem services, area-based management tools, traditional ecological knowledge, and the doctrine of environmental personhood. These notions and approaches underscore the importance of moving beyond sectoral methods towards a model that recognizes the interconnectedness of the ocean and its increasing interdependence and relation with human beings; highlighting the need for equitable and culturally sensitive governance. Through a detailed analysis of legal instruments and case studies, this thesis argues that an integrated framework for marine protection is not only desirable but necessary to address the complex, transboundary challenges facing the world's oceans today. By embracing a more holistic and ecocentric approach, the international community can work towards sustainable ocean management that ensures the protection of the marine environment and the preservation of its biodiversity for future generations.

Keywords: Law of the Sea; Marine Protection and Preservation; Integrated Approach; Ecocentrism

Table of Contents

Introduction

The role of the ocean has evolved in parallel with historical and cultural movements. At the same time, several world views and historical moments have reflected and guided the treatment afforded to the marine environment.[1] For instance, one of the first historical mentions of the ocean was during the Roman domination of the Mediterranean Sea, whereby it was referred to initially as *Mare Nostrum*, meaning 'our sea', and then eventually as *Mare Clausum*, 'closed sea', to discourage navigation during specific dangerous months of the year.[2] However, driven by the start of the period known as the Age of Discovery, navigation steered away from coastal territory and began happening more and more in oceanic waters. This led to the creation of maritime powers, amongst which was the Kingdom of Portugal, whose power was legitimized by the Bull of Pope Alexander IV.[3] Following the creation and control of different discovery routes and the richness it brought to certain countries, nations with naval power began competing for ocean space.

To avoid conflicts over international maritime trade in the name of social, cultural, but mostly economic development and following the 1609 dispute between a Portuguese ship and the Dutch East India Company, Hugo Grotius created the doctrine of *Mare Liberum.* Given that originally the ocean was characterized by the principle of freedom of the sea, he upheld that the ocean should be common to all, with the objective of fostering international trade across the oceans.[4] This ended up legitimizing the right of the Dutch East India Company to trade in the Far East and to oppose Portugal's exclusive claim. Thus, in principle, the doctrine sponsored a free sea, but in practice it gave the ideological legitimation to further the economic and political interests of maritime States, especially the interests of the Dutch Kingdom.[5]

The principle of the freedom of the sea was initially also encouraged by England through the policy of Queen Elizabeth I and, arguably, it was in light of the fact that no single

[1] William Cronon, 'The Trouble with Wilderness; or, Getting Back to the Wrong Nature', in William (ed), *Uncommon Ground* (WW Norton 1996) 69; Georgina M Mace, 'Whose Conservation?' (2014) 345 Science 1558; Maria Akchurin, 'Constructing the Rights of Nature: Constitutional Reform, Mobilization, and Environmental Protection in Ecuador' (2015) 40 Law & Social Inquiry 937, 937; Dominique Ghijselinck, 'Relational Values of Nature: Outgrowing Anthropocentrism by Enriching Human-Nature Relationships?' (2023) 73 Journal for Nature Conservation 126386, 126387.

[2] Olga Tellegen-Couperus, *Short History of Roman Law* (Routledge 1993) 32; David WJ Gill and Conrad Gempf, *The Book of Acts in Its Graeco-Roman Setting*, vol 2 (Wm. B. Eerdmans Publishing 1994) 23.

[3] Yoshifumi Tanaka, *The International Law of the Sea* (Cambridge University Press 2012) 17.

[4] Tanaka (n 3).

[5] Hugo Grotius, *The Freedom of the Seas or the Right Which Belongs to the Dutch to Take Part in the East Indian Trade* (Ralph Van Deman Magofin tr, Oxford University Press 1916).

maritime power had the means necessary to control the whole ocean space.[6] However, upon the Dutch East Indian Company case, England began to oppose Dutch maritime power by shifting back to the doctrine of *Mare Clausum.* This was exemplified in 1631 by John Selden, whereby he argued that the sea, especially the waters adjacent to the British Isles, should be able to be claimed just as territorial land.[7] This created controversy over the definition of territorial waters, which resulted in the creation of the cannonball rule by Cornelius van Bynkershoek, establishing the territorial water limit to 3 miles (4.83 km), the maximum distance a cannonball could travel.[8] Eventually, the principle of the freedom of seas beyond coastal waters was recognized through State practice especially as freedom of commerce, which was ultimately necessary to justify the expansion of European domination all over the world.[9] What this meant from an ocean perspective is that it was seen as the means to an end — this being economic development —, but most importantly it was fragmented and organized in different jurisdictional spaces to achieve the management thereof.

Indeed, in opposition to the principle of freedom of the sea, the principle of sovereignty at sea began to be encouraged. The origins of such can be traced to the afore mentioned 1702 cannonball rule, delimiting the scope of territorial waters based on the security and safety of coastal states. Although initially informed by a security rationale, the principle was expanded to justify the extension of national territorial jurisdiction towards areas beyond territorial waters.[10] Therefore, through the principle of freedom, on one hand, and the principle of sovereignty on the other, the ocean came to be divided into two areas: one area which was adjacent to Coastal States and thus under their sovereignty; and another area which was beyond national jurisdiction, whereby the principle of freedom dominated.[11]

Eventually, with the beginning of the 21st century, the impact of anthropogenic activity on Earth systems became undeniable.[12] The increasing presence of actors at sea coupled with their equally growing maritime activities began exerting significant pressure on the

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[6] Gilbert Gidel, *Le droit international public de la mer: le temps de paix*, vol.1 (Mellottée 1932) 133–136; Dräger Foundation, Future Ocean Kiel Marine Sciences, and The Earth Institute, 'Sustainable Oceans: Reconciling Economic Use and Protection' (Columbia University 2013), 29; Tanaka (n 3), 16.
[7] John Selden, *Mare Clausum, Seu de Dominio Maris* (John and Theodore Maine, 1936).
[8] Cornelius van Bynkershoek, *de Dominio Maris Dissertatio* (1702) (Ralph Van Deman Magoffin and James Brown Scott trs, Gale, Making of Modern Law 2013).
[9] Nguyen Quoc Dinh, *Droit International Public* (Patrick Daillier and Alain Pellet eds, 3rd edn, Librairie Générale de Droit et de Jurisprudence 1987) 1334; Tanaka (n 3).
[10] Emmerich de Vattel, *The Law of Nations; or Principles of the Law of Nature, Applied to the Conduct and Affairs of Nations and Sovereigns* (Joseph Chitty tr, T and JW Johnson and Co, Law Booksellers 1853); Tanaka (n 3).
[11] Tanaka (n 3), 19.
[12] Anthony Barnosky and Mary Ellen Hannibal, 'Despite Official Vote, the Evidence of the Anthropocene Is Clear' (Yale Environment 360, 2 April 2024) <https://e360.yale.edu/features/anthropocene-denied> accessed 19 June 2024.

environment, including and especially the ocean. This sparked a growing, but not yet fully developed, need to tend to the protection of the marine environment as whole, along notions that aligned with the early beginnings of ecological philosophy and associated movements. These movements began highlighting the inherent paradox of anthropogenic impacts on the environment when it comes to human-nature relations: on the one hand, the man-nature separation was highlighted and furthered by a developmental model of production based on extraction of natural resources and, on the other hand, the relation was ever so close as the human role in environmental degradation became increasingly evident, thus suggesting the link between man and natural phenomena.[13]

Indeed, the ocean has gained increasing importance for various sectors in society. Nowadays, the ocean not only is the most diverse ecosystem on the planet, but it is also the largest continuous ecosystem on earth; covering 70% of the planet's surface, expanding over all continents and climate areas and containing more than 80% of the planet's biomass.[14] Ergo, this allows it to have two unique characteristics: its interconnectedness and transboundary nature. Also, importantly, the ocean plays an essential role in regulating the global climate, providing humanity with living and non-living resources and contributing to international trade, recreational and cultural activities, amongst other things.[15]

The plethora of uses and services the ocean can provide has nurtured human development and economic growth, which in turn has led to a growing stress on the marine environment. Some environmental impacts include, overfishing, resource depletion, coastal zone erosion, and numerous types of pollution.[16] Other worrying impacts are, *inter alia*, ocean warming, sea level rise, ocean acidification as well as overall biodiversity loss.[17] One of the most threatening factors at play is the increase in coastal populations, whereby "more than one-third (2.75 billion) of the world's population lives within 100 km from the coast."[18] This has

[13] Paul J Crutzen and Eugene F Stoermer, 'The "Anthropocene"' (2000) 41 Global Change Newsletter 17, 17-18; Everaldo Lamprea Montealegre, *El derecho de la naturaleza: Una aproximación interdisciplinaria a los estudios ambientales* (Siglo del Hombre y Universidad de los Andes 2019) 21; Teresa Vicente Giménez, 'De la justicia climática a la justicia ecológica: los derechos de la naturaleza' (2020) 11 Revista Catalana de Dret Ambiental, 5 <https://revistes.urv.cat/index.php/rcda/article/view/2842>; Sánchez Zapata Diana Carolina, 'El reconocimiento de la naturaleza como sujeto de derechos: una oportunidad para repensar la planeación del ordenamiento territorial como función administrativa' [2022] Revista Derecho del Estado 87, 94.
[14] Dräger Foundation (n 6), 10, 15.
[15] Dräger Foundation (n 6), 15.
[16] Dräger Foundation (n 6), 15.
[17] Dräger Foundation (n 6), 16.
[18] David M Dzidzornu, 'Four Principles in Marine Environment Protection: A Comparative Analysis' (1998) 29 Ocean Development & International Law 91, 92; Lena Reimann, Athanasios T Vafeidis and Lars E Honsel, 'Population development as a driver of coastal risk: Current trends and future pathways' (2023) e14 Cambridge Prisms: Coastal Futures 1, 3.

led to a series of effects on coastal marine environments, including the depletion of important ecosystems such as mangroves and salt marshes, which act as natural barriers to coastal erosion.[19]

Accordingly, the unprecedented and pressing need to protect our ocean given the extent of human activities at sea has allowed the protection and preservation of the marine environment and its biodiversity to gain importance. Although the preamble and part XII of the 1982 United Nations Convention on the Law of the Sea (henceforth referred to as 'LOSC') considers the ocean as one single and universal space to be protected in its entirety, this notion has not been translated into the legal reality of most international environmental law, as well as international law of the sea – nor in the rest of the Convention's text per se –, which instead continue to treat it as divided into jurisdictional areas and adopt a sectoral approach to protection.[20] However, the specific characteristics of water and its pollution as interconnected and transboundary, warrant an equally interconnected and transboundary framework of protection and preservation from pressures, often caused by humans. This has fostered the necessity of shifting towards a more integrated framework of ocean protection from pollution and conservation of its biodiversity. What is meant by *integrated* is a framework which envisions and treats the ocean as one single ecosystem, rather than as a fragmented and separated environment in itself, and that thus protects it in its entirety through comprehensive and holistic mechanisms. The term also aims to stress the importance of the man-nature nexus, especially in regard to the recognition of the interconnectivity of the ocean with human beings and their increasing activities carried out at sea.

Indeed, the protection and preservation of the marine environment is highly shaped by how its role is characterized by society. This can be analysed under different lenses informing the man-nature nexus, in regard to how close or far the relation between man and nature is perceived. Accordingly, ecocentrism rests on one side of the spectrum, and anthropocentrism on the other — with biocentrism or what is sometimes referred to as weak anthropocentrism standing somewhere in the middle between the two extremes.[21] Anthropocentrism places man at the centre and excludes it from its natural environment. Ecocentrism opposes

[19] Dzidzornu (n 18).
[20] The United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 397 (LOSC), preamble and part XII; *Case Concerning the Barcelona Traction, Light and Power Company, Limited (Belgium v. Spain)* (Judgement) ICJ Rep 1970, para 33; Alexander Gillespie, *International Environmental Law, Policy and Ethics* (Oxford University Press 2000); Vito De Lucia, 'Competing Narratives and Complex Genealogies: The Ecosystem Approach in International Environmental Law' (2015) 27 Journal of Environmental Law 91, 91.
[21] De Lucia (n 20), 99.

anthropocentrism, conceiving man as part of the natural world and advocating for an equal and reciprocal relationship between man and nature. Biocentrism also stands for the man in nature relationship as opposed to the separation of the two, but stresses the responsibility that humans have towards the protection of nature.[22] It is within more biocentric and ecocentric positions that a heightened responsibility towards the environment has also been able to be cultivated.

Importantly, to talk about an ecocentric or biocentric perspective is not to say that it is void of human interaction. On the contrary, both conceptions still aims to value natural elements based on what is more convenient to humans, but not only, as they also include the interests of natural elements. In fact, both biocentrism and ecocentrism place importance on humanity as a species interconnected and interdependent on the environment, rather than separate and with power over nature as a market resource. In other words, they strive for a common perspective based on the sustainability for reproduction of life on the planet, taking into consideration, and striking a balance between, the necessary environmental and ecological conditions as well as the economic anthropogenic activity fostered by anthropocentrism — though to a lesser extreme.[23]

Indeed, the ethical evolution of natural and social sciences, hand in hand with development of modern environmental law and the undeniable human impact on the environment, turned the attention towards protecting the environment in a specific and focused manner, as visible for instance in the creation of the right to a healthy environment. This was originally alluded to in the 1972 Stockholm Declaration and has been recognized through the creation of several international instruments since then.[24] The creation of the right to an healthy environment, for instance, highlighted the importance of exploring which norms ought to be revised or included as to guarantee an ever-more comprehensive protection of nature and its elements such as the ocean, indeed limiting human-induced effects.

As highlighted thus far, the principal objective of the law of the sea was traditionally the use of the oceans, rather than the protection thereof.[25] However, there has been a growing consensus that the protection of the marine environment, and thus the entirety of the ocean, ought to be a common interest of the international community as a whole.[26] A shift towards a view of the marine environment whereby humanity is seen as being part of the natural world

[22] Vicente Giménez (n 13), 11.
[23] I owe this clarification to Professor Sebastián Castro Toro of the University of Antioquia, Medellín.
[24] Gloria Amparo Rodríguez, 'La consagración de los derechos ambientales en las constituciones políticas de Colombia, Ecuador y Bolivia', in Gloria Amparo Rodríguez and Ivan Andres Páez (eds) *Temas de derecho ambiental: una mirada desde lo público* (Universidad del Rosario, 2012) 6; Sánchez Zapata (n 13), 94.
[25] Tanaka (n 3), 13.
[26] Tanaka (n 3), 253.

rather than separate from it, and most importantly, hereby the different areas of the ocean are seen as interwoven and connected. This has led to notions as well as approaches permeating the debate on the appropriate framework of ocean protection and preservation, whereby the marine environment is seen as interconnected not only in itself but also in relation to the rest of the natural world, including humans. In fact, the ocean borderless nature leads to diverting from old paradigms and refocusing on different and new concepts.[27]

Therefore, this thesis aims to discuss the issue of the persistent conception of the ocean as a vast, remote, and fragmented entity, separated from human beings. This conception is indeed considered a problem in so far as it has resulted in an equally fragmented and sectoral legal treatment that fails to recognize the interconnectedness of the marine environment, and the extensive pressures human activities impose on it. It is an increasingly worrying problem given the increasing uses and activities carried out at sea, in both AWNJ and ABNJ.

The relationship between humans and the marine environment continues to shape its well-being, and the same can be said vice versa. In this regard, anthropocentrism, ecocentrism and biocentrism will serve as important lenses throughout the whole thesis as the analysis delves deeper into investigating the favourable characteristics of an integrated framework of ocean protection and preservation. The man-nature relationship becomes crucial in delimiting the allowable limits and extent of anthropogenic activity on marine ecosystems.[28] Evidently, the increasing awareness of the necessity of the ocean for the sake of humanity makes it difficult to separate the interdependence between human activities and its (good) functioning, thus highlighting the inevitable anthropocentric focus on the treatment and protection of the marine environment.[29]

Accordingly, the central research question that guided this thesis was: how do current international and regional frameworks of protection and preservation of the marine environment include an integrated framework of ocean protection? Alternatively, given the ocean's frequent fragmentation of its spaces and policies, to what extent do the current frameworks allow for an integrated ocean protection and preservation?

The research highlighted that the current international and regional legal frameworks show relevant legal and conceptual elements for the effective implementation of a more

[27] Wendy Watson-Wright and J Luis Valdés, 'Fragmented Governance of Our One Global Ocean', in International Ocean Institute - Canada (ed), *The Future of Ocean Governance and Capacity Development* (Brill 2019) 16; Elisabeth Mann Borgese, *The Oceanic circle: governing the seas as a global resource* (United Nations University Press 1998) 5-6.
[28] Dzidzornu (n 18).
[29] Dzidzornu (n 18).

integrated ocean protection, yet to be achieved. Thus, the current legal framework necessitates a new approach informed by ecocentric and biocentric conceptions of nature, where the ocean is evermore understood as interconnected not only within itself but also with humanity.

In this regard, the investigation was pursued through a twofold approach: first, Chapter 1 critically examines the strengths and weaknesses of the current legal frameworks governing ocean protection in both areas within national jurisdiction (AWNJ) in Chapter 1.1 and areas beyond national jurisdiction (ABNJ) in Chapter 1.2, assessing their capacity to foster an integrated approach. Second, Chapter 2 identifies and delves into various legal concepts and approaches present in current regional and international frameworks that, under a more biocentric perspective, may have the potential of serving as guiding notions to move beyond fragmented paradigms of ocean governance. Specifically, Chapter 2 focuses on: the ecosystem-based approach (henceforth referred to as 'EBA') in Section i, the ecosystem services framework in Section ii, area-based management tools (henceforth referred to as 'ABMTs') in Section iii, traditional ecological knowledge (henceforth referred to as 'TEK') in Section iv and, finally, the doctrine of environmental personhood in Section v. Notably, Chapter 2 explores the opportunities and limitations of implementing these concepts and approaches within existing legal doctrine. Finally, the conclusion synthesizes the findings from these chapters and outlines the strengths, limitations and future prospects of the desirable characteristics for the current framework to evolve into one that truly supports the integrated protection and preservation of the ocean and its biodiversity.

Chapter 1 The Current Legal Framework for Marine Protection and Preservation: Strengths and Limitations

Law of the sea falls into the broader category of international law. Therefore, it is characterized by the same sources of general international law as stated in article 38(1) of the Statute of the International Court of Justice.[30] These are subdivided into main sources — these being (a) international conventions and (b) customary international law — and subsidiary sources, which include (c) general principles of law, (d) judicial decisions and the teachings of the most highly qualified publicists.[31] However, when addressing the protection and preservation of the marine environment, it is not sufficient to look only at international law of the sea. Being part of public international law, law of the sea includes instruments from international environmental law, international criminal law and human rights law, given that environmental rights are also considered human rights.[32] This means that the body of law of the sea is highly multi-layered and pluralist in nature.

A greater focus on the protection of the marine environment came as a result of several oil spills accidents in the late 1960s, such as the Torrey Canyon oil spill on the southwest coast of the United Kingdom in 1967, which sparked the adoption of the 1969 International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties and, shortly after, the International Convention on Civil Liability for Oil Pollution Damage.[33] In fact, during the course of the 1960s, several national as well as multilateral legislative initiatives in terms of pollution control were put into place, with the effort of primarily the European Commission, as well as the United Nations Environmental Programme (henceforth referred to as 'UNEP') through its Regional Seas Programme, the United Nations Educational, Scientific and Cultural Organization (henceforth referred to as 'UNESCO') through its World Heritage Marine Programme and the International Maritime Organization (henceforth referred to as 'IMO') through its Regional Marine Emergency Response centres.[34]

[30] Statute of the International Court of Justice (adopted 26 June 1945, entered into force 24 October 1945) XV UNCIO 355 (ICJ Statute), article 38.
[31] ICJ Statute (n 30).
[32] *Mangouras v Spain* App no 12050/04 (ECtHR, 28 September 2010); Vasco Becker-Weinberg, 'Recognition of Maritime Environmental Crimes within International Law', in Froukje Maria Platjouw and Alla Pozdnakova (eds), *The Environmental Rule of Law for Oceans: Designing Legal Solutions* (Cambridge University Press 2023) 217.
[33] International Convention relating to the Intervention on the High Seas in cases of Oil Pollution Casualties (adopted 29 November 1969, entered into force 6 May 1975) 970 UNTS 211; International Convention on Civil Liability for Oil Pollution (adopted 29 November 1969, entered into force 19 June 1975) 973 UNTS 3; Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 1969 (adopted 27 November 1992, entered into force 30 May 1996) 1956 UNTS; Dräger Foundation (n 6), 47; Tanaka (n 3), 254.
[34] Dräger Foundation (n 6), 47.

Following this, in the 1970s and 1980s, several treaties concerning marine pollution were adopted. In this regard, it is worth mentioning the IMO 1973 International Convention for the Prevention of Pollution from Ships, which was later modified by its 1978 Protocol, and came to be known as MARPOL — one of the main international instrument governing pollution from ships.[35] Additionally, around the same time, various regional agreements were adopted to protect certain marine areas, even in ABNJ.[36] The Convention on the Conservation of Antarctic Marine Living Resources is an example of such regional high seas framework and will be analysed in Part 2 of this Chapter on ABNJ. Important are also the mentions to ocean sustainability and the overall recognition of the importance of the ocean for environmental protection in Chapter 17 of Agenda 21 of the 1992 Rio Declaration, the 2002 United Nations World Summit and, finally, part XII of the 1982 LOSC.[37] Although the LOSC came to be one of the most prominent instruments in the field, many multilayered and regional institutions support its work and have competences in, *inter alia*, fisheries, climate change, trade, and shipping.[38]

In fact, the multilayered and fragmented framework of ocean governance has been described as being part of an 'institutional schizophrenia'.[39] It is estimated that the ocean is governed by around 600 bilateral and multilateral environmental agreements, on top of which several national instruments across numerous ministries cover some aspects of ocean management and regulation.[40] Just within the United Nations (henceforth referred to as 'UN') skeleton, there are three organizations that are ocean-centred — this being the Intergovernmental Oceanographic Commission of the UNESCO, the IMO for shipping, and the International Seabed Authority for marine mining — and several others which have broader

[35] International Convention for the Prevention of Pollution from Ships as modified by the Protocol of 1978 (adopted 17 February 1978, entered into force 2 October 1983) (MARPOL 73/78); Vaughan Lowe and Stefan Talmon, *The Legal Order of the Oceans: Basic Documents on the Law of the Sea* (Hart Publishing 2009) 105; Tanaka (n 3), 254.
[36] Tanaka (n 3), 254.
[37] Biliana Cicin-Sain, 'Earth summit implementation: progress since Rio' (1996) 20(2) Marine Policy 123; Yi-Che Shih and others, 'The Development of Ocean Governance for Marine Environment Protection: Current Legal System in Taiwan' (2023) 10 Frontiers in Marine Science 1, 5.
[38] Seline Trevisanut, Nikolaos Giannopoulos and Rozemarijn Roland Holst, 'Introduction: Regime Interaction in Ocean Governance', in Seline Trevisanut, Nikolaos Giannopoulos and Rozemarijn Roland Holst (eds) *Regime Interaction in Ocean Governance* (Brill, 2020) 1; Margaret A Young, 'Strengthening Capacity in Ocean Governance' (2023) 8 Asia-Pacific Journal of Ocean Law and Policy 5, 6; Watson-Wright and Valdés (n 27).
[39] Nilufer Oral, 'The Institutional Schizophrenia of Ocean Governance through the Lens of the Conservation of Biological Diversity in Areas Beyond National Jurisdiction', in Seline Trevisanut, Nikolaos Giannopoulos and Rozemarijn Roland Holst (eds) *Regime Interaction in Ocean Governance* (Brill, 2020) 52; Young (n 38), 10.
[40] IOC/UNESCO, IMO, FAO, UNDP, 'A Blueprint for Ocean and Coastal Sustainability: An Interagency Report on the Preparation for the UN Conference on Sustainable Development' (Paris: IOC/UNESCO, 2011), 22 <https://sustainabledevelopment.un.org/content/documents/792ocean.pdf>; Watson-Wright and Valdés (n 27), 18.

mandates that also cover ocean affairs.[41] An example of the latter includes the UNEP and its Regional Seas Programme — a framework that will be further explored in Chapter 1.1 on AWNJ. Thus, in addition to international and national instruments, the ocean space is also seen as divided in the frameworks of regional organizations, usually centred around a subject or a given geographical zone, such as regional fisheries' management.[42] Ultimately, this creates a highly fragmented ocean governance.

Moving beyond strictly frameworks of ocean protection from pollution, one cannot speak about the protection and preservation of the marine environment without addressing the importance of the conservation of marine biological biodiversity, and the same can be said vice versa. Accordingly, article 2 of the 1992 Convention on Biological Diversity (henceforth referred to as 'CBD') defines 'biological diversity' as:

> "(…) the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."[43]

On one hand, from an anthropocentric view, biological biodiversity not only has a fundamental value to human life insofar as it provides the essential services for the economic prosperity of humans but also has an important scientific value for the storage of genetic material which informs us about evolutionary events on the planet.[44] This genetic material, in turn, may serve a commercial purpose especially in the pharmaceutical, cosmetic, food and energy sectors.[45] On the other hand, a more ecocentric perspective would stress that biological diversity not only plays an essential part in the functioning of the biosphere and the support for human and non-human life but also possesses its own ethical, cultural as well as aesthetic value, for the well-being of the natural world which includes the human species.[46] These views are in line with an

[41] Watson-Wright and Valdés (n 27), 18.
[42] Watson-Wright and Valdés (n 27), 18.
[43] United Nations Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79 (CBD) art 2.
[44] Tanaka (n 3), 312.
[45] Paul Oldham and others, *Valuing the Deep: Marine Genetic Resources in Areas Beyond National Jurisdiction* (Defra 2014); David Leary and others, 'Marine genetic resources: A review of scientific and commercial interest' (2009) 33(2) Marine Policy 183, 183; Elisa Morgera and others, 'Addressing the Ocean-Climate Nexus in the BBNJ Agreement: Strategic Environmental Assessments, Human Rights and Equity in Ocean Science' (2023) 38 The International Journal of Marine and Coastal Law 447, 452.
[46] Philippe Sands, 'International Law in the Field of Sustainable Development' (1994) 65(1) British Yearbook of International Law 303, 333; Michael Bowman, 'The Nature, Development and Philosophical Foundations of the

EBA and, given the importance of marine biodiversity for the general functioning of the marine environment, an increasing importance is also being placed on ABMTs such as marine protected areas (henceforth referred to as 'MPAs') and marine spatial planning (henceforth referred to as 'MSP'). Both the role of the EBA and ABMTs will be central to the investigation of Chapter 2 on the desired characteristics of an integrated framework of ocean protection.

Accordingly, this first Chapter aims to explore the current legal framework for the protection and preservation of the marine environment under international law of the sea in view of identifying its strengths and weaknesses in the portrayal of the ocean as one single and undivided ecosystem. However, given the highly fragmented nature of the body of law spanning over international, regional and subregional regimes as well as across different competence areas and actors, only a few selected instruments will be explored. In light of the separation of the ocean into areas within and beyond national jurisdiction, Chapter 1 will mirror such a legal construct. Whereby, Chapter 1.1 on areas within national jurisdiction will analyse, on an international level, the rules within the LOSC and the CBD and, regionally, it will dive into the interplay between the European Regional Seas Programme and the European Union (henceforth referred to as the 'EU') Marine Strategic Framework Directive (henceforth referred to as 'MSFD') in the context of the protection of the Mediterranean Sea. The LOSC and the CBD were both selected in view of their potential comprehensiveness in the field. While the regional framework for the Mediterranean Sea, although not the only recognized regional framework, was chosen for the interaction between EU law and the UNEP Regional Seas Programme, which brings together a varied array of actors as well as EU Members States and non-Member States – making it a highly geopolitical area. Whereas Chapter 1.2 on areas beyond national jurisdiction will focus on the international framework established under, partly, the LOSC but mostly the recently concluded Biodiversity Beyond National Jurisdiction Agreement (henceforth referred to as 'BBNJ'). The latter is significantly important given its recent adoption, and its ambitious and unprecedent goal of governing biodiversity in ABNJ. Chapter 1.2 will also explore the efficacy of some regional ABMTs, specifically focusing on the MPAs established under the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The Antarctic Commission was selected given its extensive work in the sustainable conservation of the region's marine living resources.

Biodiversity Concept in International Law', in Catherine Redgwell and Michael Bowman (eds), *International Law and the Conservation of Biological Diversity* (Kluwer, 1996) 15–21; Tanaka (n 3), 312-3.

Chapter 1.1. Areas Within National Jurisdiction (AWNT)

i. General Considerations

The development of the 1982 LOSC marked a significant shift in global perceptions and governance of the ocean. A heightened concern for the protection and preservation of the marine environment received scant attention in the predecessors of the 1982 LOSC, namely the 1958 and 1960 conventions. The late 1960s oil tanker incidents brought awareness to the lack of a comprehensive framework for the protection of the marine environment, sparking the adoption of the 1970 UN General Assembly Resolution 2750C (XXV) calling for a conference on the law of the sea in 1973.[47] Before the 1982 Convention, the ocean adhered to the 17th century principle of freedom of the seas, where Coastal States held jurisdiction over their territorial seas defined by cannonball range, and the rest of the ocean was open to indiscriminate navigation and use by States.[48] The development and eventual entry into force of the 1982 LOSC, two decades after the initial New York conference, revolutionized State perception of the ocean. It heightened awareness of the interconnectedness of marine ecosystems and spurred a duty of cooperation in preventing marine pollution.[49] Nevertheless, the 1982 LOSC maintained a traditional zonal approach, dividing oceanic space into jurisdictional zones with associated rights.

Notably, the 1982 LOSC is considered the most important treaty in international law of the sea. The convention includes several provisions that have been characterized as established rules of customary law.[50] At the same time, the LOSC also makes reference to "generally accepted international rules and standards", which can be found in specific treaties relating to the marine environment.[51] Accordingly, the Convention must be read in light of these other agreements, as well as the subsequently adopted 1994 Implementation Agreement regarding the Area, the 1995 Fish Stocks Agreement and the recently adopted 2023 BBNJ. Importantly, the Convention is often referred to as a framework convention, as it includes broad and general commitments and principles for States Parties, allowing their discretion in setting specific commitments and subsequent regional and national legislation in their local regimes.[52] It affords such discretion also to the so called 'competent international organizations' which are

[47] Tanaka (n 3), 26.
[48] International Relations and Defence Committee, 'UNCLOS: The Law of the Sea in the 21st Century' (House of Lords 2022) 2nd Report of Session 2021–22, 7.
[49] Becker-Weinberg (n 32), 211.
[50] Tanaka (n 3), 13.
[51] For instance, amongst others, LOSC (n 20), articles 21(2), 39(2), 41(3), 53(8) and 60(3).
[52] International Relations and Defence Committee (n 48), 8.

considered important institutions in the realm, charged with the competence to develop standards, regulations, and treaties in specific areas. For instance, these include, *inter alia*, the IMO, in regard to shipping, and the UN Food and Agriculture Organization, when it comes to fishing regulation.

Given its comprehensiveness and importance in the field, as well as its framework nature, the LOSC is often referred to as the 'constitution of the oceans.'[53] However, this is contentious insofar as the term 'constitution' would seem to imply an unamendable and fixed nature, contrary to the conception of the LOSC as a framework convention. Also, the LOSC has come to include several rules from treaties concluded after the adoption of the convention, such as the ones enshrined in its Implementation Agreements and other multilateral and bilateral instruments which regulate the marine environment. These instruments and Implementation Agreements aim to complement its legal lacunas; these lacunas, and the rules that have been implemented in an effort to contrast them, will be identified and discussed in the following paragraphs as the investigation delves deeper into the current system of marine protection and preservation under the LOSC. On top of that, since 1984, the UN Secretary General has been charged with the role of submitting a yearly report to the UN General Assembly on the law of the sea providing the most relevant ocean issues of concern to the international community.[54] This would seem to suggest, on the one hand, the flexible and welcoming nature of the text in light of new and unprecedented concerns relating to marine issues; characteristics which are also representative of the whole field of international law of the sea. On the other hand, the flexible nature of the LOSC may tend to foster legal uncertainty in an already fragmented body of law. Indeed, these are some examples of the double-edged sword offered by the instrument, pointing out some strengths and weaknesses that will be further explored below.

Continuing, the first tribute to the conservation of biological diversity by the international community was in the 1972 Stockholm Declaration. This Declaration triggered the drafting of many other treaties in relation to the conservation of biological diversity, especially principle 2 establishing the duty of protection of natural resources for the benefit of present and future generations, and principle 4 enshrining the specific obligation of humans to

[53] Up to date, 169 states have ratified the LOSC, including 164 United Nations Member States, a United Nations Observer State (Palestine) and the European Union.
[54] Yi-Che and others (n 37), 6.

protect such resources in balance with economic development.[55] Two rather anthropocentric focused principles of conservation, even if they mention more biocentric notions of a human duty and responsibility to protect. Importantly, principle 7 states the obligation to prevent pollution at sea to avoid harm to marine resources which is then reinforced by principle 22 establishing the duty of cooperation in the creation of rules on liability and compensation for marine pollution, both within and beyond national jurisdiction.[56] Notably, these two principles enshrine the connection and interplay of the conservation of marine biodiversity and the protection of the marine environment. On top of that, they nurture the interconnectivity of the ocean itself and with human beings, specifically in their role as protectors of the marine environment from pollution.

Twenty years later, in 1992, the UN Conference on Environment and Development convened to adopt the Rio Declaration and its Agenda 21. This outlines coastal states' responsibility (together with international organizations) to "undertake measures to maintain biological diversity and productivity of marine species and habitats under national jurisdiction."[57] Notably, the 1992 Rio Declaration set the ground for the adoption of the CBD in the same year, creating the most important biological biodiversity conservation convention up to this day.[58]

Turning towards the regional efforts, Section ii of this Part 1 will focus on the Mediterranean Sea as an example of a regional framework for environmental protection in AWNJ. Since the 1970s, several efforts have been adopted at European level for the protection and preservation of the Mediterranean Sea. Originally, environmental policy in the Mediterranean Sea was highly characterized by a sectoral nature, whereby each piece of legislation would address a particular problem separately leading to a governance composed of an extensive range of policies, private initiatives and regulations on different levels.[59] In this regard, the EU has played an important role in the adoption of directives, regulations, and other

[55] UNGA 'United Nations Conference on the Human Environment' (15 December 1972) UN Doc A/RES/2994 (Stockholm Declaration), principles 2 and 4; Patricia W Birnie and Alan Boyle, *Basic Documents on International Law and Environment* (Oxford University Press, 1995) 1.
[56] Stockholm Declaration (n 55), principle 7 and 22.
[57] UNGA 'Report of the United Nations Conference on Environment and Development' (12 August 1992) UN Doc A/CONF.151/26 (Vol I) (Rio Declaration), para 17.7.
[58] Yi-Che and others (n 37), 5.
[59] Laurence D Mee and others, 'How Good Is Good? Human Values and Europe's Proposed Marine Strategy Directive' (2008) 56 Marine Pollution Bulletin 187; Suzanne J Boyes and Michael Elliott, 'Marine Legislation – the Ultimate "Horrendogram": International Law, European Directives & National Implementation' (2014) 86 Marine Pollution Bulletin 39, 40; Jan van Tatenhove, 'How to Turn the Tide: Developing Legitimate Marine Governance Arrangements at the Level of the Regional Seas' (2013) 71 Ocean & Coastal Management 296; Astrid Hendriksen and others, 'Fishing for Opinions: Stakeholder Views on MSFD Implementation in European Seas' (2014) 50 Marine Policy 353, 353.

instruments which have had an important effect on the overall regional development of marine policy and general uniformity of the law.[60] In fact, in an attempt to remedy the shortcomings of sectoral environmental policy, the EU has developed a more holistic approach to marine protection through the adoption of several directives under the auspices of their Integrated Maritime Planning policy.[61]

One of these holistic directives is the 2008 MSFD and its commitment towards the adoption of an EBA to marine protection.[62] This Directive is characterized as the environmental pillar of the EU Integrated Maritime policy and outlines a framework for a sustainable management of the marine environment, having as its initial aim the achievement of 'good environmental status' (or 'GES').[63] Being a framework directive, the MSFD leaves discretion to the Member States as to how the policy ought to be transposed into national legislation in terms of the choice of means to achieve the prescribed goals, in order to give proper redress to each country's characteristics.[64] However, it does prescribe some procedural and due regard obligations, including the development of national strategies to achieve GES and ensuring the overall marine sustainability at the subregional and regional level.[65] Specifically, Member States have to provide initial assessments of their marine waters, monitoring programs for the achievement of GES, and national programmes of measures, to be implemented, monitored, reviewed and adapted every six years.[66]

Additionally, it is rather difficult to speak about marine environmental protection in the Mediterranean without also addressing the role of the UNEP Regional Seas Programme. At

[60] Raoul Beunen, Wim van der Knaap and Robbert Biesbroek, 'Implementation and Integration of EU Environmental Directives. Experiences from the Netherlands' (2009) 19 Environmental Policy and Governance 57; Boyes and Elliott (n 59), 39.
[61] Sabine E Apitz and others, 'European Environmental Management: Moving to an Ecosystem Approach' (2006) 2 Integrated Environmental Assessment and Management 80; Alison R Holt and others, 'Mismatches between Legislative Frameworks and Benefits Restrict the Implementation of the Ecosystem Approach in Coastal Environments' (2011) 434 Marine Ecology Progress Series 213; Boyes and Elliott (n 59).
[62] Luc van Hoof, Astrid Hendriksen and Helen J Bloomfield, 'Sometimes You Cannot Make It on Your Own; Drivers and Scenarios for Regional Cooperation in Implementing the EU Marine Strategy Framework Directive' (2014) 50 Marine Policy 339, 339.
[63] Angel Borja and others, 'Good Environmental Status of Marine Ecosystems: What Is It and How Do We Know When We Have Attained It?' (2013) 76 Marine Pollution Bulletin 16; Angel Borja and others, 'Marine Management – towards an Integrated Implementation of the European Marine Strategy Framework and the Water Framework Directives' (2010) 60 Marine Pollution Bulletin 2175; Daniel Hering and others, 'The European Water Framework Directive at the Age of 10: A Critical Review of the Achievements with Recommendations for the Future' (2010) 408 Science of The Total Environment 4007; Boyes and Elliott (n 59), 41.
[64] Lawrence Juda, 'The European Union and the Marine Strategy Framework Directive: Continuing the Development of European Ocean Use Management' (2010) 41 Ocean Development & International Law 34, 36; Boyes and Elliott (n 59), 40-1.
[65] Juda (n 64), 38.
[66] Chiara Maggi and others, 'Integrated Chemical Status of the Italian Marine Waters Sensu Descriptor 8 of the Marine Strategy Framework Directive' (2022) 9 Frontiers in Marine Science 1, 2.

the regional level, Regional Sea Conventions establish important protocols and action plans for the protection of the seas; originally aimed at combating pollution but evolving to encompass an EBA for the protection of the marine environment.[67] These are the Barcelona Convention for the Mediterranean Sea, the Bucharest Convention for the Black Sea, the Helsinki Convention (HELCOM) for the Baltic Sea and the OSPAR Convention for the North-East Atlantic region – with HELCOM and OSPAR jointly governing the convergence point between the Baltic and the Wider Atlantic.

For the Mediterranean Sea, the 1978 Barcelona Convention was first conceived as an attempt to combat the region's marine pollution.[68] It does so by providing the legal obligations of States Parties to it, while at the same time outlying legal grounds and institutional arrangements for its enforcement.[69] Notably, it created the Mediterranean Sea Action Plan with the ambitious aim of achieving sustainable development of the Mediterranean Sea, and has been recognized regionally by all the 21 coastal Mediterranean States and the EU under the UNEP.[70] Thus, the framework of marine protection under the EBA for the Mediterranean Sea is closely linked to both the Barcelona Convention and the subsequently established MSFD.[71] The aim of Section iii is precisely to analyse the efficiency of the protection established under such interaction in view of conceiving and treating the marine environment as an undivided and integrated ecosystem, and as interdependent with the human activities at play in the area.

Indeed, both Sections ii and iii analyse the strengths and weaknesses of the frameworks for protection and conservation of the marine environment in AWNJ in achieving an integrated regime for ocean protection. First, on the international level, Section ii focuses on the LOSC and the CBD and then, Section iii, turns to the evaluation of the regional framework of ocean protection and preservation under the Mediterranean Sea regime informed by the UNEP Barcelona Convention and the EU MSFD.

[67] UN Environment, 'Regional Seas Programme' (*UNEP*, 2023).
[68] Suh-Yong Chung, 'Is the Convention-Protocol Approach Appropriate for Addressing Regional Marine Pollution: The Barcelona Convention System Revisited' (2004) 13 Penn State Environmental Law Review 85, 85.
[69] Chung (n 68), 88.
[70] Jesper Raakjaer and others, 'Ecosystem-Based Marine Management in European Regional Seas Calls for Nested Governance Structures and Coordination—a Policy Brief' (2014) 50 Marine Policy 373, 379.
[71] United Nations Environment Programme, 'Mediterranean Action Plan. Applying the Ecosystem Approach in the Mediterranean' (2007); Judith van Leeuwen, Luc van Hoof and Jan van Tatenhove, 'Institutional Ambiguity in Implementing the European Union Marine Strategy Framework Directive' (2012) 36 Marine Policy 636, 640.

ii. International Level

Part XII of the 1982 LOSC deals with the protection and preservation of the marine environment and brought about important fundamental changes to the international framework; codifying much of what was considered soft law into hard law. Firstly, it included the notion of prevention, rather than reaction. Or, as scholar Yoshifumi Tanaka puts it, it reflected "a paradigm shift in the international law of the marine environment from the freedom to pollute to an obligation to prevent pollution."[72] It allowed for less focus to be placed on the discretion of States in governing the realm of the sea. This shift is enshrined in article 192 which states the general obligation of States to protect and preserve the marine environment.[73] Thus, an important point of analysis of the instrument's potential in achieving an integrated framework of ocean protection is: considering the discretion given to States Parties, to what extent did the 1982 LOSC create an integrated regime for the protection and preservation of the marine environment?

Arguably, much of the successes associated with the 1982 LOSC are attributed to States' discretion, visible already from its early negotiation stages. The negotiations were carried out with a focus on consensus decision-making; a characteristic that came to be known as central to the development of the Convention as well as of the whole body of law.[74] Much of this development is also owed to the framework nature of the Convention, which allows rules and regulations from States and non-State actors to permeate the body of law without the need to amend the LOSC itself — thus making the Convention a so-called 'living treaty'.[75] On top of that, the negotiations also brought together a varied spectrum of actors, including developed and developing States, as well as non-State actors with expert knowledge in the field.[76]

Nonetheless, the trade-offs made to reach a consensus-based decision-making during the LOSC negotiations have also weakened its enforcement. International law of the sea, alike

[72] Tanaka (n 3), 264.
[73] LOSC (n 20), art 192.
[74] Professor James Harrison, 'UNCLOS: Fit for purpose in the 21st century?' (House of Lords: International Relations and Defence Committee Written Evidence No UNC0010, 2022) < https://committees.parliament.uk/writtenevidence/40763/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 15.
[75] Sir Michael Wood, 'UNCLOS: Fit for purpose in the 21st century?' (House of Lords: International Relations and Defence Committee Written Evidence No UNC0009, 2022) < https://committees.parliament.uk/writtenevidence/40742/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 15.
[76] Professor Edwin Egede, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0006, 2022) <https://committees.parliament.uk/writtenevidence/40736/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 15.

the rest of international law, is characterized by the exclusive sovereignty of States which manifests itself, firstly, in the ability of States to freely decide whether to enter into international agreements — as for instance illustrated by the continuous refusal of the United States of America to ratify the LOSC.[77] This, in turn, tends to lead to "diluted, ambiguous and hortatory commitments."[78] Second, exclusive sovereignty also results in the discretion of States in interpreting and implementing treaty obligations in their domestic regimes, which often leads to weaker commitments in the case of public goods such as the ocean.[79] While this discretion is also typically referred to as 'constructive ambiguity', it can also lead to 'destructive ambiguity', leading to a weak compliance pull, the incentive to frame commitments in a self-interested manner which is prejudicial to the international community, as well as overall deliberately vague and ambiguous international agreements.[80]

Indeed, the consensus-based decision-making characteristic of the LOSC negotiations has also led to paramount sacrifices for the adoption of the text. In fact, as most international ocean management treaties, the LOSC also aimed to strike a balance between strong commitments and the need for widespread ratification.[81] Even though it is often known for its success in achieving an extensive ocean management treaty in the span of 20 years, most of the convention did not initially receive widespread support from most maritime powers until the 1994 Implementation Agreement on the Area, which rewrote most part XI of the Convention specifically impacting the fair and equitable sharing of deep seabed resources.[82]

[77] Mark A Pollack, 'Who Supports International Law, and Why: The United Stats, the European Union, and the International Legal Order' (2015) 13 International journal of Constitutional Law 873, 878-9; Josh Martin, 'A Transnational Law of the Sea' (2021) 21 Chicago Journal of International Law 419, 432.

[78] Margaret P Karns, Karen A Mingst and Kendall W Stiles, *International Organizations: The Politics and Processes of Global Governance* (3rd edn, Lynne Rienner Publishers, Inc. 2015) 27; George W Downs, David M Rocke and Peter N Barsoom, 'Is the Good News About Compliance Good News About Cooperation?' (1996) 50 International Organization 379, 392-95; Scott Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making* (1st edn, Oxford University Press 2006) 11; Martin (n 77).

[79] Robin Churchill, 'The Persisting Problem of Non- Compliance with the Law of the Sea Convention: Disorder in the Oceans' (2012) 27 International Journal of Marine and Coastal Law 813; Martin (n 77), 433.

[80] Italy Fischhendler, 'When Ambiguity in Treaty Design Becomes Destructive: A Study of Transboundary Water' (2008) 8 Global Environmental Politics 111; Susanne Therese Hansen, 'Taking Ambiguity Seriously: Explaining the Indeterminacy of the European Union Conventional Arms Export Control Regime' (2016) 22 European Journal of International Relations 192; Martin (n 77), 436.

[81] High Seas Task Force, 'Closing the net: Stopping illegal fishing on the high seas' (Governments of Australia, Canada, Chile, Namibia, New Zealand, and the United Kingdom, WWF, IUCN and the Earth Institute at Columbia University 2006), 44-5 <https://perma.cc/DJW6-2RCX> accessed on 20 June 2024; Martin (n 77), 433.

[82] Bernard H Oxman, 'Law of the Sea Forum: The 1994 Agreement on Implementation of the Seabed Provisions of the Convention on the Law of the Sea' (1994) 88 American Journal of International Law 687, 687-8; Allen G Kirton and Stephen C Vasciannie, 'Deep Seabed Mining Under the Law of the Sea Convention and the Implementation Agreement: Developing Country Perspectives' (2002) 51 Social and Economic Studies 63, 67–68; Martin (n 77), 433.

An Implementation Agreement that was mostly pushed by the United States of America as a trade-off in order for them to ratify the LOSC, a promise that has yet to realize.

Interestingly, however, article 192 of the LOSC stating the general obligation to protect and preserve the marine environment makes no specific reference to 'States Parties' and instead just mentions 'States', suggesting that the obligation falls upon *all States*.[83] Something that seems to oppose the consensus-based decision-making nature of the convention. Moreover, the term 'marine environment' refers to the ocean as a whole and makes no distinction between AWNJ and ABNJ — as the conventions seems to do in the other chapters —, implying that the obligation covers the *entirety of the ocean*. The pre-emptive nature of the framework is further emphasized by article 194(1) which instructs States to take "all measures consistent with this Convention that are necessary to *prevent* [emphasis added], reduce and control pollution of the marine environment." [84]

On a further positive note, an important change brought about by part XII was the codification of different categories of pollution. The LOSC regulates marine pollution through a system of four overarching categories of pollution: (a) land-based marine pollution in articles 207 and 212; (b) dumping at sea in article 210; (c) pollution from seabed activities in articles 208 and 209; and (d) vessel-source marine pollution in article 211. This was a step forward for a more integrated and comprehensive approach to ocean-management, acknowledging the different and cumulative effects at play on the ocean space.

The first category includes both (a) land-based marine pollution found within article 207 and pollution from and through the atmosphere found within article 212. Accordingly, estimates point towards the fact that land-based and air pollution contribute to around 80% of marine pollution — the highest percentage amongst pollution sources — and include discharges from agricultural and industrial sources transported mainly by rivers and underwater pipes as well as via the atmosphere.[85] This type of pollution is the most concerning consequence of anthropogenic pressures on the environment, showing the imbalance between the growth of human population and industrial activities and the limited adaptability of the

[83] This may be due to the wide acceptance of the Convention; Myron H Nordquist and others (eds), *United Nations Convention on the Law of the Sea 1982, Volume IV* (Springer 1985) 36 et seq; Alan Boyle and Catherine Redgwell, *Birnie, Boyle, and Redgwell's International Law and the Environment* (4th edn, Oxford University Press 2021) 387; Philippe Sands, *Principles of International Environmental Law* (Cambridge University Press 2003) 396; Tanaka (n 3), 264.
[84] LOSC (n 20), art 194(1).
[85] Martin R Preston, 'The Interchange of Pollutants Between the Atmosphere and Oceans' (1992) 24 Marine Pollution Bulletin 477; Report of the Secretary-General, 'Oceans and the Law of the Sea' (2004) UN Doc A/59/62/Add.1, para 97; Tanaka (n 3), 256; Dzidzornu (n 18), 92.

marine environment towards the wastes produced.[86] Adding to the big impact of land-based pollution is the exponential increase of population in coastal areas, whereby approximately 40% of the world's population lives within 100 km of the coast, making this type of pollution a growing concern.[87] For instance, a concern that has materialized with the creation of a new and unprecedented type of migration, this being environmentally-displaced people, estimating that, by 2050, more than 200 million people will be displaced due to climate change impacts.[88]

Another concern of land-based marine pollution is the knowledge gaps in regard to the ocean-climate nexus. Given that land-based pollution also includes atmospheric pollution, the Advisory Committee on the Protection of the Sea, amongst other actors, was clear in pointing out that it ought to include greenhouse gas emissions.[89] However, global rules on the matter are mostly in the form of non-binding instruments and the LOSC only assumes weak commitments, leaving much discretion to States.[90] One of the causes of such is the fact that much of international law of the sea initially developed apart from the climate change regime, even though these two are very much connected — hence the word *nexus*. Arguably, in the forming years of the 1982 LOSC negotiations, climate change had not yet been fully understood and comprehended, and much less its impacts on the ocean.[91] However, this perception is changing, as evident in the incorporation at Conference of Parties 26 and Conference of Parties 27 of the ocean into the UN Framework Convention on Climate Change.[92] Nonetheless, bigger and more legally binding commitments will have to be put in place in order to effectively tackle the negative impacts in the interaction between climate

[86] Tanaka (n 3), 257.
[87] Tanaka (n 3), 257.
[88] For more information on the matter see: Maria Marques, Vittoria Moccia and Susana Brazão, 'Climate-Induced Displacement: Some Reflections on Contemporary Debates' (*NOVA Refugee Clinic Blog*, 27 October 2023) <https://novarefugeelegalclinic.novalaw.unl.pt/?blog_post=climate-induced-displacement-some-reflections-on-contemporary-debates> accessed 28 February 2024; Viviane Clement and others, 'Groundswell Part 2: Acting on Internal Climate Migration' (2021) The World Bank Working Paper <https://openknowledge.worldbank.org/entities/publication/2c9150df-52c3-58ed-9075-d78ea56c3267> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 37.
[89] Advisory Committee on the Protection of the Sea, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0017, 2022) <https://committees.parliament.uk/writtenevidence/40828/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 38.
[90] Professor James Harrison (n 74); International Relations and Defence Committee (n 48), 38.
[91] International Relations and Defense Committee, 'UNCLOS: Fit for purpose in the 21st century?' (House of Lords: International Relations and Defense Committee, Corrected Oral Evidence 2021), Q 60 <https://committees.parliament.uk/oralevidence/3063/html/> accessed on 20 June 2024; Ocean Law Specialist Group, World Commission for Environmental Law and International Union for Conservation of Nature, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0042, 2021) <https://committees.parliament.uk/writtenevidence/40883/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 34.
[92] International Relations and Defense Committee, Corrected Oral Evidence (n 91), Q 80; International Relations and Defence Committee (n 48), 39.

change and ocean management. Only time will tell whether future UN Framework Convention on Climate Change Conference of Parties will do a good job in increasingly promoting the interconnection between anthropogenic uses and the ocean through the ocean-climate nexus.

The second type of pollution of part XII of the LOSC is (b) dumping at sea, which was included in article 210 following the popularity of the activity as a way of disposing of land-based waste during the 1950s and 1960s.[93] Apart from the 1982 LOSC, instruments such as the 1972 International Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter, and its subsequent amendment by its 1996 London Protocol, are important for the regulation of the international framework governing dumping at sea.[94] Part XII also came to include (c) pollution from seabed activities. Article 208 governs pollution from seabed activities under national jurisdiction and article 209 expands such protection in ABNJ, namely the Area. Special regard must be paid specifically to article 209, as it exemplified the growing concern towards activities carried out in ABNJ — which was arguably a big part of the rationale behind the creation and adoption of the 2023 BBNJ. Accordingly, the role of the International Seabed authority as the main authority for the regulation of activities in the Area is also becoming increasingly relevant.[95] These and other related aspects will be further explored in Chapter 1.2 on ABNJ.

Lastly, (d) vessel-based pollution is enshrined in article 211 of the LOSC. Remarkably, the category of vessel-source marine pollution was a whole new category of pollution, which was a clear legacy of the 1978 MARPOL. In fact, both the LOSC and MARPOL are considered the two main instruments governing the regulation of vessel-source pollution. Importantly, the regulation of pollution from ships in part XII expanded State responsibility to include more actors. For instance, article 211 mentions 'the competent international organization', which in this case refers to the increasing role of the IMO in the prevention of vessel-source pollution. Moreover, before 1982 the burden for the prevention of marine pollution was primarily on Coastal States, however after the conclusion of part XII and the expansion of actors at play, Flag State and Port State responsibility were also included.[96] Flag State responsibility will be of particular importance in the discussion of Chapter 1.2 on the enforceability of marine protection in the high seas.

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[93] Tanaka (n 3), 259.
[94] 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (entered into force 24 March 2006) <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/PROTOCOLAmended2006.pdf > accessed 28 February 2024.
[95] Tanaka (n 3), 260.
[96] LOSC (n 20), arts 218 and 219.

Notably, owing to the transboundary nature of marine pollution and the increasing number of actors at sea, part XII paid particular attention to the role of international cooperation, as undoubtedly marine pollution cannot be prevented, controlled nor reduced by a single State nor actor. This cooperation is made explicit in both article 197, which makes reference to terms such as 'global basis' and 'regional basis', as well as article 198 which imposes the obligation to immediately notify other States and the competent international organization (once again the IMO) in case of imminent damage to the marine environment.[97] An obligation to cooperate is furthered exemplified in the provisions governing physical investigation of foreign vessels (article 226(2)), the rules on responsibility and liability (article 235(3)), as well as in the provisions relating to each specific type of marine pollution in articles 207(4), 208(5), 210(4), 211(1) and 212(3). Notably, the importance of international cooperation was underlined as a fundamental principle of the part XII framework of prevention by the International Tribunal for the Law of the Sea in the 2001 MOX Plant case.[98]

Nonetheless, although initially comprehensive and universal in nature, the LOSC also brought about significant fragmentation of the law of the sea. Although already from the Preamble the convention states that "problems of ocean space are closely interrelated and need to be addressed as a whole", the current ocean governance is abundantly sectoral, aimed at managing and regulating large industries and activities with rules stemming from several entities.[99] On top of that, although the LOSC emphasized the interconnectedness of the ocean, it makes reference to 'oceans' in the plural, which weakens the overall ocean literacy and advocacy.[100] In fact, so long as the ocean is addressed in the plural, it will be difficult to acknowledge pollution that may not come from close by or where a direct link cannot be clearly established.[101]

It follows that, one of the direct causes of the fragmentation of international law of the sea is the traditional zonal approach established all throughout the 1982 LOSC. In this regard, if one looks at the nature of fluids, it is rather difficult to frame the ocean as different oceans.[102] Yet, despite the push to define the ocean as one, the convention decided to adopt a zonal

[97] Rules that can arguably already be considered customary international law; LOSC (n 20), arts 197 and 198; Alan Boyle, 'Marine Pollution under the Law of the Sea Convention' (1985) 79 American Journal of International Law 347, 369.
[98] *The MOX Plant Case (Ireland v United Kingdom)* (Provisional Measures, Order of 3 December 2001) ITLOS Reports 2001, para 82.
[99] Watson-Wright and Valdés (n 27), 16.
[100] Watson-Wright and Valdés (n 27), 17.
[101] Watson-Wright and Valdés (n 27), 17.
[102] Patricio Bernal, 'For the Ocean', in Geoff Holland and David Pugh (eds) *Troubled Waters: Ocean Science and Governance* (Cambridge University Press 2010) 14; Watson-Wright and Valdés (n 27), 17.

approach to the ocean space, in the name of convenience and ease of reference.[103] Similarly to the creation of the modern nation State and the concept of territorial sovereignty, scholar Josh Martin maintains that the conception of the division of the ocean into zones is a clear effect of 'Westphalianism' and the concept of sovereign territoriality. One of the results of the concept is the power given to States to claim certain property under their sovereignty, leading to the global allocation of ocean resources and resource zones.[104] This patchwork of different sovereign zones created equally different regulatory systems, which in turn resulted in the interaction between different transnational actors and their different regulatory schemes, causing what is known as forum-shopping – this being the practice of choosing the dispute settlement that has the most favourable regulations for the intended goal.[105] Overall, and most importantly, the individual and sovereign division of the ocean into jurisdiction zones takes the focus away from collective community action and joint responsibility — factors which are essential for a more integrated ecosystem approach to ocean protection and preservation, informed by more ecocentric notions of nature.

Furthermore, the nature of international law and the evermore increasing role of non-State actors, has led to substantial compliance and enforcement problems of the rules enshrined in part XII. Firstly, enforcement is a limitation of the whole body of international law, which lacks institutions to enforce rules and, if existent in the form of courts and tribunals, they are based upon State consent and willingness to comply.[106] For instance, in the realm of law of the sea, there have been cases where States have refused to resolve disputes through arbitration or to follow the award or judgement resulting from the respective dispute settlement, which threatens the overall stability of the framework.[107] More specifically, the framework nature of the LOSC also makes it as such that not all disputes have to necessarily be disputed, but they can simply be managed through, for instance, interim decisions.[108] Furthermore, the different fora from which States can choose to settle disputes can lead to forum shopping, resulting in

[103] Watson-Wright and Valdés (n 27), 17.
[104] Martin (n 77), 447.
[105] *M/V 'Saiga' (No 2) (Saint Vincent and the Grenadines v Guinea)* (Judgement of 1 July 199) ITLOS Reports 1999 10, 83; *M/V 'Virginia G' (Panama/Guinea-Bissau)* (Judgement of 14 April 2014) ITLOS Reports 2014 4, 112-3; *'Volga' (No 11) (Russian Federation v Australia)* (Judgement of 23 December 2002, Dissenting opinion of Judge ad hoc Shearer) 6 ITLOS Reports 66, 72; Stuart Kaye, 'A Zonal Approach to Maritime Regulation and Enforcement', in Robin Warner and Stuart Kayne (eds) *Routledge Handbook of Maritime Regulation and Enforcement* (Routledge 2016) 3; High Seas Task Force (n 81), 33-37; Martin (n 77), 447.
[106] Professor Andrew Serdy, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0004, 2021) <https://committees.parliament.uk/writtenevidence/40693/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 16.
[107] Professor James Harrison (n 74); International Relations and Defence Committee (n 48), 17.
[108] International Relations and Defence Committee (n 48), 17.

conflicting decisions and further fragmentation of the body of law.[109] Finally, the dispute settlement procedures provided by the LOSC do not foresee the interaction of non-State actors, which is problematic given their ever-more important role in law of the sea.[110] For instance, as evident as early as 1609 by the conflict between a Portuguese ship and the Dutch East India Company, and more recently by the role of international organizations like the IMO or the growing presence of corporations with competences in the field, for instance in the energy sector.

Before diving into the framework for biodiversity conservation established under the CBD, some attention must be paid to the rules found within the LOSC. This is because, although not explicitly governing conservation, the LOSC is believed to cover the rules for all activities in the ocean.[111] The rules on marine conservation are essential as it is believed that there are "accelerating levels of biodiversity loss in the marine environment."[112] In this regard, article 194 establishes the measures to prevent, reduce and control pollution of the marine environment, and also includes reference to an obligation to protect rare or fragile ecosystems both within and beyond national jurisdiction — further alluding to the connection between part XII and conservation matters.[113] Additionally, article 196 pays attention to the introduction of alien or new species with a view of protecting the marine environment and significant changes to it.

Although some provisions within part XII of LOSC relating to the duty of protection of the marine environment relate to conservation matters, there is no explicit rule found within the convention on the conservation of marine biological diversity per se. Additionally, the general obligation to protect and preserve the marine environment lacks a detailed mechanism in order to enforce it, especially with regard to the conservation of fragile, biodiverse and ecologically important areas of the ocean.[114] Arguably, this is the result of the traditional zonal

[109] Dr Massimo Lando and Dr Niccolò Ridi, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0041, 2021) <https://committees.parliament.uk/writtenevidence/40882/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 18.
[110] Professor Robin Churchill and Dr Jacques Hartmann, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0011, 2021) <https://committees.parliament.uk/writtenevidence/40805/html/> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 18.
[111] Western Central Atlantic Fishery Commission, 'Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) Treaty and Its Potential Implications for the Fisheries Sector' (FAO 2023) WECAFC/XIX/2023/7, 1.
[112] Ocean Law Specialist Group, World Commission for Environmental Law and International Union for Conservation of Nature (n 91); International Relations and Defence Committee (n 48), 44.
[113] LOSC (n 20), art 194(5).
[114] LOSC (n 20), art 192; Ocean Law Specialist Group, World Commission for Environmental Law and International Union for Conservation of Nature (n 91); Professor Robin Churchill and Dr Jacques Hartmann (n 110); 215; International Relations and Defence Committee (n 48), 44, 46.

management approach established all throughout the 1982 Convention.[115] Some have suggested that marine biological diversity could come to be included under the provisions governing the EEZ, specifically regarding natural resources in article 56(1)(a) and living resources in article 61, insofar as they constitute the variability among living organisms.[116] However, in the 1982 LOSC, there is no explicit obligation to conserve marine biological diversity in marine areas under the sovereignty of the States (internal waters, archipelagic waters and territorial sea), nor under areas with sovereign rights (the EEZ) and neither in ABNJ (the high seas and the Area).[117] To a certain extent, although much can be said about the framework of MPAs in AWNJ which is beyond the scope of this thesis, it suffices to say that, despite national efforts, MPAs cover less than 20% of AWNJ, whereby a very small fraction are exclusively no-take MPAs, and many of which are indeed not equal nor do they conserve biodiversity efficiently.[118]

Moving beyond the LOSC, the 1992 CBD was the first ever convention that explicitly governs the rules relating to conservation of biodiversity within national jurisdiction. Although the convention governs biological diversity as a whole, it also relates to the marine environment. The CBD aims at creating a marine legal order under which international communication is facilitated, as well as the promotion of the peaceful use of the ocean, equitable management and use of its resources (living and non-living), and the study, protection and preservation of the marine environment.[119] This ties in well with the overall rationale of part XII of LOSC, exemplifying once again the relation between the conservation of marine biodiversity and the overall protection and preservation of the ocean.

One of the important aspects of the CBD is, similar to the LOSC, its framework nature. In fact, it provides the parties to it with general provisions, which then necessitate further

[115] Tanaka (n 3), 4, 317.
[116] Tanaka (n 3), 317.
[117] Conservation in areas beyond national jurisdiction will be further explored in relation to the BBNJ, the role of the Authority and the section on MPAs; Tanaka (n 3), 317.
[118] Emily S Nocito and others, 'Applying Marine Protected Area Frameworks to Areas beyond National Jurisdiction' (2022) 14 Sustainability 1, 2; Greenpeace UK, 'Bringing UNCLOS into the 21st century through a more equitable, people and nature centered, climate change responsive Global Ocean Treaty' (Written evidence No UNC0025, 2021) <https://committees.parliament.uk/writtenevidence/40853/html/> accessed on 20 June 2024; The Pew Charitable Trust, 'UNCLOS: Fit for purpose in the 21st century?' (Written evidence No UNC0040, 2021) <https://committees.parliament.uk/writtenevidence/40881/html/> accessed on 20 June 2024; Sandra Díaz and others (eds), 'The global assessment report on biodiversity and ecosystem services. Summary for policymaker' (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services 2019) <https://files.ipbes.net/ipbes-web-prod-public-files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf> accessed on 20 June 2024; International Relations and Defence Committee (n 48), 45.
[119] Shih and others (n 37), 6.

national efforts in making them operational.[120] This allows the opportunity for States to adapt the rules to their own necessities and national characteristics. At the same time, it may lead to difficulties in upholding and implementing the standards of the Convention. In this regard, although the CBD involved several stakeholders and States in halting biodiversity loss, it had difficulties in implementation in its early stages.[121] Many have attributed this precisely to its framework nature and its lack of specific legal provisions.[122] Furthermore, adding to the difficulties is the fact that implementation at national level is abundantly influenced by political, sectoral, financial and institutional challenges including: (a) a lack of coherence between National Biodiversity Strategies and Action Plans, regulatory instruments and the CBD Strategic Plans; (b) a growing discretion and competencies afforded to transnational corporations; (c) a failure to include Indigenous issues; (d) a lack of knowledge and awareness in regard to biodiversity conservation; and (e) a failure to mainstream biodiversity across different sectors and actors.[123] These challenges will be discussed throughout the following paragraphs.

First, it was evident from the start that implementation of the CBD at national level required particular effort, with regard to a good level of technical, scientific, technological and human resources.[124] Keeping up with these standards was particularly hard for developing, non-Industrialized States and countries with transition economies, which lacked the institutional framework to implement the CBD agenda.[125] This is particularly concerning for

[120] Beatrice Chaytor, Richard Gerster and Theresa Herzog, 'The Convention on Biological Diversity—exploring the creation of a mediation mechanism' (2002) 5(2) Journal of World Intellectual Property 157; Alvin Chandra and Anastasiya Idrisova, 'Convention on Biological Diversity: A Review of National Challenges and Opportunities for Implementation' (2011) 20 Biodiversity and Conservation 3295, 3296.
[121] Chandra and Idrisova (n 120).
[122] Kal Raustiala, 'Domestic institutions and international regulatory cooperation: comparative responses to the Convention on Biological Diversity' (1997) 49(4) World Politics 482; Philippe G Le Prestre, *Governing Global Biodiversity - The Evolution and Implementation of the Convention on Biological Diversity* (Routledge 2002); Desiree M McGraw, 'The CBD—key characteristics and implications for implementation' (2002) 11(1) Review of European Community and International Environmental Law 17; Fikremarkos Merso Birhanu, 'Challenges and prospects of implementing the access and benefit sharing regime of the Convention on Biological Diversity in Africa: the case of Ethiopia' (2010) 10 International Environmental Agreements 249; Chandra and Idrisova (n 120).
[123] Thomas Brooks and others, 'Global biodiversity conservation priorities' (2006) 313(5783) Science 58; Georgina M Mace and Jonathan EM Baillie, 'The 2010 biodiversity indicators: challenges for science and policy' (2007) 6 Conservation Biology 1406; Josie Carwardine and others, 'Hitting the target and missing the point: target-based conservation planning in context' (2009) 2 Conservation Letters 3; Stuart R Harrop and Diana J Pritchard, 'A hard instrument goes soft: the implications of the Convention on Biological Diversity's current trajectory' (2011) 21(2) Global Environmental Change 474; Patrick ten Brink, *The economics of ecosystems and biodiversity in national and international policy making* (1st edn, Earthscan 2011); Chandra and Idrisova (n 120).
[124] Chandra and Idrisova (n 120), 3298.
[125] Secretariat of the Convention on Biological Diversity, 'Global Biodiversity Outlook 2' (Secretariat of the Convention on Biological Diversity 2006) <https://www.cbd.int/doc/gbo/gbo2/cbd-gbo2-en.pdf> accessed on 20 June 2024; Chandra and Idrisova (n 120), 3304.

the ocean as most Coastal States being impacted by environmental degradation are developing countries or countries with transition economies.

Another main constraint to the effective implementation of the CBD in AWNJ are the awareness, knowledge, and education gaps. Over 50% of the CBD national reports estimated a low level or even absence of public participation and awareness, together with a lack of knowledge and accessible information, which undermined the CBD implementation.[126] This absence is especially worrisome in light of the increasing marine biodiversity loss not being fully understood nor documented, which undermines national measures to comprehensively conserve and protect the components essential for the conservation and sustainable use of marine natural resources.[127] Some believed causes of these gaps have to do with the scarcity of scientific experts and expertise, national statistics, research, finance for research and educational programs as well as available technology.[128] Furthermore, the limited availability and access to information also stem from a limited community involvement and transparency as well as stakeholder participation, waking the overall political support and integration of biodiversity conservation into national decision-making.[129]

However, in regard to participation, an important and novel aspect of the CBD is the reference to traditional knowledge systems. The preamble stresses the interconnection between traditional knowledge of local and Indigenous communities and the biological diversity of their territories and lifestyle habits.[130] In practice, this is mirrored in the provisions on ecologically or biologically significant areas, which ought to include and incorporate traditional knowledge within territorial jurisdiction as a way to foster the proper functioning of the marine environment and the ecosystem services it provides.[131] The standards and guidelines to be incorporated in environmental impact assessments in the case of traditional knowledge were enshrined in the CBD Conference of Parties with the creation of the Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessment Regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and

[126] Secretariat of the Convention on Biological Diversity, 'Updated synthesis of information contained in third national report' (UNESCO 2007) UNEP/CBD/WG-RI/2/INF/1 <https://www.cbd.int/doc/meetings/wgri/wgri-02/information/wgri-02-inf-01-en.pdf> accessed on 20 June 2024; Chandra and Idrisova (n 120), 3305.
[127] Chandra and Idrisova (n 120), 3305.
[128] Chandra and Idrisova (n 120), 3306.
[129] CEEWeb, 'National Capacity Self-Assessment for global environmental management—Hungary' (Ministry of Environment 2005) <https://www.thegef.org/sites/default/files/ncsa-documents/544.pdf> accessed on 20 June 2024; Chandra and Idrisova (n 120), 3306.
[130] CBD (n 43), preamble.
[131] Clement Yow Mulalap and others, 'Traditional Knowledge and the BBNJ Instrument' (2020) 122 Marine Policy 1, 3.

on Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities.[132] The reference is furthered also in article 8 on *in situ* conservation, article 10 on sustainable use of components of biological diversity, and articles 17 and 18 on exchange of information and technical and scientific cooperation, respectively. A culture-environment nexus that has been characteristic of more ecocentric and biocentric philosophies of the environment. Whereas, in the 1982 LOSC, only article 51 pays a small tribute to traditional fishing rights, but nowhere else in the Convention is traditional knowledge acknowledged.

Arguably, the lack of mentions of traditional knowledge systems in the LOSC is related with the fact that no Indigenous community nor representative participated in the drafting of the text. After World War II, there was a push for economic development from all the international community — and from the UN agenda likewise — and traditional knowledge and lifestyle habits were considered obstacles in the way of economic progress.[133] This idea progressed also in the following years, and as a result communities were increasingly colonized under the rationale of economic progress, which according to some scholars led to an increasing amount of biodiversity and biocultural loss.[134] In this regard, the conclusion, and adoption of the CBD nurtured the necessary attitude needed for better socio-environmental justice and the overall sentiment of self-determination, and allowed for the establishment of a framework of preservation and conservation of the diversity of biological as well as cultural, traditional and Indigenous life.[135]

However, in practice, traditional knowledge is yet to be fully utilized and incorporated, even under the auspices of the CBD. Looking at several CBD national reports, there is a reported limited involvement of Indigenous and local communities, especially when it comes to decision-making and the establishment of biodiversity conservation programs. This seems to stem from a lack of commitment and practical assistance assigned towards cataloguing and registering traditional knowledge and practice, inadequate legislation failing to protect their intellectual rights and a lack of incentives to share and apply such knowledge in conservation

[132] Conference of the Parties to the Convention on Biological Diversity, 'Decision Adopted By The Conference Of The Parties To The Convention On Biological Diversity At Its Seventh Meeting' (UNEP 2004) UNEP/CBD/COP/DEC/VII/16 <https://www.cbd.int/doc/decisions/cop-07/cop-07-dec-16-en.pdf> accessed on 20 June 2024; Secretariat of the Convention on Biological Diversity, 'Traditional Knowledge and the Convention on Biological Diversity' <https://www.cbd.int/doc/publications/8j-brochure-en.pdf> accessed on 20 June 2024; Mulalap and others (n 131).

[133] UN Department of Economic Affairs, 'World Economic Report 1951-52' (April 1953) E/2353/Rev.1; Arturo Escobar, *Encountering development: The making and unmaking of the third world* (Princeton University Press 1995) 3; Valentina González-Morales, 'Derechos bioculturales: perspectiva filosófica' [2023] Naturaleza y Sociedad. Desafíos Medioambientales 117, 125.

[134] González-Morales (n 133).

[135] González-Morales (n 133).

matters.[136] Also, general engagement, cooperation, and communication with other interested groups is lacking. National reports point towards an absence of effective partnership and participation of the scientific community.[137] Among other aspects, this leads to a lack of technical cooperation and technology transfer, which is particularly problematic for developing States or States with transition economies.[138] In regard to the ocean, the involvement of Indigenous and local communities as well as the scientific community are essential in order to have accurate and appropriate knowledge on the best practices in terms of protection of the marine environment and conservation of living and non-living resources.

On a positive note, the CBD is the first ever text which makes an explicit mention of the intrinsic value of nature. The first paragraph of the preamble reads:

> "*Conscious* of the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components…"[139]

To further add upon the importance of biodiversity conservation, the preamble also defines it as a common concern of humankind — drawing a parallel with the principle of common heritage of mankind enshrined in article 136 of the LOSC.[140] Although this ecocentric recognition of the intrinsic value of biodiversity components was unprecedented in international law, unfortunately this idea is not further developed nor explored in the text of the legal instrument.[141] Rather, the values that seem to infer a more ecocentric perspective of nature in the preamble are later in the text instrumentalized to further anthropocentric attitudes, such as minimizing nature to the commercial value of its biological and genetic resources.[142] For instance, this is evident in the focus on the 'exploitation of natural resources' and their subsequent mechanisms of benefit sharing and funding for use and commercialization.[143]

Importantly, there is a scarcity of mainstreaming of biodiversity conservation into other sectors — failing in the pursuit of establishing a more integrated approach to ocean governance.

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[136] SEPA, 'Reports of national capacity self assessment for China's implementing international environmental conventions' (Environmental Science Press 2006); Chandra and Idrisova (n 120), 3306.
[137] Gerald A McBeath and Tse-Kang Leng, *Governance of biodiversity conservation in China and Taiwan: conflict between sustainable and economic development* (Edward Elgar Publishing 2006); Michel Oksenberg, *China joins the world* (Council on Foreign Relations 2007); Chandra and Idrisova (n 120), 3306.
[138] Chandra and Idrisova (n 120), 3309.
[139] CBD (n 43), preamble para 1.
[140] CBD (n 43), preamble para 3; LOSC (n 20), art 136.
[141] González-Morales (n 133).
[142] González-Morales (n 133), 126.
[143] CBD (n 43), art 3.

Mainstreaming aims at fostering the integration of biodiversity objectives into other sectors, especially the economic one, in order to influence policy and, thus, human behaviour.[144] However, much alike to the rest of environmental law and more specifically law of the sea, there are complex systems across several sectors such as agriculture, forestry, fisheries, and tourism, which overlap with the biodiversity conservation agenda.[145] Additionally, these sectors are also highly characterized by an economic rationale which tends to prioritize short-term economic benefits at the expense of long term ecosystems and environmental conservation and protection.[146] Therefore, the CBD's approach highlights the still highly sectoral and multi-layered nature of biodiversity conservation in AWNJ, failing to reconcile more integrated and holistic notions of the marine environment.

Ultimately, though both the LOSC and CBD have made unprecedented steps towards pushing for a comprehensive and holistic narrative of marine protection and preservation, this Section has highlighted their inefficiency in truly fostering and pursuing a more integrated approach. First, it looked at the framework under the 1982 LOSC and highlighted some of its strengths and its limitations. In hindsight, while the 1982 LOSC represented a significant achievement in adapting international law to new maritime challenges, its provisions continue to be subject to reinterpretation and adaptation in response to evolving environmental, economic, and geopolitical dynamics on the global stage. As debates persist over the equitable distribution of marine resources and the protection of vulnerable marine ecosystems, the LOSC continues to sponsor a highly fragmented ocean governance. Then, it turned towards the conservation of marine biodiversity and the 1992 CBD regime. Whereby, it explored its unprecedented and novel mentions to biocentric notions of the intrinsic value of biodiversity as well as the role of traditional knowledge as strengths of the instrument, and, at the same time, looked at its weak points regarding the furthering of these notions. Looking at the accelerating rate of biodiversity loss coupled with the weaknesses of the CBD regime, more must be done in order to reach a more integrated approach to ocean governance framed under more ecocentric perspectives of nature. The next Section will analyse regional frameworks of

[144] Global Environmental Facility, 'Biodiversity focal area strategy and strategic programming for GEF4' (2006) GEF Policy Paper <https://www.thegef.org/sites/default/files/council-meeting-documents/GEF_Policy_Focal_Area_Strategies_GEF4.pdf> accessed on 20 June 2024; Chandra and Idrisova (n 120), 3310.

[145] United Nations Environment Programme World Conservation Monitoring Centre, 'Preconditions for harmonization of reporting to biodiversity-related multilateral environmental agreements' (2009) United Nations Environment Programme World Conservation Monitoring Centre <https://www.cbd.int/cooperation/preconditions-harmonization-unep-wcmc-en.pdf> accessed on 20 June 2024; Chandra and Idrisova (n 120), 3311.

[146] Chandra and Idrisova (n 120), 3311.

protection and conservation of the marine environment, with a focus on the protection and conservation of the Mediterranean Sea through the UNEP Regional Seas Convention and the EU MSFD.

iii. Regional Level

The 1970s saw the regulation of many regional seas happening through the creation of international conventions such as the afore mentioned OSPAR Convention in the North-East Atlantic, the Helsinki Convention for the Baltic Sea, the Bucharest Convention for the Black Sea and the Barcelona Convention in the Mediterranean Sea.[147] In the case of the Barcelona Convention, it came with the auspices of the UNEP with the objective of creating the Mediterranean Action Plan.[148] This comprises the duty to prevent, abate and combat pollution and to protect and foster its marine environment.[149] Evidently, the framework of the Mediterranean Sea is just one of the examples of regional frameworks at play, and it has been chosen to discuss the strengths and weaknesses of achieving marine protection and conservation in an abundantly fragmented and multi-layered system of ocean governance given its importance in Europe and the presence of both EU and non-EU countries.[150]

In this regard, the MSFD's conception of the sea is one of a kind. It was the first Directive that introduced the concepts of 'marine region' and 'subregion' into the legal framework of the EU.[151] Alongside these concepts, the MSFD imposes the obligation on the Member States to cooperate and coordinate their policies in view of creating and implementing their marine strategies across the four marine regions of: (a) the Baltic Sea; (b) the North-east Atlantic Ocean; (c) the Mediterranean Sea; and (d) the Black Sea.[152] Within the Mediterranean Sea, four subregions can be identified: (a) the Western Mediterranean Sea; (b) the Adriatic Sea; (c) the Ionian Sea and the Central Mediterranean Sea; and (d) the Aegean-Levantine Sea.[153] Although this division may seem similar to the traditional zonal approach which characterizes

[147] Boyes and Elliott (n 59).
[148] Chung (n 68), 88.
[149] Chung (n 68), 90.
[150] Directorate-General for Maritime Affairs and Fisheries, 'Summary of the results of the targeted consultation on international ocean governance' (European Commission Publications Office 2021), 2 <https://op.europa.eu/en/publication-detail/-/publication/2b5d5085-6b55-11eb-aeb5-01aa75ed71a1> accessed on 20 June 2024; Watson-Wright and Valdés (n 27), 19-20.
[151] Ronan Joseph Long, 'The Marine Strategy Framework Directive: A New European Approach to the Regulation of the Marine Environment, Marine Natural Resources and Marine Ecological Services' (2011) 29 Journal of Energy & Natural Resources Law 1, 1.
[152] Council Directive (EU) 2008/56 of 17 June 2008 establishing a framework for a community action in the field of marine environmental policy (MSFD) [2008] OJ L164/19, art 4(1); Long (n 151).
[153] Long (n 151).

the rest of international law of the sea, it differs from it in so far as it does not attribute specific jurisdictional areas and respective rights, and rather it aims to govern the specific physical characteristics of the regions and subregions. What will be discussed in the following paragraphs is whether these regions and subregions are conceived as different in light of physical characteristics but treated as one in terms of the integration of their protection frameworks. The conception of the ocean as dived into particular geographical regions could be similarly applied globally whereby the different areas of the ocean are governed with regards to their specific physical characteristics in light of standards and technical guidelines, but certain issues which are transboundary, such as pollution as well as the conservation of biological diversity, are governed as one and conceived as being part of one single ecosystem.

Importantly, informing the creation of the MSFD is the idea that governance systems are as nested and intertwined as natural systems.[154] In fact, unlike other instruments such as the LOSC, the MSFD presupposes the creation of national marine strategies, but also stresses the interconnectedness of the marine environment. It aims to protect such conception by acknowledging the need for cooperation and coordination not only between Member States' national policies but also internationally with instruments such as the LOSC and, regionally, with other non-EU countries and their agreements.[155] This is precisely where the role of existing regional structures such as the Barcelona Convention come into play. Article 6 of the MSFD presupposes that the Regional Seas Conventions must be used for the coordination and cooperation of strategies for the protection and conservation of the marine environment, through for instance the EBA.[156]

However, apart from the fact that Regional Seas Conventions have their own framework and thus have to adapt to newly established frameworks under the MSFD, there is also a lack of formal mention of the relationship between the Barcelona Convention and the Directive in its provisions.[157] At first sight, this is problematic given the large geographical area of the Mediterranean Sea which includes both EU and non-EU countries and may therefore be difficult to enforce the MSFD under the Barcelona Convention system.[158] Precisely for this, tensions arise from the interaction between the Barcelona Convention and the MSFD, which

[154] Juda (n 64).
[155] MSFD (n 152); Luc van Hoof, Astrid Hendriksen and Helen J Bloomfield, 'Sometimes You Cannot Make It on Your Own; Drivers and Scenarios for Regional Cooperation in Implementing the EU Marine Strategy Framework Directive' (2014) 50 Marine Policy 339, 339.
[156] MSFD (n 152), art 6; Charlène Jouanneau and Jesper Raakjær, '"The Hare and the Tortoise": Lessons from Baltic Sea and Mediterranean Sea Governance' (2014) 50 Marine Policy 331, 331.
[157] van Leeuwen, van Hoof and van Tatenhove (n 71); Raakjaer and others (n 70), 374.
[158] van Leeuwen, van Hoof and van Tatenhove (n 71).

have implications on the overall implementation of the Directive and on the protection of the marine environment in a comprehensive and integrated manner.

The first tension that arises is the excessive legislative and administrative burden placed upon EU Member States. It appears that Member States are struggling to keep up with the several obligations being imposed by the combination of the newly created EU legislation as well as their interaction with already existing regional governance in the Mediterranean Sea, leading to what was coined as the paradox of uncertain governance.[159] One of the most problematic consequences of such a burden is scientific uncertainty. With different frameworks and systems being established under EU law and other regional governance systems, problems arise as to how best organize, gather and generate the data necessary to understand the ecological, social, political and economic pressures upon the Mediterranean marine environment.[160] Accordingly, this leads to a mismatch of scales, both between the ecosystems at play, and the different levels of governance systems (be it at EU, regional or Member States level), decision-making procedures and socio-economic scales of specific marine sectors.[161] For instance, in regard to the latter, the development of offshore wind farms is governed at national level by the Member States, while offshore oil and gas production is governed by both the Regional Seas Conventions and Member States' national governments.[162] In this regard, challenges may arise in the choice of the competent authority to take a coordinating role between the different scales and standards in place and across the different sectors, as EU law only seems to afford great discretion on Member States discretion in the implementation of marine strategies.[163]

In practical terms, the legislative burden and non-uniformity is expected to impact the assessment of GES under the MSFD and consequently the formulation of the national programmes of measures by Member States.[164] Additionally, it also leads to tensions in terms of credibility and legitimacy of information as well as the founding principles of general EU environmental policy, impacting the overall implementation of the Directive.[165] These are

[159] Boyes and Elliott (n 59), 44.
[160] Raakjaer and others (n 70), 327.
[161] Raakjaer and others (n 70), 327.
[162] Judith van Leeuwen and Jan van Tatenhove, 'The Triangle of Marine Governance in the Environmental Governance of Dutch Offshore Platforms' (2010) 34 Marine Policy 590; Judith van Leeuwen and others, 'Implementing the Marine Strategy Framework Directive: A Policy Perspective on Regulatory, Institutional and Stakeholder Impediments to Effective Implementation' (2014) 50 Marine Policy 325, 328.
[163] Raakjaer and others (n 70), 328.
[164] Raakjaer and others (n 70), 328.
[165] Jan-Stefan Fritz, 'Towards a "New Form of Governance" in Science-Policy Relations in the European Maritime Policy' (2010) 34 Marine Policy 1; Van Leeuwen and others (n 162), 327.

principles such as the precautionary principle, the preventive principle and the polluter-pays principle, which are at the core of the Regional Seas Conventions and the basis of negotiations between the States involved.[166]

The different frameworks at play in the Mediterranean Sea and the competence dilemma also lead to a high degree of institutional ambiguity.[167] Firstly, this is due to the afore mentioned lack of formal link between the Barcelona Convention and the MSFD.[168] Although the MSFD recognizes the importance of the Regional Seas Conventions in informing the decision-making and implementation of the Directive, as the number of organizations involved increases so does legal uncertainty.[169] In the case of the MSFD, institutional ambiguity is believed to happen for two main reasons: (a) the creation of marine regions and subregions and the relevant shared and exclusive competences of the EU, Member States and Regional Seas Conventions; and (b) the framework nature of the Directive and the discretion it leaves to Member States in regard to other marine sectoral policies.[170] Accordingly, it has been proposed that a stronger federal EU could help facilitate the elimination of such shortcomings, as implementation and decision-making would be centralized under EU policy.[171] However, given the nature of the MSFD, the power it affords to Member States governments in its implementation, and the abundance of non-EU Member States at play, it seems highly unlikely for this possibility to be realized.[172] On top of which, the possibility of establishing a stronger federal EU would bring a series of other institutional and political issues which are beyond the scope of this work.

Furthermore, connected to the issue of institutional ambiguity is the issue of regional cooperation in the Mediterranean Sea. Both the Barcelona Convention and the MSFD highlight the paramount importance of cooperation among States involved.[173] However, such cooperation and coordination is clouded by a plethora of implications, starting from the intricacies in balancing the interests of neighbouring Member States as well as the existence of non-EU countries.[174] Both the Convention and the Directive are unified under the objective of

[166] Van Leeuwen and others (n 162).
[167] Lucio Carlos Freire-Gibb and others, 'Governance Strengths and Weaknesses to Implement the Marine Strategy Framework Directive in European Waters' (2014) 44 Marine Policy 172, 175.
[168] Jouanneau and Raakjær (n 157), 332.
[169] Van Leeuwen and others (n 162), 637.
[170] van Hoof, Hendriksen and Bloomfield (n 155), 341.
[171] Freire-Gibb and others (n 167), 176.
[172] Freire-Gibb and others (n 167), 176.
[173] Chung (n 68), 14.
[174] van Hoof, Hendriksen and Bloomfield (n 155), 339.

achieving GES through an EBA established at 2008 Conference of Parties.[175] However, the potential automatic, implicit and, thus, non-consensual application of EU obligations upon non-EU countries under the MSFD is especially problematic in light of the fact that they are not obliged to ratify the MSFD and thus be bound by the obligations contained therein.[176] It follows that GES in the Mediterranean as envisioned by both the Barcelona Convention and the MSFD is contingent upon the political will of affected States, this being both EU Member States and non-Member States.

Coordination is not only difficult between EU and non-EU states, but also between neighbouring EU Mediterranean countries. This is mainly due to the fact that their national interests may differ to a great extent, given differences in social, physical, cultural, political and economic characteristics.[177] For instance, this was exemplified by a study on France's implementation of the MSFD in the Mediterranean which showed that, despite the country's actions in implementing the MSFD, their national strategy still lacked a framework to ensure regional cooperation with its neighbouring States such as Spain and Italy – which given the transboundary nature of water has inevitable repercussions for the overall achievement of GES.[178] Additionally, regional cooperation between EU Member States is becoming increasingly difficult in light of the impending financial crisis in Europe, which is likely to lead to insufficient funds for regional cooperation, already suffering from legitimacy and credibility issues.[179]

Ultimately, despite aspirations for more integrated ocean governance through the Integrated Maritime Policy, the EU's approach to regional ocean policy in the Mediterranean Sea remains predominantly sectoral and fragmented, with difficulties in regards transboundary cooperation, reflecting the complexities of managing diverse instruments, actors, and sectors. In this regard, it is important to analyse regional frameworks as they provide smaller-scale examples and models of what could be potentially applied worldwide, and the opportunities as well as implications of doing so. Namely, the Mediterranean region shows the difficulties in reconciling more ecocentric conceptions of the ocean under, for instance, the EBA, in a region that it is still highly characterized by legal tensions given a highly geopolitical environment and a plurality of actors .

[175] Jouanneau and Raakjær (n 157), 335.
[176] Freire-Gibb and others (n 167), 173.
[177] Freire-Gibb and others (n 167), 174.
[178] Jouanneau and Raakjær (n 157), 334.
[179] van Hoof, Hendriksen and Bloomfield (n 155), 342.

The next Part aims to analyse whether the effort towards an integrated ocean protection is better realized in ABNJ, looking at the regime established internationally under the LOSC and its BBNJ Implementation Agreement. It will also examine regional approaches, including ABMTs in the Southern Antarctic Ocean. By exploring these frameworks, the thesis seeks to assess their effectiveness in advocating for integrated strategies that prioritize – under a more biocentric lens – environmental sustainability and equitable governance, thus paving the way for a more inclusive and responsible management of our global ocean commons. This revision ties the exploration of international and regional frameworks, emphasizing the shift towards more sustainable and equitable ocean governance practices which promote the conception of the ocean as interconnected ecosystem and in an ever-closer relation with human beings.

Chapter 1.2. Areas Beyond National Jurisdiction (ABNJ)

i. General Considerations

Following the traditional zonal approach of law of the sea, adjacent to marine AWNJ, are the so-called marine ABNJ. These further divide the ocean into a multidimensional space whereby there are different regimes at play for, on one hand, the water column and air above the surface and, on the other hand, the seabed, ocean floor and subsoil thereof. According to article 86 LOSC, the water column and air above the surface are governed by the regime of the high seas, defined *a contrario* to include "all parts of the sea which are not included in the EEZ, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State." Whereas the seabed, ocean floor and subsoil are part of the regime of the Area, defined in article 1(1), and governed by the rules found both within part XI of the LOSC and its 1994 Implementation Agreement. On top of these instruments, marine ABNJ are also the material and geographical object of the recently concluded 2023 BBNJ.

As a result of increasing globalization and the need to both protect the marine environment and regulate the access and use of marine resources, ABNJ are gaining increasing importance. Especially given the fact that they cover 40% of the earth's surface, which amounts to 64% of the ocean's surface and 95% of its volume.[180] These areas play an important role not only in providing breeding, feeding and migratory routes for several marine species, but its resources, especially genetic ones, also have an increasing importance for scientific as well as commercial purposes.[181] Accordingly, their size and importance for human activities warrant a comprehensive and integrated framework of protection and conservation of the marine environment.

However, similarly to the governance of AWNJ, the high seas and the Area are also governed by a plethora of both international and regional instruments as well as a growing number of corporations attributed with certain competences, either by virtue of subject matter or by geographical area. Consequently, ABNJ are also characterized by a multi-layered system of protection. In this regard, for instance, numerous regional ABMTs, like MPAs and other effective tools, govern the realm of the high seas and the Area. Section iii will look specifically

[180] FAO, 'Terminal evaluation of the areas beyond national jurisdiction (ABNJ) Tuna project, part of the "Global sustainable fisheries management and biodiversity conservation in ABNJ"' (FAO 2020) <https://openknowledge.fao.org/server/api/core/bitstreams/cd37957b-24a1-4d00-8466-d16e84690bdf/content> accessed on 21 June 2024

[181] David Leary and others, 'Marine genetic resources: A review of scientific and commercial interest' (2009) 3 Marine Policy 183; Richard J Blaustein, 'High-seas Biodiversity and Genetic Resources: Science and Policy Questions' (2010) 60 BioScience 408; Nocito and others (n 118), 2.

at the area-based protection offered by the CCAMLR as an example of a regional framework for the Southern Antarctic Ocean.

In this regard, some introductory remarks ought to be said about the Southern Antarctic Ocean. Historically, it has always been regarded as an area with increasing implications with regard to, *inter alia*, atmospheric, geological, glaciological, climate science, oceanography, marine biology and evolution conditions.[182] On top of these, the Southern Antarctic Ocean covers 9.6% of the global ocean, and plays an important role for global ocean health through the transfer of heat and carbon dioxide to the deep ocean and for primary production through the export of nutrients.[183] Importantly, the ocean is home to 70% of the circumpolar population of Antarctic krill, which plays an essential role in the region's food chain.[184] At the same time, it is one of the most sensitive oceans to climate alterations, and its western Peninsula is one of the most rapidly warming areas on the globe.[185] Historically, the Southern Antarctic Ocean has also been characterized by overexploitation especially regarding extraction of whales, seals, and birds and, most recently, by the unprecedented commercial fishing of tooth fish and krill.[186] Given these considerations, the Southern Antarctic Ocean has always attracted socio-ecological management measures dependent on human-ecosystem relations across geographical areas as well as temporal scales, especially paying tribute to some of its areas being labelled as 'the last wilderness' — such as the Ross Sea region — partly given to its remoteness as well as political influences from interested States.[187]

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[182] Gordon E Fogg, *A History of Antarctic Science* (Cambridge University Press 1992); Paul A Berkman, *Science into Policy: Global Lessons from Antarctica* (Academic Press 2002); Cassandra M Brooks, 'Competing Values on the Antarctic High Seas: CCAMLR and the Challenge of Marine-Protected Areas' (2013) 3 The Polar Journal 277, 278.

[183] José C Xavier and others, 'Future Challenges in Southern Ocean Ecology Research' (2016) 3 Science Article 94, 1; Karen N Scott, 'MPAs in the Southern Ocean under CCAMLR: Implementing SDG 14.5' (2021) 9 The Korean Journal of International and Comparative Law 84, 86.

[184] Angus Atkinson and others, 'Oceanic circumpolar habitats of Antarctic krill' (2008) 362 Marine Ecology Progress Series 1; Zephyr T Sylvester and Cassandra M Brooks, 'Protecting Antarctica through Co-Production of Actionable Science: Lessons from the CCAMLR Marine Protected Area Process' (2020) 111 Marine Policy 1, 2.

[185] Ove Hoegh-Guldberg and Elvira S Poloczanska (eds), *Effects of Climate Change Across Ocean Regions* (Frontiers Media SA 2018); Hugh W Ducklow and others, 'Marine pelagic ecosystems: the West Antarctic Peninsula' (2007) 362 Philosophical Transactions of the Royal Society Biological Sciences 67; Sylvester and Brooks (n 184).

[186] David G Ainley and Daniel Pauly, 'Fishing down the food web of the Antarctic continental shelf and slope' (2014) 50 Polar Record 92; Scott (n 183).

[187] Cassandra M Brooks and others, 'Reaching consensus for conserving the global commons: The case of the Ross Sea, Antarctica' (2019) 13(1) Conservation Letters e12676, 1; David G Ainley, 'A history of the exploitation of the Ross Sea, Antarctica' (2010) 46 Polar Record 233, 233; Benjamin SS Halpern and others, 'A global map of human impact on marine ecosystems' (2008) 319 Science 948; Henrik Österblom and Olof Olsson, 'CCAMLR: An Ecosystem Approach to the Southern Ocean in the Anthropocene', in Klaus Dodds, Alan D Hemmings and Peder Roberts (eds), *Handbook on the Politics of Antarctica* (Edward Elgar Publishing 2017) 408; Scott (n 183).

Following the considerations above, Sections ii and iii of this Part 2 will analyse the framework of protection of the ocean in ABNJ to evaluate the progress made in establishing an integrated framework of protection and preservation. Firstly, Section ii will delve into the international framework established under the LOSC, examining its 1994 and 2023 Implementation Agreements. Subsequently, Section iii will explore the effectiveness of the CCAMLR as a regional framework. This exploration will highlight how CCAMLR's governance mechanisms contribute to managing Antarctic marine resources. By examining these frameworks, the thesis seeks to contribute to ongoing discussions on ocean governance and advancing towards more biocentric, inclusive, integrated and ecologically sustainable management strategies on a global scale.

ii. International Level

The rules found within the LOSC on ABNJ are divided into the provisions on the high seas and the ones on the Area. Generally speaking, on one hand, the high seas are characterized by the principle of freedom of the high seas, guaranteed through the principle of exclusive jurisdiction of Flag States, and limited by the exceptions thereof.[188] On the other hand, the Area is ruled by the principle of common heritage of mankind.[189] The following paragraphs will delve deeper into the specific characteristics of the two regimes, evaluating their strengths and weaknesses in achieving an integrated system of protection and preservation of marine ABNJ.

Beginning with the regime of the high seas, there are two elements that are important for the framework of protection and conservation of ABNJ. The first element is the afore-mentioned freedom of the high seas, composed of six principles listed within article 87 LOSC. Notably, these are not exhaustive, as suggested by the term '*inter alia*' of paragraph 1 of the same article. Nonetheless, the two overarching ideas of the freedom are, first, that the high seas cannot be claimed under national jurisdiction as stated in article 89 of the LOSC, and that, second, States have the freedom to carry out activities, so long as they are for peaceful purposes as enshrined in article 88 of the LOSC. In this regard, the freedom to carry out activities in the high seas is not considered an absolute freedom, as highlighted by paragraph 2 of article 87 as well as other specific instruments which govern matters such as the conservation of marine living resources and, important in this case, the protection of the marine environment.[190]

[188] LOSC (n 20), arts 87, 94 ; Tanaka (n 3), 149.
[189] LOSC (n 20), art 136.
[190] Tanaka (n 3), 152.

Therefore, in order to ensure an effective framework of protection of the high seas, there ought to be instruments at play which specifically limit and overlook the States' activities at sea.

The second element significant for the regime of the high seas is the principle of exclusive jurisdiction of Flag States. The Flag State is considered to be the State which flies the flag of its State on the vessel, and thus benefits from exclusive jurisdiction over its ship and crew.[191] Accordingly, the jurisdiction of Flag States is two-versed: they can exercise both legislative and enforcement jurisdiction over their onboard crew regardless of their nationalities.[192] The principle goes hand in hand with the principle of freedom of the high seas, and their interaction creates a system of governance of the high seas — especially important given the lack of national jurisdiction and central authority overlooking the zone.[193] In this regard, firstly, the principle prevents interference by other States with vessels flying another countries' flag on the high seas, including exceptions such as the right of visit and of hot pursuit in the cases of, for instance, slave trade, piracy or illicit traffic of drugs.[194]

The importance of the role of Flag States on the high seas for the enforcement of rules and regulations has implications for the protection and preservation of the marine environment. In this regard, under the principle of exclusive Flag State jurisdiction, the Flag State has the sole responsibility to guarantee compliance with national and international laws governing activities in the high seas.[195] Contingent to this element is the concept of 'genuine link' which dictates that there must be a real connection between the State and the ship flying its flag. The failure to establish this genuine link is what may result in the phenomena of flags of convenience or open registry States, these being States which allow foreign shipowners to fly their flag and register the vessels under their flag, without no clear connection to the State itself.[196] Undoubtedly, enforcement is a challenge of the whole field of international law, but it is particularly relevant in the high seas because of flags of convenience. Accordingly, States may be tempted to register their vessels under the flag of other countries in order to not comply with national taxation as well as to take advantage of States which may have less stringent rules and standards on, for instance, the qualifications necessary for crews, safety of navigation, and

[191] Tanaka (n 3), 152.
[192] Tanaka (n 3), 152.
[193] Gidel (n 6), 225; Tanaka (n 3), 153.
[194] LOSC (n 20), arts 99, 100, 108, 110-11.
[195] Tanaka (n 3), 153.
[196] Robin Churchill, Vaughan Lowe and Amy Sander, *The Law of the Sea* (4th edn, Manchester University Press 2022) 258; OECD Maritime Transport Committee, 'OECD Study on Flags of Convenience' (1972-1973) 4 Journal of Maritime Law and Commerce 231, 234-54.

important in this case, the regulation of marine pollution.[197] As a result, this leads to what has been coined as 'jurisdictional vacuum' as a growing proportion of ships are registered under flags of convenience.[198]

On top of the enforcement issue, flags of convenience also show the hegemonic and political nature of the law of the sea.[199] The reliance on Flag State enforcement has aided the establishment of the most powerful Flag States, in the same way a first-come, a first-served way of securing resources in the high seas has benefited the most industrialized nations.[200] The advantages of flying flags of convenience comes in handy also for maximizing the internalization of financial profit and externalizing environmental and safety damages.[201] It follows that, the excessive reliance of Flag States in the high seas leads to overly unrestricted freedom of States to interpret, implement and enforce the laws governing their citizens, as evident in the interpretation of the genuine link concept enshrined in article 91 of the LOSC.[202] However, the consent-based nature of international law of the sea, obstructs the possibility of creating an authority empowered with the competence to compel or coerce non-compliant States.[203] This becomes increasingly worrisome as increasing attention is placed upon the interest of a sole State and the independence of such from the rest of the community, in an otherwise growingly globalized and transnational ocean.[204] In the same way such a State-centred system fails to aid in the regulation of transnational marine pollution.

Moving beyond the regime of the high seas and into the regime governing the Area, there are a few general considerations that ought to be mentioned before delving specifically into the rules of the LOSC. What sparked the initial interest in establishing a regime for the Area was the discovery of 'polymetallic nodules'. These were discovered at the end of the 19th century off the Arctic Ocean coast of Siberia and, during the late 1870s, they were found to

[197] Walters Wefers Bettink, 'Open Registry, the Genuine Link and the 1986 Convention on Regulation Conditions for Ships' (1987) 18 Netherlands Yearbook of International Law 69, 77; Tanaka (n 3), 157.
[198] International Relations and Defense Committee Corrected Oral Evidence (n 91), Q 81; International Relations and Defence Committee (n 48), 18.
[199] Martin (n 77), 434.
[200] Nico Schrijver, 'Managing the Global Commons: Common Good or Common Sink?' (2016) 37 Third World Questions 1252; Martin (n 77), 434.
[201] Rosemary Rayfuse, *Non-Flag State Enforcement in High Seas Fisheries, vol 46* (Brill 2004) 25; Tina Shaughnessy and Ellen Tobi, 'Flags of Inconvenience: Freedom and Insecurity on the High Seas' (2007) 5 Journal of International Law and Policy 1; Tony Alderton and Nik Winchester, 'Globalisation and De-regulation in the Maritime Industry' (2002) 26 Marine Policy 35; Tony Alderton and Nik Winchester, 'Regulation, Representation and the Flag Market' (2002) 4 Journal of Marketing Research 89; Martin (n 77), 436.
[202] Gotthard Mark Gauci and Kevin Aquilina, 'The Legal Fiction of a Genuine Link as a Requirement for the Grant of Nationality to Ships and Humans—the Triumph of Formality over Substance?' (2017) 17 International and Competition Law Review 167; Simon W Tache, 'The Nationality of Ships: The Definitional Controversy and Enforcement of Genuine Link' (1982) 16 International Law 301; Martin (n 77), 437.
[203] Martin (n 77) 442.
[204] Martin (n 77), 445.

happen in most oceans around the globe.[205] Polymetallic nodules, also known as manganese nodules, are small brown-black balls, which, as studied during the 1950s, are composed of commercially valuable minerals, including nickel, copper, and cobalt.[206] It was, therefore, the economic significance of these nodules which fostered the need of creating a management framework for deep seabed resources in ABNJ during the negotiations of the 1982 LOSC.[207]

Importantly, before the 1982 convention, three perspectives informed the legal status of natural resources found in the ocean floor in ABNJ.[208] The first one divided the whole of the ocean floor amongst Coastal States, arguing that that seaward limit of Coastal States' continental shelves extended also into such areas, as justified by the 'exploitability' criterion of article 1 of the 1958 Geneva Convention on the Continental Shelf.[209] Alternatively, the second perspective mirrored the high seas regime and argued that the deep seabed and subsoil were part of *res communis*, subject to the freedom of the high seas, resulting in the fact that no State could therefore claim jurisdiction over the ocean floor and its resources and that all States could use such resources freely and unrestrictedly.[210] By contrast, the third, and last view, claimed that the ocean floor and its resources ought to be characterized as *res nullius* and that, ergo, only Mining States would be allowed to appropriate such areas through the practice of occupation.[211] Regardless of the differences in practice between these interpretations, the end result was common to all three: only States with advanced and developed technology would have the means to explore and exploit the resources found within the ocean floor and subsoil thereof.[212]

Consequently, the concerns for an equitable system of access, use, and benefit of the increasingly valuable natural resources found within ABNJ led to the emergence of the principle of common heritage of mankind. As Yoshifumi Tanaka argues, the principle was created during a time when neither the principle of sovereignty — which governs AWNJ — nor the freedom of the seas — which rules the high seas — could inform the protection of the Area and its resources, and these principles contrasted and differed from the principle of

[205] International Seabed Authority, 'Polymetallic Nodules' (*International Seabed Authority*, 2024) <https://www.isa.org.jm/exploration-contracts/polymetallic-nodules/> accessed on 21 June 2024; Tanaka (n 3), 170.
[206] Paul Lévy, 'The International Sea-Bed Area', in Rene-Jean Dupuy and D Vignes (eds), *A Handbook on the New Law of the Sea, vol. 1* (Nijhoff 1991) 595; Alexandra Merlé Post, *Deepsea Mining and the Law of the Sea* (Nijhoff 1983) 11–17; Tanaka (n 3), 170.
[207] Tanaka (n 3), 170.
[208] Churchill, Lowe and Sander (n 196), 224-5; Tanaka (n 3), 171.
[209] Tanaka (n 3), 171.
[210] Tanaka (n 3), 171.
[211] Tanaka (n 3), 171.
[212] Tanaka (n 3), 171.

common heritage of mankind in at least two instances.[213] Firstly, as evident from the development of both the freedom of the seas and the principle of sovereignty, they both aim at protecting the interests of individual States, whereas, as inferred from the name itself, the principle of common heritage of mankind aims at collectively serving mankind as a whole and the non-appropriation of the Area and its resources by national states.[214] Interestingly, the concept of 'mankind' seems to extend both over time and space, as it includes all people on the planet as well as both present and future generations.[215]

Secondly, even more peculiar is the emergence of 'mankind' as a new actor and subject in international law of the sea, differing from traditional international law that generally governs relations between States.[216] Indeed the expansion of the concept of legal personhood to warrant for new emerging actors has been a practice long applied by international law – such as it is evident with the creation of the legal subjectivity of corporations. The topic of the expansion of legal personhood will be dealt with in Chapter 2 Section v.

Furthermore, in its pure meaning, the principle of common heritage of mankind symbolized a shift away from strict anthropocentrism. It was first introduced by the Maltese Ambassador Arvid Pardo in his 1967 speech to the UN and was further encouraged by his wife and environmental scholar Elisabeth Mann Borgese arguing that the principle included notions of ethics, cooperation, economic theory as well as philosophy.[217] It nurtures a human responsibility to care for and protect the nature they (co)inhabit, straying away from the traditional separation of man from nature, and alluding to an interconnected ocean.[218] Notions which also guide more ecocentric and biocentric values of nature. Namely, this heightened consciousness was a result of the increasing awareness of human impacts on the environment, and especially on the ocean. In practice, this led to the departure from the concept of freedom of the seas in ABNJ, which allowed the unlimited exploitation and commodification of the

[213] Tanaka (n 3), 19 and 172.
[214] Tanaka (n 3), 19 and 173.
[215] René-Jean Dupuy, 'La notion de patrimoine commun de l'humanité appliqué e aux fonds marins', in René-Jean Dupuy (ed), *Dialectiques du droit international: souveraineté des Etats, communauté internationale et droits de l'humanité* (Pedone, 1999) 189–194; Tanaka (n 3), 19.
[216] Tanaka (n 3), 19.
[217] Arvid Pardo, 'Speech to United Nations General Assembly Twenty-second session' (First committee, 1515th meeting, New York, 1 November 1967) <https://www.un.org/depts/los/convention_agreements/texts/pardo_ga1967.pdf> accessed 27 February 2024; Julia Poertner, 'Narratives of nature and culture the cultural ecology of Elisabeth Mann Borgese' (DPhil thesis, Dalhousie University 2020); Martyna Łaszewska-Hellriegel, 'Environmental Personhood as a Tool to Protect Nature' (2023) 51 Philosophia 1369, 1370-1.
[218] Prue Taylor, 'Das Gemeinsame Erbe der Menschheit' in Silke Helfrich and David Bollier (eds), *Commons für eine neue Politik jenseits von Markt und Staat* (Heinrich-Böll-Stiftung 2012) 426–433; Łaszewska-Hellriegel (n 217), 1371.

ocean space at the service of national interests, and instead designated the sea as an international common, creating an area with natural resources beyond the territory and sovereignty of Coastal States.[219]

Another important element of the Area regime is the role of the International Seabed Authority. Its role is enshrined in article 153(1) of the LOSC which states that all activities in the Area ought to be organized, carried out and controlled by the Authority on behalf of mankind, and that all parties to the convention are *ipso facto* members of the Authority.[220] In this regard, the jurisdiction of the Authority is characterized by five elements. First, it is limited *ratione loci* only to the Area, and secondly, its jurisdiction *ratione materiae* is characterized by the rules found within the LOSC and the 1994 Implementation Agreement on the Area.[221] Thirdly, the International Seabed Authority benefits from both legislative and enforcement jurisdiction over activities in the Area, and, importantly with regard to enforcement jurisdiction, article 153(5) empowers it with the competence to take any measures in view of ensuring compliance of its provisions and functions, including the power to sanction non-compliance.[222] A notable distinction from the system of enforcement of the high seas. Fourthly, the Authority's jurisdiction can be enforced over all natural and legal persons engaging in activities in Area regardless of their nationalities and, finally, its jurisdiction is exclusive in light of the fact that any State or enterprise must seek the approval of the Authority before taking part in activities in the Area.[223]

Nonetheless, despite the successes regarding the inclusion of a new principle and the creation of a new institution, the regime of the Area was not met with no opposition — especially from industrialized States who saw their gains diminished in the face of a more equitable system of benefit sharing. In fact, during the period between 1980 and 1985, several industrialized States, including the United States, the United Kingdom, the Federal Republic of Germany, France, Japan, the USSR, and Italy, began adopting their own unilateral national agreements on deep seabed mining.[224] However, this threatened the uniformity and universality of the regime agreed under part XI and the credibility of the Convention as a whole, and thus, following the difficulties to accept the regime concluded under part XI, the 1994

[219] Pardo (n 217); Taylor (n 218); Łaszewska-Hellriegel (n 218), 1371.
[220] LOSC (n 20), art 156(2); Tanaka (n 3), 173.
[221] Felipe H Paolillo, 'Institutional Arrangements', in René-Jean Dupuy and D Vignes (eds), *A Handbook on the New Law of the Sea, vol. 1* (Nijhoff 1991) 718-720; Tanaka (n 3), 174.
[222] Tanaka (n 3), 175.
[223] Paolillo (n 221), 706; Tanaka (n 3), 176.
[224] Edward D Brown, 'Neither Necessary nor Prudent at this Stage: The Regime of Seabed Mining and its Impact on the Universality of the UN Convention on the Law of the Sea' (1993) 17(2) Marine Policy 81, 93; Tanaka (n 3), 178.

Implementation Agreement on the Area was created in an attempt to remedy such challenges.[225] Several informal consultations were set up from 1990 to 1994 to hear the objections brought about by industrialized States, and, consequently, on 28 July 1994, the UN General Assembly agreed and adopted the 1994 Implementation Agreement, with 121 votes in favour, seven abstentions and no vote against.[226]

Importantly, the Implementation Agreement included two aspects. Firstly, it was cost-effective and, secondly, it came to include market-oriented approaches. According to the latter element, seabed production limitations which discouraged developed States from agreeing with part XI of the 1982 LOSC, were abolished by section 6(7) of the subsequent 1994 Implementation Agreement.[227] Furthermore, the 1994 Implementation Agreement provided less burdensome obligations for industrialized States by imposing a fixed amount of financial terms of contracts which reduced the burden on the contractor, and it also reduced the assistance that ought to be provided to developing States by taking away the obligation to transfer technology as well as providing excessive economic assistance.[228]

It is true that the 1994 Implementation Agreement did not revolutionize the most crucial elements of the regime of the Area — such as the inclusion of the principle of common heritage of mankind and related notions of non-appropriation of the Area and its resources, the use of the Area only for peaceful purposes and for the benefit of mankind as whole. However, it did steer the regime to benefit industrialized States at the peril of developing or non-industrialized States.[229] In examining the evolution of the common heritage of mankind principle within the context of the LOSC, it becomes apparent that its original promise of equitable resource governance for the benefit of all humanity has been significantly challenged. The concept initially emerged in the 1960s as a visionary idea advocating for shared global stewardship of certain areas and resources, ensuring that future generations and developing countries could access these resources without exploitation.[230]

Finally, moving beyond the instruments that separately govern the high seas and the Area respectively, in 2023 the BBNJ was adopted to govern the entire Biodiversity Beyond

[225] Tanaka (n 3), 178.
[226] Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (with annex) (adopted 28 July 1994, entered into force 28 July 1996) 1836 UNTS 42, 1309; Tanaka (n 3), 179.
[227] LOSC (n 20), art 151(3); James L Malone, Statement before the House Foreign Affairs Committee (82 Department of State Bulletin, No. 2062, 23 February 1982), p 61; Tanaka (n 3), 180.
[228] Tanaka (n 3), 181.
[229] L DM Nelson, 'The New Deep Sea-Bed Mining Regime' (1995) 10(2) The International Journal of Marine and Coastal Law 189, 203; Tanaka (n 3), 182.
[230] Łaszewska-Hellriegel (n 218), 1370.

National Jurisdiction, thus applying both to the high seas and the Area at the same time. The full name of the legal instrument is Agreement Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction. As a result of debates spanning over more than a decade, the United Nations General Assembly under its resolution 72/249 of December 2017, convened an International Conference, which held five sessions from 2018 to 2023, to agree on the text of the agreement.[231] Finally, the agreement was then adopted in New York on 19 of June 2023, and it has still not entered into force, but has been signed by 91 States and ratified by 8.[232]

Undoubtedly, the BBNJ agreement has unprecedented value in so far as it aims to complement the existing conservation framework in ABNJ primarily established under the LOSC and the 1994 Implementation Agreement.[233] Notably, the Preamble stresses the importance of the creation of a *"comprehensive* [emphasis added] global regime (...) to better address the conservation and sustainable use of marine biological diversity".[234] This is important as marine ABNJ contain 4 billion years of evolution as well as store 90% of the total biomass of the ocean, which includes processes that sustain life on earth, migratory species and deep-sea ecosystems rich in biodiversity.[235] The benefits are not merely to the marine environment, but actually ABNJ also have historically and culturally contributed to important migration routes as well as the promotion of the cosmovision and spiritual connections of numerous local and Indigenous communities.[236]

First, the contribution of the BBNJ to this comprehensive global regime is evident in the inclusion of some important principles and approaches of marine protection and conservation. Article 5 of the BBNJ, on top of enshrining established principles of ABNJ such as the freedom of the high seas and the principle of common heritage of humankind, also came to stress the inclusion of other principles and approaches including *inter alia*: the precautionary

[231] UNGA, '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' (19 January 2018) UN Doc A/RES/72/249; Western Central Atlantic Fishery Commission (n 111).
[232] United Nations Treaty Collection, 'Status of Treaties' (*UNTC*, 2024) <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXI-10&chapter=21&clang=_en> accessed on 19 August 2022.
[233] Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (adopted on 24 April 2024) UN Doc A/RES/78/272 (BBNJ), art 1.2.
[234] BBNJ (n 233), preamble para 4.
[235] Guillermo Ortuño Crespo, 'Beyond static spatial management: Scientific and legal considerations for dynamic management in the high seas' (2020) 122 Marine Policy 104102, 1–2; Elisa Morgera and others (n 45), 451.
[236] Cameron T Perry and others, 'St. Helena: An important reproductive habitat for whale sharks (Rhincodon typus) in the Central South Atlantic' (2020) 7 Frontiers in Marine Science 1; Phillip J Turner and others, 'Memorializing the Middle Passage on the Atlantic seabed in areas beyond national jurisdiction' (2020) 122 Marine Policy 104254; Morgera and others (n 45).

principle or approach, the ecosystem approach and the integrated approach to ocean management.

On a critical note, the BBNJ agreement also draws a significant connection between the protection of the marine environment and the conservation of marine biological diversity. Firstly, the agreement is meant to complement the framework for ABNJ established under the LOSC in so far as it is considered an Implementation Agreement to the Convention. In fact, the very first paragraph of the preamble of the Agreement recalls "the relevant provisions of the United Nations Convention on the Law of the Sea of 10 December 1982, including the obligation to protect and preserve the marine environment." This parallel between the Agreement and the Convention is drawn throughout the whole text of the instrument in so far as it recalls the provisions found within the Convention as well as established principles and approaches of international law of the sea as well as traditional international environmental law, such as the provisions on environmental impact assessments.

Within the framework established under the BBNJ, environmental impact assessment must be paid special regards as an example of a move towards a more integrated framework of conservation. In fact, rather than taking a reactive approach typical of other environmental impact assessments, under the BBNJ they take a more proactive approach to marine conservation.[237] This is evident already from the outset, as the agreement refers to them as *strategic* environmental impact assessments, suggesting their meditated nature, further highlighted by the integration of the core principles under article 7 BBNJ including, *inter alia*, the EBA, the precautionary approach and integrated approach to ocean management. Additionally, this proactivity is also seen from the creation of a BBNJ Conference of Parties empowered with the competence to conduct regional strategic environmental assessment with the aim to gather the best available information about the area, analyse the present and possible future impacts and pinpoint data gaps and research pathways.[238]

The protective nature of strategic environmental impact assessment helps to create a more coherent network in so far as, firstly, it allows for a new multilateral avenue for action when individual States may be unwilling or unable to act — as in the case of developing States — and, secondly, it creates a regional network of environmental assessments which are central to fill knowledge gaps and guarantee an environmentally-focused management of marine

[237] Kahlil Hassanali and Robin Mahon, 'Encouraging proactive governance of marine biological diversity of areas beyond national jurisdiction through strategic environmental assessment (SEA)' (2022) 136 Marine Policy 104932; Morgera and others (n 45), 465.
[238] BBNJ (n 233), art 39(2).

biodiversity.[239] Specifically, strategic environmental impact assessments can provide a thorough examination of regional areas in regard to baseline environmental information, and thus foster a more equitable system of access both to the marine genetic resources per se, and the knowledge generated through their study and use.[240] A characteristic which is extremely important given the vulnerability of developing States in carrying out such activities. Overall, this would allow for both the marine ecosystem and humans to be put on the same agenda, guaranteeing a cooperative and integrated management framework for a sustainable future. In fact, these efforts are at the centre of the 2022 Global Biodiversity Framework, with the objective of fostering the necessary action, at both international and regional level for biodiversity in the next decade.[241] Values and objectives which also resonate with a more ecocentric view of the marine environment.

Furthermore, in line with the discourse nurtured throughout the agreement around integration and inclusivity, the BBNJ also pays explicit tribute to the rights of Indigenous people. From the preamble of the legal text, it states:

> "*Recalling* the United Nations Declaration on the Rights of Indigenous Peoples,
> *Affirming* that nothing in this Agreement shall be construed as diminishing or extinguishing the existing rights of Indigenous Peoples, including as set out in the United Nations Declaration on the Rights of Indigenous Peoples, or of, as appropriate, local communities"

The role of traditional knowledge systems in the conservation and sustainable use of marine biological diversity is recognized throughout the whole agreement. For instance, article 7 outlines the general principles governing the convention, which includes principles j and k on the use of relevant traditional knowledge of Indigenous peoples and local communities as well as the respect, promotion, and consideration of Indigenous Peoples rights. The latter is specifically promoted by article 13 of the Agreement.

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[239] BBNJ (n 233), art 47(5); Kirsty McQuaid and others, 'The need for strategic environmental assessments and regional environmental assessment in ABNJ for ecologically meaningful management' (One Ocean Hub Policy Brief 2022) <https://oneoceanhub.org/publications/policy-brief-the-need-for-strategic-environmental-assestements-and-regional-environmental-assessment-in-abnj-for-ecologically-meaningful-management/> accessed on 21 June 2024; Morgera and others (n 45), 466.
[240] Morgera and others (n 45), 471.
[241] UNEP, 'Decision Adopted By The Conference Of The Parties To The Convention On Biological Diversity - Kunming-Montreal Global Biodiversity Framework' (19 December 2022) UN Doc CBD/COP/DEC/15/4; Morgera and others (n 45), 467.

In fact, the BBNJ is innovative in so far as it promotes interconnectivity between the conservation of marine biodiversity and important human rights. This consideration was already pushed forward since 2020 by the UN Special Rapporteur on Human Rights and the Environment, David Boyd, as a way to ensure the recognition of the dependence of human rights on healthy biodiversity and ecosystems.[242] In the context of the BBNJ, Clement Yow Mulalap and other scholars carried out a study about traditional knowledge and highlighted the relevant traditional knowledge for the BBNJ implementation including, *inter alia*, the interconnectedness of the natural environment, the awareness between Indigenous people and local communities of the necessity to balance use and conservation, the significant role of inclusivity of all stakeholders in environmental governance and the cultural and spiritual values of communities and the relation with their respect for nature.[243] The integration of traditional knowledge could positively impact the implementation of the provisions of the BBNJ at least three instances. First, it could inform the provisions on MPAs with regard to the relation between nature and human culture, thus fostering connectivity.[244] Secondly, the EBA inherently encouraged by Indigenous cosmovisions could help ensure environmental management best practices and, lastly, traditional navigation routes could aid in the generation of ocean knowledge.[245] Deeper attention will be paid to the impact of traditional knowledge for a more integrated marine protection and biodiversity conservation in Chapter 2 Section iv.

Importantly, similarly to the CBD, the BBNJ also makes an explicit reference to the inherent value of biological diversity. The preamble reads:

> "Desiring to act as stewards of the ocean in areas beyond national jurisdiction on behalf of present and future generations by protecting, caring for and ensuring responsible use of the marine environment, maintaining the integrity of ocean ecosystems and conserving the inherent value of biological diversity of areas beyond national jurisdiction…"[246]

[242] UNGA, 'Report of the UN Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment D Boyd'(15 July 2020) UN Doc A/75/161, para 88(j); UNGA, 'Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment J Knox' (19 January 2017) UN Doc A/HRC/34/49; Morgera and others (n 45), 455.
[243] Mulalap and others (n 131), 4.
[244] Mulalap and others (n 131), 4-5.
[245] Mulalap and others (n 131), 5-6.
[246] BBNJ (n 233), preamble para 12.

This, once again, stresses the importance that is being increasingly given to more ecocentric values of nature for, in this case, the conservation of marine biodiversity but also, from a broader perspective to the protection of the marine environment as a whole. However, similarly to the CBD, this value is just mentioned in the preamble of the text and is not expanded upon throughout the rest of the agreement. Nonetheless, "the Agreement creates an enabling environment for global ocean governance."[247] This is because both the intention and the spirit of the text remain of one that is more open to the permeation of ecocentric values into the framework of protection and conservation of the ocean, especially in an area that has traditionally been considered an international common and now is being afforded increasing protection. With the recent adoption of the Agreement, it remains to be seen how it will operate in practice and interact with other existing agreements and instruments in the field.

iii. Regional Level

Regional efforts for the protection and preservation of the marine environment in ABNJ come in a varied spectrum of forms. One of the most known types of regional ocean governance frameworks are regional fisheries management organizations (henceforth referred to as RFMOs). These are organizations that solely regulate fisheries, and tend to employ a sector-based and fragmented approach disregarding other activities that may interact in the same sector.[248] Some criticisms of these organizations point towards the fact that RFMOs tend to overlook scientific knowledge with regard to ecosystem dynamics in their decisions, and create very weak, or inexistent, connections with other global or regional frameworks that have on their mandate activities impacting the marine environment.[249] In order to address these lacunas, some scholars point towards the need to establish appropriate policies that take into account all anthropogenic activities that may impact the marine environment, therefore developing an integrated and precautionary management of the high seas — characteristics which are central to an EBA based on more ecocentric valuing of the marine environment.[250] In this case, an EBA implies both scientific and institutional paradigm shifts, insofar as, scientifically, it

[247] Western Central Atlantic Fishery Commission (n 111), 3.
[248] Adriana Fabra and Virginia Gascón, 'The Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Ecosystem Approach' (2008) 23 The International Journal of Marine and Coastal Law 567, 568.
[249] Arlo H Hemphill and George Shillinger, 'Casting the Net Broadly: Ecosystem-Based Management Beyond National Jurisdiction' (2006) 7 Sustainable Development Law and Policy 56, 56; Fabra and Gascón (n 248).
[250] Montserrat Gorina-Ysern, Kristina Gjerde and Meir Orbach, 'Ocean Governance: A New Ethos through a World Ocean Public Trust', in L K Glover and S A Earle (eds), *Defying Ocean's End: An Agenda for Action* (Island Press 2004), 199; Fabra and Gascón (n 248).

requires assessment of cumulative impacts on the marine environment, and , institutionally, a framework which is equipped to deal with these impacts in an integrated manner and not in isolation.[251]

Precisely for the need to establish a more integrated approach to the management of the high seas given the increasing threats to global biodiversity, there has been a growing trend towards the adoption of MPAs.[252] So much so that, in the last 50 years, MPAs have grown to cover 7.59% of the global ocean, with, however, most of them being established within territorial waters, accounting for the protection of only 1.18% of the high seas.[253] The origins of a similar concept to the one of MPAs can be traced all the way back to the 1972 UNESCO Convention for the Protection of World Cultural and Natural Heritage.[254] In article 2 of the convention it is stated that it aims to protect, *inter alia*, "threatened species of animals and plants of outstanding universal value from the point of view of science or conservation."[255] Over the 1980s, several MPAs were established in different treaties which expanded beyond the original notion limiting itself to the confines of the territorial seas of Coastal States, and came to include the creation of designated areas also in the EEZ.[256] In general terms, this designated areas are referred to as ABMTs aimed at protecting and conserving the marine environment by limiting extractive and destructive anthropogenic activities.[257]

Given the increasing need to protect the high seas, in recent years, the concept of MPAs has also been expanded more and more to cover ABNJ. Currently, there are two main regional organizations that have established MPAs in the high seas, this being, on one hand, the 1998 OSPAR Convention for the Northeast Atlantic, which includes both marine waters within and beyond national jurisdiction, and the CAMLR Convention established under the Antarctic Treaty System, governing marine living resources in the Southern Antarctic Ocean.[258] On top

[251] Ole Arve Misund and Hein Rune Skojdal, 'Implementing the Ecosystem Approach: Experiences from the North Sea, ICES and the Institute of Marine Research, Norway' (2005) 300 Marine Ecology Progress Series 260; Fabra and Gascón (n 248), 570-1.
[252] Jane Lubchenco and Kirsten Grorud-Colvert, 'Making waves: the science and politics of ocean protection' (2015) 350 Science 6259, 382–383; Sylvester and Brooks (n 184).
[253] Lisa Boonzaier and Daniel Pauly, 'Marine protection targets: an updated assessment of global progress' (2016) 50(1) Oryx 27; UNEP-WCMC, IUCN, NGS, Protected Planet Report 2019 (UNEP-WCMC, IUCN and NGS, Cambridge University Press 2019) <https://www2.unep-wcmc.org//system/comfy/cms/files/files/000/001/445/original/Global_Protected_Planet_2018.PDF> accessed on 21 June 2024; Sylvester and Brooks (n 184).
[254] UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (adopted 16 November 1972, entered into force 17 December 1975) 1037 UNTS 151 (World Heritage Convention), 1358; Tanaka (n 3), 325.
[255] World Heritage Convention (n 254), art 2.
[256] Tanaka (n 3), 325.
[257] Elizabeth M De Santo, 'Implementation challenges of area-based management tools (ABMTs) for biodiversity beyond national jurisdiction (BBNJ)' (2018) 97 Marine Policy 34.
[258] Nocito and others (n 118), 5.

of these, the recent conclusion of the BBNJ also clearly articulates the possibility of establishing MPAs in the high seas. Despite the existence of MPAs in the high seas, however, marine biodiversity in ABNJ continues to be increasingly under pressure by overfishing, mining, pollution, climate change, data gaps and fragmented governance, to mention a few.[259] Inherently, marine conservation requires trade-offs to be made between different interests at stake, which becomes even more challenging in international waters.[260]

Among regional ocean bodies engaged in area-based protection, this Section iii will focus on CCAMLR as it provides a good example of continued commitment towards conservation and the use of science-based decision-making.[261] Additionally, it has clear jurisdictional boundaries, including provisions on protected closed areas, and its Commission counts with a membership of 25 Member States plus the EU.[262] However, it is not free from criticisms, as will be highlighted, especially in light of geopolitical and as well as socio-economic pressures which have haltered its potential to become a representative framework for high seas MPAs in the Southern Antarctic Ocean and across the whole globe.[263] Thus, the following paragraphs will be dedicated to analysing the effectiveness of the Antarctic region MPAs established under the CCAMLR, in view of achieving an integrated framework of protection and conservation of the marine environment.

To this extent, the CCAMLR has played an important role in the establishment of a framework of conservation for the Southern Antarctic Ocean. As one of the branches of the Antarctic Treaty System, the Convention has the explicit mandate to govern marine living resources in the Southern Antarctic Ocean.[264] It was established during the seventies, owing to an increasing concern towards the development of the krill fishery, especially sponsored by the distant Soviet fishing nation.[265] In fact, it was a time characterized by a growing interests by States to build fishing in offshore waters following the depletion of large stocks of predatory fish like tuna in territorial waters, the establishment of EEZs and, importantly, the increasing activity of primarily Soviet and Japanese fleets in the high seas after World War II and at the height of the Cold War.[266] The race for Antarctic resources by several nations, however, also

[259] Morgan E Visalli and others, 'Data-driven approach for highlighting priority areas for protection in marine areas beyond national jurisdiction' (2020) 122 Marine Policy 103927.
[260] Sylvester and Brooks (n 184), 11.
[261] Sylvester and Brooks (n 184), 11.
[262] Nocito and others (n 118), 5.
[263] Sylvester and Brooks (n 184), 11.
[264] Nocito and others (n 118), 5.
[265] Österblom and Olsson (n 187), 408.
[266] Österblom and Olsson (n 187), 409.

led to significant side effects including the substantial loss of the populations of Antarctic fur seals, southern elephant seals and a series of species of whales.[267]

Owing to the environmental impacts as well as political tensions that were resulting from various claims made by countries to rule over some Antarctic regions, countries convened to sign the Antarctic Treaty and subsequent protocols, in order to uphold international peace and the freedom of science, and prohibited sovereign claims over the region, military operations especially nuclear ones, seabed mining, and resources extraction in the area south of 60°S, without prejudice to the high seas regime under international law.[268] Specifically, its Environmental Protocol also installed obligations regarding protected species and areas, waste management, preventing marine pollution, environmental impact assessments and, most importantly, attested the intrinsic value of the Antarctic region for the environment, its aesthetic value, and its importance for scientific research.[269]

Eventually, in 1980 in Canberra, Australia, the Convention for the Conservation of Antarctic Marine Living Resources was signed and entered into force two years later.[270] It is a multilayered legally binding instrument which implements the 'rational use', scientific and commercial management of marine living resources bound by explicit conservation principles and approaches to avoid significant adverse and non-reversible effects on the marine ecosystem.[271] Specifically, 'rational use' is described as 'wise' and 'saving for the future use' as well as management that will "result in an equitable distribution of benefits between present and future users of the resource."[272] Additionally, article 3 of the Convention states that the CCAMLR must act in accordance with the Antarctic Treaty as well as its Environmental Protocol — an obligation which falls also upon States Parties to the Convention, even those whom are not party to the Antarctic Treaty.[273]

Although it can be argued that CCAMLR could be characterized as an RFMOs given that it carries out similar activities with regard to fisheries management, it distinguishes itself from traditional RFMOs in its origin, objectives, and membership.[274] Regarding its origin and

[267] Österblom and Olsson (n 187), 409.
[268] Brooks (n 182), 278.
[269] The Protocol on Environmental Protection to the Antarctic Treaty Protocol (adopted on 4 October 1991, entered into force in 1998) <https://www.ats.aq/e/protocol.html>; Nocito and others (n 118), 5.
[270] Österblom and Olsson (n 187), 409.
[271] The Convention on the Conservation of Marine Living Resources (adopted 20 May 1980, entered into force 7 April 1982) (CCAMLR Convention); CCAMLR, 'Report Of The CCAMLR Workshop On Marine Protected Areas' (CCAMLR 3005) <https://meetings.ccamlr.org/system/files/e-sc-xxiv-a7.pdf>; Nocito and others (n 118), 5.
[272] Brooks (n 182), 280.
[273] Report of the CCAMLR Workshop on Marine Protected Areas (n 271); Nocito and others (n 118), 6.
[274] Scott (n 183), 86.

membership, it is unique in so far as at the time of adoption less than half of its members actively fished in the region and currently, it is the only organization with competence in fisheries which still has Member States that do not fish.[275] In regard to its agenda, CCAMLR has a wider mandate than most RFMOs as it not only governs individual fish species, but rather it has a competence to also manage the conservation of the marine ecosystem as a whole over areas which encompass vast regions of the high seas.[276] In doing so, it has to apply the broader obligations of the Antarctic Treaty System to the seafloor, ice shelves and islands, while at the same time respecting the 1995 UN Fish Stock Agreement.[277] In doing so, importantly, it aims to integrate and mainstream conservation considerations into the management of marine living resources.

Importantly, the Convention adopts an 'ecosystemic' view of the ocean. This is because it presupposes as its jurisdictional boundary the Antarctic Convergence, characterized as the natural limit of the Antarctic marine ecosystem.[278] This view of the ocean is also manifest in the fact that CCAMLR governs all populations of Antarctic marine living species found south of the natural boundary, except for whales and seals which are regulated respectively by the 1946 International Convention for the Regulation of Whaling and the 1972 Antarctic Seals Convention.[279] Additionally, the Convention's ecosystemic view of the ocean has also extended into creating a so-called 'holistic framework' whereby, on top of prioritizing conservation over exploitation of marine living resources, CCAMLR also fosters an ecosystem-based and precautionary approach.[280] This physical conception of the marine area resembles the ecosystemic view and holistic approach sponsored by the MSFD in the context of the Mediterranean as illustrated in Section iii of Chapter 1.1. Precisely for how the CCAMLR accounts for the complex ecosystemic relationship between marine living resources and its Antarctic marine environment, it is renowned for its efforts towards becoming a leader in high seas' management, especially in light of its provisions on high seas area-based protection.[281] The focus placed by the Commission on the natural environment of the Antarctic region also fosters an ecocentric valuing of the ocean.

The regime of area-based protection established under the CCAMLR came because of biodiversity gaining momentum around the World. This momentum has grown alongside the

[275] Scott (n 183), 87; Brooks (n 182), 294–5.
[276] Österblom and Olsson (n 187), 410.
[277] Österblom and Olsson (n 187), 410; Nocito and others (n 118), 5.
[278] Fabra and Gascón (n 248), 574.
[279] Österblom and Olsson (n 187), 410; Fabra and Gascón (n 248), 574.
[280] CCAMLR Convention (n 271), art ii(3)a–c; Scott (n 183), 87.
[281] CCAMLR Convention (n 271), art i(3); Scott (n 183), 88; Brooks (n 182), 280.

efforts of the 1992 CBD, establishing the target of protecting 10% of the marine environment by 2012, first, then by 2020 and was consolidated in the UN Sustainable Development Goal 14.5 of Life Below Water.[282] Consequently, article 4 of the CCAMLR established a legal basis for the creation of closed protected areas on the basis of science or conservation, through an EBA aimed at fulfilling the requirement of 'rational use' of marine living resources of article 2 CCAMLR.[283] The procedure established in order to design such closed areas is carried out through Conservation Measures that ought to be agreed, adopted and modified by consensus of all its Member States.[284] Furthermore, as the CCAMLR needs to overlook the obligations enshrined in the Antarctic Treaty and its Environmental Protocol, this in theory allows for coordination between the CCAMLR Scientific Committee and the Committee on Environmental Protection for the MPAs network.[285] An institutional cooperation that has yet to be implemented across different organizations acting in the region such as the IMO, to allow for truly integrated and multi-sectoral MPAs.[286] Given the increasingly important role of MPAs in their potential proactive and precautionary measures for integrated environmental protection and conservation, the next few paragraphs will delve deeply into the MPAs established in the Southern Antarctic Ocean in view of a few key elements: institutional management, implementation and enforcement, connectivity, and representation.[287]

In the last fifteen years, CCAMLR has adopted two high seas MPAs. The first one was back in 2009 and was crafted to protect the South Orkney Islands Southern Shelf, extending over approximately 94,000 km2.[288] Importantly, it was the first ever MPA to be created in the high seas, which came to include under its protection not only the water column and airspace above but also its continental shelf, and fully prohibited fishing, without prejudice to research fishing as enshrined under the Convention Conservation Measure 21-01.[289] Although the MPA had unprecedented value as the first ever protected area in ABNJ, it was not free from criticisms, especially for giving in to political and pragmatism over science.[290] Indeed, firstly,

[282] Scott (n 183), 89.
[283] Nocito and others (n 118), 5.
[284] Nocito and others (n 118), 5.
[285] Scott (n 183), 103.
[286] Scott (n 183), 105.
[287] Brooks and others (n 187), 15.
[288] CCAMLR, 'Conservation Measure 91-03 Protection of the South Orkney Islands southern shelf' (2009) <http://archive.ccamlr.org/pu/E/e_pubs/cm/11-12/91-03.pdf>.
[289] CCAMLR, 'Conservation Measure 91 General Framework for the Establishment of CCAMLR Marine Protected Areas' (2011) <https://cm.ccamlr.org/en/measure-91-04-2011>; CCAMLR, 'Conservation Measure 24-01 The Application of Conservation Measures to Scientific Research' (2013) <https://cm.ccamlr.org/en/measure-24-01-2013>; Nocito and others (n 118), 6.
[290] Scott (n 183), 89.

the jurisdictional scope of the MPA was criticized for not including the area adjacent to the South Orkney Islands, believed to be the area with most value for conservation purposes.[291] Secondly, the proposal was only accepted by the big fishing nations of Japan, Russia, and South Korea as they admitted that "the area where fishing activity is carried out has been excluded from the original proposal so as to avoid restricting the fishery."[292]

The second MPA adopted in the Southern Antarctic Ocean was the 2016 Ross Sea region MPA. It is the highest high seas MPA to date, covering around two million km2 and divided into three zones: a General Protection Zone, a Special Research Zone, and a Krill Research Zone.[293] As the name suggests, the General Protection Zone is the only no-take zone, meaning that fishing is prohibited in what accounts for 72% of the MPA waters, except for research fishing as allowed under CCAMLR Conservation Measure 24-01.[294] On top of the restrictions to fishing activities, transshipment activities, except in case of emergency, as well as dumping at sea are prohibited within both MPAs.[295]

Although the Ross Sea MPA represented an important step forward towards the protection and conservation of a region of the high seas, it did come with several limitations visible already from its early negotiations' stages. In fact, since the beginning a lot of concessions were made during its five years of negotiations to reach consensus for its Conservation Measure under the CCAMLR regime, fostering doubts as to its legitimacy — implying several issues that come with the designation of MPAs in ABNJ.[296]

Undoubtedly, CCAMLR scientific, political and pragmatic framework of MPAs in the Southern Antarctic Ocean has proved successful in establishing no-take zones in marine spaces regarded as global commons.[297] However, at the same time, a study employed by the environmental researcher Cassandra Brooks revealed that the Commission's MPAs negotiation processes are clouded by a number of implications, including: a lack of transparency and due regard when following procedure; a failure to clearly define 'MPA' and the benefits that may be derived out of ABMTs; and, most problematic, a concern over a potential over-restriction

[291] Scott (n 183), 89.
[292] Scott (n 183), 89-90.
[293] CCAMLR, 'Conservation Measure 91-05 Ross Sea Region Marine Protected Area' (2016) <https://cm.ccamlr.org/en/measure-91-05-2016>.
[294] Julia Jabour and Danielle Smith, 'The Ross Sea Region Marine Protected Area: Can it be Successfully Managed?' (2018) 32 Ocean Yearbook 190, 192; Nocito and others (n 118), 6; Scott (n 183), 95.
[295] CCAMLR, 'Conservation Measure 51-04 General measure for exploratory fisheries for Euphausia superba in the Convention Area' (2022) <https://cm.ccamlr.org/en/measure-51-04-2022>; Scott (n 183), 96.
[296] Karen N Scott, 'Protecting the Commons in the Polar South: Progress and Prospects for Marine Protected Areas in the Antarctic', in K. Zou (Ed), *Global Commons and the Law of the Sea* (Brill Nijhoff 2018) 333; Scott (n 183), 97.
[297] Scott (n 183), 85.

of access to fish in light of the concept of 'rational use', especially with regard to Member States' right to fish.[298] Some of these limitations and related concerns will be dealt with in the following paragraphs on the evaluation of the two Antarctic MPAs in view of establishing an integrated regional regime of marine protection in the high seas.

Firstly, on top of their creation, in order for MPAs to be fully characterized as effective they ought to have a sufficient level of protection. In this regard, a 2022 study carried out by Emily Nocito and others thoroughly analysed the efficiency of the two Southern Antarctic Ocean MPAs in view of several aspects. Firstly, regarding the protection afforded to the MPAs, both the General Protection Zone of the Ross Sea MPA and the South Orkney Islands MPA were characterized as highly protected, which allows for not only a direct benefit to the conservation of biodiversity but also some other spillover benefits to ecosystem resilience, especially for migratory species and climate regulation through for instance carbon sequestration.[299] The Krill Research Zone and the Scientific Research Zone of the Ross Sea MPA were found to be lightly protected, offering little to no benefits, especially in regard to specific species.[300]

Secondly, implementation of a good level of protection is also important for the MPA to achieve its targets. In this regard, the South Orkney Islands, for which there is abundant data, has been working towards its objectives for over a decade and has been able to conserve the ecosystem, habitats and biological diversity thus far.[301] The same cannot be said about the other Antarctic MPA as there is not enough collected research spanning over the years. Overall, on top of the need to collect research, there is also the difficulty of ecological change of the Antarctic region which, given its history of resilience as well as variability, change takes a long time before it becomes apparent.[302] Therefore, this suggests that ecological change from anthropogenic activities may also still result for the 2009 South Orkney Islands MPA which has thus far succeeded in its conservation objectives

On top of this, the study also reviewed the efficiency of the two Southern Antarctic Ocean MPAs in view of their management. Accordingly, it concluded that they both categorize as actively managed.[303] Both MPAs have periodic reviewing processes, whereby the South Orkney Islands Southern Shelf MPA is reviewed every 5 years and the Ross Sea region once

[298] Scott (n 183), 94.
[299] Nocito and others (n 118), 16.
[300] Nocito and others (n 118), 16.
[301] CCAMLR, 'Report of the Thirty-Eighth Meeting of the Commission' (2019) <https://meetings.ccamlr.org/system/files/e-cc-38_0.pdf>.
[302] Nocito and others (n 118), 16-7.
[303] Nocito and others (n 118), 8.

every 10 years with further obligations of submitting every 5 years reports and tasks relating to administrative responsibility.[304] In regard to the latter, the administrative responsibility falls upon the CCAMLR Secretariat, who is in charge of carrying out the monitoring and compliance schemes, while the Convention's Member States are collectively responsible for the research, monitoring, assessment and enforcement of the MPAs framework — though, thus far, these have been mostly carried out by States motivated by scientific or other personal interests in the region.[305] Additionally, although the study found that both MPAs fall into the category of actively managed, there is no overall and true consensus among all Member States about the South Orkney Island MPA being actively managed as it was adopted prior to CCAMLR Conservation Measure 91-04 establishing the regime for MPAs that led to the subsequent development of the 2019 Ross Sea region MPA.[306]

Lastly, on top of the protection level afforded as well as the implementation and active management of such, the 2022 study also analysed the presence (or lack) of enabling conditions for achieving the MPAs objectives. An example of the scarcity of enabling conditions relates to the afore-mentioned (un)willingness of certain Member States to actively manage the MPA, especially when they do not fully agree with the research and monitoring plans.[307] This unwillingness and inconsistency of some Member States has fuelled, despite the Commission's extensive work over a long period of time, the lack of a developed framework especially in view of a systemic MPA representation over different marine biogeographic regions.[308] On the other hand, a condition that plays in favour of the MPAs regime is the fact that the Convention is part of the broader Antarctic Treaty System — which is unlike other regional ocean bodies such as RFMOs — and allows CCAMLR's work to be complemented by other frameworks for certain activities and impacts.[309] Nevertheless, it has been shown that the relation between the CAMLR Convention and the Antarctic Treaty and its Environmental Protocol is of a highly hierarchical nature, and thus has been questioned whether it aids in the implementation of a truly integrated system or if it leads to further tensions and conflicts in the common effort towards conservation.[310] As will be further explored in the following paragraphs, there are a plethora of conditions that do not enable the achievement of CCAMLR's MPAs agendas,

[304] Nocito and others (n 118), 9.
[305] Nocito and others (n 118), 9.
[306] Nocito and others (n 118), 9.
[307] Nocito and others (n 118), 17.
[308] Scott (n 183), 105.
[309] Nocito and others (n 118), 17.
[310] Fabra and Gascón (n 248), 586.

especially with regard to establishing an integrated framework of protection and conservation of ABNJ.

Limitations to the fulfilment of CCAMLR's objectives can come from both internal and external pressures. The latter refer to tensions which are not inherent to the framework itself, but that come as a consequence of the interplay between different actors and aspects particular to the region. For instance, the Southern Antarctic Ocean has historically been a highly geopolitical zone. Although a highly remote zone, the Southern Antarctic Ocean governance has been influenced by external political influences, evident in for instance the lengthy process of negotiations of MPAs.[311] An exemplary case was the taking of office in 2012 of Xi Jinping in China, which caused the country to shift from a passive to active player in negotiations, becoming a vocal opponent of the Commission, exacerbating the already tense climate created by Russia and United States relations.[312] This is of particular importance given the Commission's consensus-based decision-making which warrants for MPAs' proposals to be opposed, and thus not adopted or amended, as soon as one Member disagrees.[313]

At the same time, external political tensions also helped the negotiation process of the Ross Sea region MPA in the case of Russia's annexation of Crimea in 2014, which led to Ukraine being a less vocal supporter of Russia's criticisms towards the MPA and overall institutional setup of the CCAMLR.[314] Nonetheless, given the Commission's consensus-based decision-making procedure, economic, geopolitical and other individual interests at play are hard to remove, at the peril of CCAMLR central focus on the best science available.[315] For instance, the exclusion of an important conservation area from the South Orkney Islands Southern Shelf MPA back in 2009 in order to maintain commercial crab fisheries, is a reflection of favouring socio-economic factors over science and even conservation.[316] Even more generally, the tensions between conservation and economic interests have been at the core of the Russian delegation criticisms to the overall functioning of the Commission, in arguing that ABMTs are being used as a political tool to gather control over fishing in certain closed areas — criticisms which have also been backed up by China, with the difference that they stress the importance of the economic right to fish.[317]

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[311] Scott (n 183), 94.
[312] Nengye Liu and Cassandra M Brooks, 'China's changing position towards marine protected areas in the Southern Ocean: Implications for future Antarctic governance' (2018) 94 Marine Policy 189, 193; Scott (n 183), 94.
[313] Brooks (n 182), 295.
[314] Scott (n 183), 94.
[315] Sylvester and Brooks (n 184), 11.
[316] Sylvester and Brooks (n 184), 11.
[317] Sylvester and Brooks (n 184), 11.

In turn, these socio-economic and political tensions create or sometimes even exacerbate internal limitations of governance frameworks. Accordingly, one of the first relevant internal barriers of the framework of the Southern Antarctic Ocean MPAs is CCAMLR's institutional ambiguity. Since the creation of the first CCAMLR MPA back in 2009, Russia, China, and Ukraine's have criticized the Commission for its competence to designate MPAs under the Convention or the more general realm of law of the sea, arguing precisely that MPA's proposals are just more discrete ways for Coastal States to claim certain jurisdiction over Antarctic high seas waters or at least secure their fishing rights which is prohibited under the high seas regime of the LOSC.[318] In fact, the lack of transparency of the Commission in advocating for the benefits that can be derived from MPAs — apart from the uncontested ones of no-take zones — has nurtured suspicion towards the possibility of using MPAs for darker and less explicit motives, such as to consolidate Coastal State power in ABNJ or even secure certain economic fishing rights.[319]

On top of this, the Commission has failed to adopt a clear MPA definition or a set of overarching criteria for their establishment. This has fostered confusion amongst Member States in light of the simultaneous negotiations of numerous MPA proposals that have differed in terms of design, philosophy, scientific approach, objectives and sometimes even in terminology.[320] Additionally, the ambiguity over both the competence of the Commission and the concept of MPA as such, has resulted in Member States disregarding the best scientific research available, breaking institutional trust, and threatening the overall integrity of the ocean governance body.[321]

In fact, the creation of the South Orkney Islands Southern Shelf MPA manifested from the beginning the conflict that perpetuated by not outlining clear intentions for area-based protection, as it suggested a mutually-exclusive relation between, on one hand, fisheries management and, on the other, biodiversity conservation.[322] This relation is a longstanding debate that tries to resolve the extent to which fisheries management should be viewed as being part of or separate from the realm of marine protection and governance, and has relevance for global, regional as well as national ocean governance.[323] Given the interconnectivity of the marine environment, the separation between the two ought to become as thin as possible and,

[318] Scott (n 183), 94.
[319] Scott (n 183), 106.
[320] Scott (n 183), 106.
[321] Scott (n 183), 85.
[322] Scott (n 183), 105.
[323] Scott (n 183), 107.

with the recent adoption of the BBNJ agreement, this problematic nexus between fisheries and biodiversity conservation is likely to become of increasing concern.

On top of the institutional setup of the CAMLR Commission, another internal condition which plays a crucial role in creating a truly integrated framework of protection and conservation of the Southern Antarctic Ocean is representation and community engagement. Going back to the 2022 Emily Nocito and others study on the two Antarctic MPAs, community engagement was characterized as a central necessity for active management, as the CCAMLR framework is not only composed by its Member States' delegations but also an increasing array of "government officials, scientists, industry representatives, conservation organization and other intergovernmental organizations.[324] In this regard, the researchers highlighted that, although community engagement does happen to a certain extent, it is highly characterized by a hierarchical nature, whereby only Member States have decision-making power and other actors are merely observers capable of submitting papers and participating orally in order to try to influence decision-making.[325] Indeed, although non-governmental organizations as well as civil society actors are often responsible for spreading global awareness of adverse environmental impacts on the region, inciting public interest towards conservation, providing funding and scientific research as well as event organization, they are unable to acquire member status and are in no way included in the processes of MPA creation, implementation nor management.[326] Lastly, there also seems to be insufficient sectoral integration across complementary frameworks such as the ones from the IMO, the Convention on International Trade in Endangered Species of Wild Fauna and Flora or even the work of some RFMOs, for instance in light of illegal, unreported and unregulated vessel lists.[327]

Alongside the faulty community engagement and sectoral integration, there have also been criticisms towards the Commission's transparency. In this regard, observer actors are prohibited from attending scientific working group meetings, and, even more contentious is the fact that fisheries' data as well as CCAMLR's papers are not publicly available.[328] Notably, community and stakeholder engagement together with transparency among all actors involved are essential in ensuring, not only the adoption of ecologically sound MPAs, but also the success of overall marine conservation through ABMTs.[329] Poor engagement is also manifest

[324] Nocito and others (n 118), 9.
[325] Nocito and others (n 118), 9.
[326] Nocito and others (n 118), 15.
[327] Fabra and Gascón (n 248), 596.
[328] Nocito and others (n 118), 9.
[329] Sylvester and Brooks (n 184), 10.

in the afore mentioned lack of political will by certain States, such as Russia and China, for the adoption of the Ross Sea region MPA — whereby consensus was only achieved through high level diplomacy.[330] Ultimately, CCAMLR lengthy and difficult MPAs negotiations as well as their defective management, stem to a great extent from the increasing influences of National States individual interests in guaranteeing access to and control over resources in ABNJ at the peril of a more shared and pressing responsibility and concern for the Southern Antarctic Ocean conservation, as well as the health of the ocean as whole.[331]

Moreover, the inclusion of cultural values has also proven to be important for authentic representation in CCAMLR's decision-making process. Given the remoteness of the Antarctic region it was long believed that it was unable to support human life, however recent evidence has shown that the region is characterized by a strong relation between some Indigenous Māori people and the Antarctic marine environment.[332] To this date, however, the CCAMLR as well as its parent Convention, the Antarctic Treaty, have failed to give any redress to Indigenous cosmovisions and perspectives, except for the possibility to create protected areas on the basis of historical value and significance under the Environmental Protocol.[333] The previous Section has already shed a light on the benefits of the inclusion of traditional and Indigenous knowledge systems for ocean governance in light of the recent adoption of the BBNJ — benefits which could also spill over to regional mechanisms such as the CCAMLR. The role of Indigenous and traditional knowledge systems for the protection of the ocean will also be further explored in Chapter 2 Section iv.

Looking at what CCAMLR has achieved so far, it is evident that it has played an important role for the creation, implementation, and management of high seas MPAs. Remarkably, it does so in one of the Earth's regions that has suffered the most from adverse effects of climate change — thus paving the way for a truly precautionary climate-focused area-based protection.[334] Since 2012, CCAMLR has proposed several MPAs in Antarctica, yet their approval has been stymied by persistent opposition from certain Member States, highlighting the challenges of consensus-based decision-making in complex geopolitical contexts.[335]

[330] Sylvester and Brooks (n 184), 10.
[331] Österblom and Olsson (n 187), 415.
[332] Nocito and others (n 118), 15.
[333] Nocito and others (n 118), 15.
[334] Scott (n 183), 105.
[335] Scott (n 183), 105.

Theoretically speaking, consensus-based decision-making could help fulfil the double role of CCAMLR of, on one hand, keeping national interests at bay through its mandate on conservation and the possibility to halt measures by one vote when they are not environmentally sound and, on the other hand, incentivize fisheries through its 'rational use' concept — thus allowing for conservation and fisheries management to balance each other out.[336] However, in practice, this approach faces hurdles such as the availability of robust scientific data in a rapidly changing Antarctic environment and competing socioeconomic interests driven by global market dynamics.[337] A balance that is further threatened by the increasing number of fishing States within the Commission's framework as well as the growing fishing grounds as a result of melting Antarctic ice — tipping the scale towards economic rights over biodiversity conservation.[338]

The CCAMLR's regional situation underscores the need for moving away from entrenched economic-centric approaches toward more inclusive and ecologically sensitive frameworks. By embracing principles of equity, sustainability, and the common heritage of mankind, global efforts can better address the systemic challenges facing ocean conservation in ABNJ. Such a shift towards more community-based and biocentric notions of the marine environment is essential for achieving a comprehensive and integrated marine protection that truly safeguards the ecological integrity of our ocean and its biodiversity for current and future generations.

[336] Fabra and Gascón (n 248), 582.
[337] Fabra and Gascón (n 248), 582; Österblom and Olsson (n 187), 417.
[338] Brooks (n 182), 295; Fabra and Gascón (n 248), 597.

Chapter 2 Concepts and Approaches for an Integrated Framework of Marine Protection and Preservation

The ocean is still regarded to a great extent as a vast, remote and inaccessible area, but international, regional, and national State practice has far strayed from that perception. This is evident both in the increasing number and reach of human activities as well as their adverse impacts on the marine environment.[339] The common perception of the remoteness of the ocean is also what leads the majority of people not feeling directly concerned by its health and resilience as the effects to it are not so apparent — thus underestimating the scale and importance of the problem.[340] On the contrary, its vastness makes it one of, if not the most, important ecosystem for the health and functioning of the Earth — for instance, visible in the self-sustaining processes of global temperatures, water acidity and oxygen circulation as well as its role in major environmental mass extinctions such as the Permian mass extinction, which led to the eradication of 90% of all marine taxa.[341] Recently, instances such as the Covid-19 pandemic have shown how narratives and perspectives influence global response to global problems — implying the necessity of attributing the right importance to the ocean for its protection and conservation.[342]

At the heart of the issue, it is imperative for the system of ocean protection and conservation to mend back together the relationship between humans and the ocean. Similarly, it is also important to foster the idea of an interrelated and interconnected ocean. Contrary to the International Hydrographic Organization, amongst other organizations, conception of separated 'oceans' — including the Atlantic, Pacific, Indian, and Arctic Oceans — the ocean is a unified yet heterogeneous Earth ecosystem on which humanity's well-being is also dependent.[343] Both the characterization of the ocean as a single interrelated ecosystem and its

[339] Per Espen Stoknes, *What we think about when we try not to think about global warming* (Chelsea Green 2015); Jane Lubchenco and Steven D Gaines, 'A new narrative for the ocean' (2019) 364(6444) Science 911; Dan Laffoley and others, 'Evolving the Narrative for Protecting a Rapidly Changing Ocean, post-COVID-19' (2021) 31 Aquatic Conservation: Marine and Freshwater Ecosystems 1512, 1513.
[340] Laffoley and others (n 339).
[341] Will Steffen and others, 'The emergence and evolution of Earth system science (2020) 1(1) Nature Reviews: Earth and Environment 54; Benjamin J Burger, Margarita Vargas Estrada and Mae Sexauer Gustin, 'What caused Earth's largest mass extinction event? New evidence from the PermianTriassic boundary in northeastern Utah' (2019) 177 Global and Planetary Change 81; Jun Shen and others, 'Evidence for a prolonged Permian–Triassic extinction interval from global marine mercury records' (2019) 10 Nature Communications 1563; Laffoley and others (n 339), 1513-4.
[342] Joachim Claudet and others, 'A roadmap for using the UN Decade of Ocean Science for Sustainable Development in support of science, policy, and action' (2020) 2(1) One Earth 34; Lubchenco and Gaines (n 339); Laffoley and others (n 339), 1514.
[343] International Hydrographic Organization, 'Limits of oceans and seas' (International Hydrographic Organization 1986) Special Publication No. 23 <https://epic.awi.de/id/eprint/29772/1/IHO1953a.pdf> accessed on 25 June 2024; Steffen and others (n 341); Laffoley and others (n 339), 1515.

connection to the human species are notions crucial for a comprehensive and integrated protection and preservation thereof.

It is in the context of the recognition of the importance of the ocean for society that the interplay between, on the one hand, anthropocentrism and, on the other, ecocentrism becomes significant. Although this dichotomy has been opposed by several scholars, it still serves as a useful paradigm under which to frame the necessary shift in perspective of the nature man nexus.[344] Recalling as it has been done throughout the thesis, anthropocentrism rests on one side of the spectrum that relies on the premise of a hierarchical separation between humans and nature; a perception that was established under the impression that nature and its resources were abundant and could therefore be used to satisfy the needs and wants of the human species.[345] This view has informed most of modern law on the marine environment. Whereas ecocentrism is on the other side of the spectrum, with biocentrism or what is sometimes referred to as weak anthropocentrism standing somewhere in the middle between the two extremes.[346] Both ecocentrism and biocentrism advocate for an equal and reciprocal relationship between man and nature, with the latter stressing the responsibility that humans have towards the protection of nature.[347] It is within biocentric and ecocentric positions that a heightened responsibility towards the environment has been able to be cultivated. Similarly, according to the hypothesis posed by this thesis, it is within more biocentric and ecocentric notions of the environment that a truly integrated ocean protection and preservation can be fostered.

Legally, the international recognition of the human-nature nexus originated from the start of the 21st century with the aid of UN resolutions, such as the 2005 Human Rights Commission Resolution 2005/60 on human rights and the right to a healthy environment in light of sustainable development.[348] Other resolutions include the 2008 General Assembly of the Organization of American States AG/RES 2429 exploring the relationship between climate change and human rights and the subsequent 2009 Human Rights Council Resolution 10/4 that

[344] Andreas Philippopoulos-Mihalopoulos, 'Actors or Spectators? Vulnerability and Critical Environmental Law' (2013) 3 Oñati Socio-Legal Series 854; Anna Grear, 'Multi-Level Governance for Sustainability: Reflections from a Fractured Discourse—a Response to Bosselmann', in Klaus Bosselmann and Anna Grear (eds), *New Zealand and the EU: Contested Futures: Sustainability, Governance and International Human Rights* (Europe Institute, University of Auckland 2010) 73; Grear (n 344); De Lucia (n 20), 94.
[345] Sandra Constanza Celis Sarmiento, 'Los Derechos de la Naturaleza como Herramienta Jurídica Para la Protección del Medio Ambiente en Colombia' (Universidad de los Andes 2021); Lamprea Montealegre (n 13).
[346] De Lucia (n 20), 99.
[347] Vicente Giménez (n 13), 11.
[348] UN Commission on Human Rights, 'Human Rights Resolution 2005/60: Human Rights and the Environment as Part of Sustainable Development' (20 April 2005) UN Doc E/CN.4/RES/2005/60 <https://www.refworld.org/legal/resolution/unchr/2005/en/38926>; Vicente Giménez (n 13), 7.

produced the Special Report on the matter.[349] The impacts of environmental pollution more broadly on human rights had already been recognized back on 9 December 1994 by the European Court of Human Rights, establishing a relation between article 8 of the European Convention of Human Rights on the right to respect for his private and family life, his home, and his correspondence and environmental pollution as a whole.[350]

It was then more recently, with the 2015 Paris Agreement, that a path towards a more biocentric perspective was established through the development of the 2020–2030 Agenda on climate justice.[351] The latter presupposes not only a clear link between the impacts of climate change on human rights, but also the fact that the climate crisis will not impact everyone to the same extent, insofar as even the least responsible will equally suffer, if not more, the consequences of climate alterations.[352] The difference between an anthropocentric view of the environment and a biocentric one is that, although both presuppose the protection of the environment as an extension of the protection of human beings, the latter stresses the heightened responsibility of humans towards the care for the environment, within the concepts of environmental, climate and ecological justice.[353]

The importance of the ocean is gaining increasing awareness as evident also in the last UN Framework Convention on Climate Change Conference of Parties decisions recognizing it as an 'integral part' of the Earth's climate system and setting up specific and open dialogues on the nexus between the ocean and climate and the overall human responsibility towards its safeguarding.[354] So much, that the 2022 UN Special Rapporteur on Climate Change and Human Rights report alluded to the increasing climate change impacts that are impacting human beings beyond marine ecosystem services such as food provision, but also in terms of "permanent loss of and ocean territories and their associated ecosystems, livelihoods, culture, and heritage."[355] This outlined the ever-more close connection between the ocean and culture, thus highlighting

[349] Organization of American States, 'Human Rights and Climate Change in the Americas' General Assembly AG/Res 2429 (XXXVIII-O/08) (3 June 2008); Human Rights Council, 'Human Rights and Climate Change' (25 March 2009) UN Doc A/HRC/RES/10/4; Vicente Giménez (n 13), 7-8.
[350] *López Ostra v Spain* App No 16798/90 (ECtHR, 9 December 1994); Vicente Giménez (n 13), 8.
[351] Conference of the Parties, 'The Paris Agreement' (12 December 2015) UN Doc FCCC/CP/2015/L.9/Rev/1; Vicente Giménez (n 13), 8.
[352] Vicente Giménez (n 13), 9.
[353] Vicente Giménez (n 13), 11.
[354] UNFCCC Conference of Parties, 'First Global Stocktake, Fifth Session' (13 December 2023) UN Doc FCCC/PA/CMA/2023/L.17; Laffoley and others (n 339), 1517.
[355] UNGA, 'Report of the Special Rapporteur on the Promotion and Protection of Human Rights in the Context of Climate Change, Promotion and Protection of Human Rights in the Context of Climate Change Mitigation, Loss and Damage and Participation' (26 July 2022) UN Doc A/77/226, para 49; Morgera and others (n 45), 459.

the importance of building back connection between humans and nature for the protection of the both.

Therefore, it is within the three models of environmental, climate and ecological justice that the relationship of care and responsibility between man and nature is established. In this regard, ecological justice goes one step forward in adopting a more ecocentric view of the environment, whereby nature is perceived as intrinsically important and human beings as an integral part of the global environment.[356] This ecocentric view of the environment has fostered debates on the possibility of attributing environmental personhood to natural elements in view of adapting the current model of resource extraction and use to a planet of limited and increasingly scarce resources.[357]

Accordingly, Chapter 1 has highlighted the strengths and limitations faced by the current system of ocean governance in welcoming an integrated framework of marine protection and preservation. In both marine AWNJ and ABNJ, the international and regional frameworks of protection and preservation are insufficiently protecting an increasingly threatened ocean — as seen by the growing impacts of anthropogenic activities on the resilience and health of the ocean and the inability of certain marine ecosystems to self-sufficiently regain their optimal state.[358] Current law of the sea, as its parent realm of modern international environmental law, continues to carry forward a vision of the ocean that perpetuates it as a highly-sectoral and divided space, calling for a thorough reconsideration of the ontological division between humans and nature.[359]

Furthermore, the ocean's intrinsically transnational and without borders nature calls for an equally transnational and thus integrated regime of protection of its marine environment and conservation of its biodiversity. The so-called 'constitution of the oceans' — this being the 1982 LOSC — ought to stray away from Westphalian conceptions of the ocean and more towards, as suggested by Tanaka back in 2008, an integrated management of the ocean.[360] The current globalized nature of international law and the subsequent increasing role of regional

[356] Vicente Giménez (n 13), 6.
[357] Vicente Giménez (n 13), 5.
[358] Noelia Zafra-Calvo and others, 'Plural valuation of nature for equity and sustainability: Insights from the Global South' (2020) 63 Global Environmental Change 102115; Ghijselinck (n 1).
[359] Louis J Kotzé and Sam Adelman, 'Environmental law and the unsustainability of sustainable development: A tale of disenchantment and of hope' (2022) 34 Law and Critique 227; Lieselotte Viaene, Peter Doran and Jonathan Liljeblad, 'Editorial special section: 'Transitional justice and nature: A curious silence' (2023) 17(1) International Journal of Transitional Justice 1; Fátima Alves and others, 'The Rights of Nature and the Human Right to Nature: An Overview of the European Legal System and Challenges for the Ecological Transition' (2023) 11 Frontiers in Environmental Science 1, 2.
[360] Yoshifumi Tanaka, *A Dual Approach To Ocean Governance: The Cases Of Zonal And Integrated Management In International Law Of The Sea* (Routledge 2008); Martin (n 77), 474.

and transnational actors calls for an integrative and coordinated international governance of the ocean.[361] Although international law of the sea has conveniently adopted an approach that divides the ocean into jurisdictional zones, there is a need to shift its conception as one big ecosystem, unified and universally treated.[362] This conception is what could be advanced by a comprehensive and integrated approach to ocean protection and preservation.

Several concepts and approaches have evolved over centuries to advocate for a more holistic and cohesive protection and preservation of the marine environment. This Chapter delves into a few selected concepts and approaches prevalent in international environmental law and the law of the sea, at international, regional and national level — notions which have been already identified in Chapter 1. Examining their practical implications and contributions to modern ocean governance, these frameworks are not only theoretical constructs but have also been implemented to varying extents globally and have been selected upon the criteria that they envision the ocean as and interrelated, undivided and integrated space that ought to be protected as such. On top of that, these theoretical and practical constructs have been identified for their conception of the marine environment as evermore interdependent with human beings and their activities, thus allowing for the reconciliation of man-nature relationships as envisioned under biocentric philosophies.

These pivotal notions that shape contemporary approaches to ocean protection and conservation include: (i) the EBA, which integrates multidisciplinary knowledge on sustainable marine management; (ii) the valuation of marine ecosystems based on their ecosystem services, with an emphasis on equitable distribution; (iii) the role of ABMTs such as MPAs and MSP that aim to mitigate the cumulative impacts present in the ocean in a designated area; (iv) the integration of traditional and Indigenous knowledge systems and cosmovisions into modern environmental governance to ensure culturally appropriate and sustainable practices; and (v) the doctrine of environmental personhood and the rights of nature movement, advocating for legal recognition of ecosystems and natural entities as rights-holders to counter anthropocentric and objectivist views. By critically analysing these concepts and their application in various contexts, this Chapter aims to contribute to the ongoing discussion on effective and equitable ocean governance strategies that foster an integrated model of ocean governance worldwide.

[361] Martin (n 77), 475.
[362] Łaszewska-Hellriegel (n 218), 1378.

i. Ecosystem-based Approach (EBA)

Before delving into the analysis of the implications for the adoption of an ecosystem-based approach to ocean governance for a more integrated framework of marine protection, some clarifications ought to be made on terminology. The terms ecosystem approach and ecosystem-based approach — as well as ecosystem management and ecosystem-based management among others — are often used interchangeably, but they do have different implications in environmental management.[363] Both aim at sustainably managing ecosystems but vary in terms of focus, scope, and application.

The ecosystem approach was mainly adopted in the context of the 1992 CBD which elaborated guidelines and principles to guide its application within one type of activity or sector in light of: (a) integrated management of resources for conservation and sustainable use; (b) biological organization of important ecosystem processes and functions; and (c) the integration of human cultural diversity in management strategies.[364] For instance, the Food and Agriculture Organization adopts within its sector mandate an ecosystem approach aimed at solely managing fisheries.[365] However, in an effort to move beyond a sectoral application of the ecosystem approach, two years after the adoption of the CBD, environmental scholar Edward Grumbine proposed an influential definition of ecosystem management, which he believed "integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long term."[366]

Thus, the EBA was coined and came to include notions such as: (a) holistic management of cumulative effects of several activities rather than focusing on strictly one sector; (b) place-based focus on a specific ecosystem while simultaneously acknowledging the interconnectedness within and across different ecosystems (such as land-sea interactions); and,

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[363] Hanling Wang, 'Ecosystem Management and Its Application to Large Marine Ecosystems: Science, Law, and Politics' (2004) 35 Ocean Development and International Law 43; De Lucia (n 20), 100.

[364] UN Environmental Programme, 'Ecosystem approach' (*UNEP: Biodiversity A-Z*, 3 August 2023) <https://www.biodiversitya-z.org/content/ecosystem-approach> accessed on 25 June 2024; Convention on Biological Diversity, 'Ecosystem Approach' (*CBD*, 6 December 2023) <https://www.cbd.int/ecosystem> accessed on 25 June 2024; Richard Curtin and Raul Prellezo, 'Understanding Marine Ecosystem Based Management: A Literature Review' (2010) 32 Marine Policy 772; Food and Agriculture Organisation (FAO), Fisheries Management. The Ecosystem Approach to Fisheries. FAO Technical Guidelines for Responsible Fisheries. (No 4, Suppl 2. Food and Agriculture Organizations of the United Nations 2003) 13 <https://www.fao.org/in-action/globefish/publications/details-publication/en/c/346126/> accessed 25 June 2024.

[365] FAO Fisheries and Agriculture, 'What is EAF' (*FAO* 2024) <https://www.fao.org/fishery/en/eaf-net/about/what-is-eaf> accessed on 25 June 2024.

[366] Robert Grumbine, 'What is Ecosystem Management?' (1994) 8 Conservation Biology 27; Cecilia Engler, 'Beyond Rhetoric: Navigating the Conceptual Tangle towards Effective Implementation of the Ecosystem Approach to Oceans Management' (2015) 23 Environmental Reviews 288, 290.

importantly, (c) decision-making implementing and integrating several perspectives — from the ecological to the social, economic and institutional.[367] In this regard, in 2005 a scientific consensus on marine EBA was led by a group of American scientific and policy experts.[368] Indeed, the approach was defined as: an integrated framework to management in considering both ecosystem and human heath; aimed at maintaining health, productive, and resilient ecosystems capable of providing ecosystem services; and, most importantly, contrasting other applications of the approach which focused on a single sector by taking into account the cumulative impacts of different sectors on the ecosystem.[369] Accordingly, the EBA is often considered a more integrated and holistic management, as it aims to cumulatively look at all activities within a distinctive geographic or socio-economic area.[370] Therefore, in view of exploring the path towards a more integrated ocean protection and preservation and doing so adopting the position that the ocean is one heterogeneous ecosystem and interrelated with human beings, the term of EBA will be preferred.

The EBA is defined as an integrated legal and governance management strategy for land, water and living resources aiming for "conservation and sustainable use in an equitable way."[371] Indeed, it adopts a broader and more holistic framework that "requires consideration of whole system rather than individual components."[372] It is holistic in the way it cumulatively assesses both the multiple element of an ecosystem and the different factors at play and their respective natural or anthropogenic causes resulting from human activities. [373] While the integrative notion comes from the fact that the approach entails an analysis of the environmental as well as economic and social considerations in the management of ecosystems by integrating a multidisciplinary assessment of knowledge.[374]

Importantly, the EBA is characterized by the application of appropriate scientific knowledge and methodologies, considering all interactions amongst organisms and their ecosystems as well as recognizing humans as an integral part of many ecosystems.[375] These

[367] Maaike Knol, 'Marine Ecosystem Governance in the Making. Planning for Petroleum Activity in the Barents Sea- Lofoten Area' (PhD Dissertation, Faculty of Biosciences, Fisheries and Economics, Norwegian College of Fishery Science, 2010) 13–14; UNEP 'Ecosystem Approach' (n 364).
[368] Karen L McLeod and others, 'Scientific consensus statement on marine ecosystem-based management' (21 March 2005) <https://marineplanning.org/wp-content/uploads/2015/07/Consensusstatement.pdf>
[369] McLeod and others (n 368); Engler (n 366).
[370] De Lucia (n 20), 101.
[371] Decision V/6 'Ecosystem Approach' adopted by the Conference of the Parties to the Convention of Biological Diversity at its Fifth meeting, Nairobi (15-26 May 2000) UNEP/COP/5/23.
[372] Jutta Brunnée and Stephen J Toope, 'Environmental security and freshwater resources: a case for international ecosystem law' (1994) 5 Yearbook of International Environmental Law 41; Engler (n 366), 291.
[373] Engler (n 366), 291.
[374] Engler (n 366), 291.
[375] Decision V/6 'Ecosystem Approach' (n 371); Grumbine (n 366); Engler (n 366), 291.

interactions highlight how each ecosystem component is connected across both intertemporal and cross-scale ecosystem processes.[376] In this regard, the approach works parallel to the ecosystem services framework, in so far as it studies the services the ecosystem provides to humans.[377] The ecosystem services framework will be dealt with in the following Section ii. Indeed, the ecosystem services framework is often regarded as an anthropocentric concept for its continued conception of the environment as a provider of services.[378] However, unlike the ecosystem services framework, the EBA employs a broader study of these interactions across all organisms, and their activities, part of an ecosystem. Accordingly, it welcomes a more biocentric perspective, offering a shift in perspective of how to reconcile man and nature relationships and the responsibility human beings have towards the protection of the environment.[379] At the very least, it allows for the study of interlinkages of different elements of an ecosystem and their interactions with ecological, social, and economic factors — an analysis of the whole sum of its parts.[380] This is of particular relevance for the marine environment considering its unique characteristics of opacity, remoteness, complexity, and connectivity — which at the same time inform the difficulties in applying a marine EBA.[381]

Another significant element of the EBA is its area-based nature. This means that it associated with a specific area, which in turn is delimited by defined ecological boundaries, rather than socially constructed ones.[382] In this regard, environmental scholar Steven Yaffee, amongst others, argues that the boundaries ought not to be physical ones, but rather understood under a process-based view that considers the entirety of ecosystem functioning mechanisms.[383] This view allows for the approach to be a more holistic and dynamic concept,

[376] William Howarth, 'The Progression Towards Ecological Quality Standards' (2006) 18 Journal of Economic Literature 3, 4; De Lucia (n 20), 92.
[377] Tundi Agardy and others, Taking Steps Toward Marine and Coastal Ecosystem-Based Management. An Introductory Guide (UNEP 2011) Regional Seas Reports and Studies No 189 ; De Lucia (n 20), 104.
[378] Susan Emmenegger and Axel Tschentscher, 'Taking Nature's Rights Seriously: The Long Way to Biocentrism in Environmental Law' (1994) 6 Georgetown International Environmental Law Review 545, 547–48; Richard Brooks, Ross Jones and Ross Virginia, *Law and Ecology: The Rise of the Ecosystem Regime* (Ashgate 2002).
[379] De Lucia (n 20), 96.
[380] Kalyani Robbins, 'An ecosystem management primer: history, perceptions, and modern definition', in Kalyani Robbins (ed), *The Laws of Nature: Reflections on the Evolution of Ecosystem Management and Policy* (University of Akron Press 2013); Brunnée and Toope (n 372); Engler (n 366).
[381] Bruce G Hatcher and Roger H Bradbury, 'Marine ecosystem management: is the whole greater than the sum of the parts?', in Donald R Rothwell and David L VanderZwaag (eds), *Towards principled oceans governance: Australian and Canadian approaches and challenges* (Routledge 2006); Engler (n 366).
[382] Judith A Layzer, 'Ecosystem-based management: an empirical assessment', in Kalyani Robbins (ed), *The Laws of Nature: Reflections on the Evolution of Ecosystem Management and Policy*, (University of Akron Press 2013); Engler (n 366), 291.
[383] Robbins (n 380).

which are important characteristics given that identifying strict boundaries of an ecosystem is not an easy scientific endeavour — even more so in marine and coastal ecosystems.[384]

Given the different array of factors at play with an EBA, it is often advocated that management should be decentralized and characterized by collaborative decision-making. In regard to the former, it is deemed necessary to foster stakeholder participation, balance different interests at stake, as well as nurture efficiency, ownership, and equity.[385] Given ecosystems are spatially nested and intertwined it is therefore crucial that management is coordinated, integrated, and complementary.[386] It is within these concepts that collaborative decision-making is essential. It allows for the permeation of knowledge from different sectors, stakeholders, and local people.[387]

Furthermore, the EBA came about in order to halt, and even reverse, the growingly threatening impacts to the environment and its biodiversity, through an ambitious agenda that aims to simultaneously "protect the environment, maintain healthy ecosystems, preserve biological diversity, and achieve sustainable development."[388] Accordingly, the approach should focus on long-term objectives in order to account for the varying and dynamic temporal scales of ecosystem processes.[389] The framework is often associated with ecological justice, as likewise, it rests on the premise of a complex interdependence between an integrated system of nature and humans as well as all other organisms and aims to allocate value and benefits in a fair and equitable way.[390] The notion of complexity comes from the fact that the EBA stresses the interplay between cumulative effects and impacts on the environment, adopting a precautionary approach where there is insufficient information on adverse effects and an adaptive management strategy which aims to flexibly respond to the scientific knowledge available on ever-changing environmental conditions.[391]

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[384] Steven A Murawski, 'Ten myths concerning ecosystem approaches to marine resource management' (2007) 31 Marine Policy 681; Engler (n 366), 291.
[385] Decision V/6 'Ecosystem Approach' (n 371); Engler (n 366), 292.
[386] McLeod and others (n 368); Engler (n 366), 292.
[387] Decision V/6 'Ecosystem Approach' (n 371); Engler (n 366), 292.
[388] Millennium Ecosystem Assessment, 'Ecosystems and Human Well-being: A Framework for Assessment' (Island Press 2003) 1 <https://www.millenniumassessment.org/documents/document.765.aspx.pdf> accessed on 25 June 2024; Secretariat of the Convention of Biological Diversity (CBD), *The Ecosystem Approach* (CBD Guidelines 2004); De Lucia (n 20), 92.
[389] Engler (n 366), 292.
[390] Rodrigo Míguez Núñez, 'Natura, danno, soggetti. Riflessioni in tema di giustizia ecologica' (2019) 2 Corti supreme e salute 370; Digno José Montalván Zambrano, 'Justicia ecológica' (2020) 18 Eunomía. Revista en Cultura de la Legalidad 179; Rodrigo Míguez Núñez, 'Né Persone Né Cose: Lineamenti Decostruttivi per Un Rinnovamento Concettuale Della <<summa Divisio>>' (2021) 39 Revista Critica del Diritto Privato 359, 380.
[391] De Lucia (n 20), 92-3; Engler (n 366), 292.

Precisely for this reason, data collection and monitoring systems are essential in gather all the relevant knowledge for the proper functioning of an ecosystem, together with Indigenous and local knowledge.[392] The Report on the work of the UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea highlights the use of the best available science about ecosystems, in view of the precautionary approach and through impact assessments, to achieve ecosystem integrity in its entirety, taking into consideration all species, communities, and ecosystem functions in a specific area.[393] Benefits associated with more adaptive and flexible management schemes are the promotion of more proactive and collaborative frameworks which can impact the regulated entities' behaviour.[394]

It is precisely for the rationale behind the creation of the EBA, as well as its established agenda within ecosystems, that it resonates with ecocentric and biocentric positions. The possibilities of welcoming every factor at play in the functioning of an ecosystem allows for the integration of scientific as well as philosophical and cultural notions, from Indigenous cosmovisions to rights of nature, and inherently questions the relationship between humans and nature.[395] The latter theme resonates with one of the main objectives of the approach, this being the study of the extent to which humans should interfere in a specific environment so as to not cause any irreversible or unproportional damage to it.[396] Thus, although the EBA does not take a strict ecocentric view, it acknowledges the inevitable structural and systematic economic implications of human activities at sea and it aims to oppose them by placing the focus on nature and its life supporting systems, analysing how to accommodate or reconcile incompatible uses and mitigate negative externalities.[397] This, in turn, requires dismantling the separation between humans and nature and perceiving ecosystems as wholes which include, although not exhaustively, human beings.[398] It is then this notion of a plurality of different elements within ecosystems that allows for the possibility of rights to be attributed to non-human entities, in order to, *inter alia*, protect ecological integrity as well as more vulnerable elements.[399] This perspective will be explored in Section v.

[392] Decision V/6 'Ecosystem Approach' (n 371); Engler (n 366), 292.
[393] UNGA, 'Report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its Seventh Meeting' (17 July 2006) UN Doc A/61/156, 43.
[394] Engler (n 366), 293.
[395] De Lucia (n 20), 103-4.
[396] Grumbine (n 366), 28, 35.
[397] Matthew Paterson, 'Legitimation and Accumulation in Climate Change Governance' (2010) 15 New Political Economy 345; Alf Hornborg, *The Power of the Machine: Global Inequalities of Economy, Technology, and Environment* (Altamira Press 2001); De Lucia (n 20), 104.
[398] Grumbine (n 366), 35; De Lucia (n 20), 105.
[399] Grumbine (n 366), 35; De Lucia (n 20), 105.

Now we turn towards the specific implications of the application of the EBA in international environmental law and international law of the sea. In this regard, the majority of international environmental law is still regarded as highly anthropocentric, and so is its application of the EBA, as it still manages resources and their use in view of perpetuating and supporting global production and consumption patterns.[400] For instance, this is evident in the application of the EBA in the Southern Antarctic Ocean, whereby CCAMLR often prioritizes fisheries matters over conservation matters even within its MPAs — as discussed in Chapter 1.2.iii.

Furthermore, the articulation of the EBA in international environmental law and law of the sea has different sources of confusion. These stem from three main reasons: (a) the binary implementation of the approach in either a sectoral or area-based nature; (b) the highly complex nature of the EBA concept; and (c) the ambiguity and vagueness of its objectives.[401] In accordance to the first issue (a), although a sectoral application of the EBA may be more practical as it builds upon existing institutions and processes, it seems to go against the very nature of the integrative nature of the framework, thus making it difficult to address the different impacts and drivers of anthropogenic activities.[402] For this very reason, it is also true that a more integrated and holistic implementation of the EBA necessitates a revolution of institutional and legal arrangements — changes that may lack political will of government agencies or relevant stakeholders.[403] As for the second issue (b), scholar Serge Garcia identifies three paradigms that render the EBA a complex concept in relation to fisheries, these being: (i) the cognitive framework relating to how the concept is defined; (ii) the normative framework relating to the normative force of approach in legal doctrine; and (iii) the operational framework, this being the procedural aspects of its implementation.[404]

The complex nature of the EBA is further exacerbated by the third issue (c) of ambiguity and lack of consensus of its substantive goals. There seems to be little disagreement in the literature that the focus of the approach is conservation, however discrepancies organize

[400] Klaus Bosselmann, *The Principle of Sustainability: Transforming Law and Governance* (Ashgate 2008); Gillespie (n 20); Hornborg (n 397); Paterson (n 397).
[401] Engler (n 366), 293.
[402] James H Cowan and others, 'Challenges for implementing an ecosystem approach to fisheries management' (2012) 4(1) Marine and Coastal Fisheries: Dynamics, Management and Ecosystem Science 496; Engler (n 366), 294.
[403] Cowan (n 402); Engler (n 366), 293.
[404] Serge Michel Garcia, 'The ecosystem approach to fisheries: implementation framework and agenda', in *Ecosystem Approaches and Oceans* (United Nations 2007); Engler (n 366), 294.

around what purpose should this conservation play.[405] It is in this regard that ethical considerations are important. More anthropocentric considerations will focus on the management of natural resources, for instance, for the ecosystem services they can provide, while more ecocentric notions will focus on elements such as ecological health, integrity, and restoration — notions more in line with the objectives of ABMTs such as MPAs and MSP.[406] The role of ABMTs will be discussed in detail in Section iii. Nonetheless, the EBA it is still greatly seen as a mere methodological market-oriented framework, which guides practices that portray a nature that ought to be tamed — justified under both a scientific and a legal rationale.[407]

Indeed, as we have seen in Chapter 1, the EBA is vaguely articulated in different instruments. Beginning from non-binding reports, declarations, and resolutions adopted under the auspices of the UN Conferences on Environment and on Environment and Sustainable Development such as the 1972 Stockholm Declaration, the 1992 Rio Declaration and the 2012 Report on the Future We Want, to mention a few.[408] While in AWNJ, ecosystem have been indirectly protected mainly through provisions that either protect from a certain type of pollution, relate to specific species, regulate certain activities and/or that apply to specific regions.[409] Thus, this highly fragmented spectrum of multilateral and bilateral instruments, on top of the highly sectoral nature of domestic legislation, render the implementation of an integrated and holistic EBA significantly challenging.[410]

At the same time, Chapter 1.1 has identified that within this fragmented international legislation in AWNJ, there are two main international conventions that aim to comprehensively deal with ocean governance matters. The first instrument is the 1982 LOSC. Although the LOSC includes certain provisions which may facilitate the implementation of an EBA, it was not initially drafted with the objective to implement the approach.[411] This is evident in the lack of mention to it in its text and the adoption of traditional zonal approach together with a market

[405] J Baird Callicott, Crowder Larry B and Mumford Karen, 'Current normative concepts in conservation' (1999) 13(1) Conservation Biology 22; Engler (n 366), 295.
[406] Callicott (n 405); Murawski (n 384); Engler (n 366), 295.
[407] UNGA Res 66/288, 'The Future We Want' (27 July 2012) UN DOC/A/RES/66/288, s III, para 56ff; Jane Holder, 'New Age: Rediscovering Natural Law' (2000) 53 Current Legal Problems 151, 165; De Lucia (n 20), 114.
[408] Engler (n 366), 308.
[409] Dan Tarlock, 'Ecosystems', in Daniel Bodansky, Jutta Brunnée, and Ellen Hey (eds), *The Oxford Handbook of International Environmental Law* (Oxford University Press 2007); Chidi Oguamanam, 'Biodiversity', in Shawkat Alam (ed), *Routledge handbook of international environmental law* (Routledge 2013); Engler (n 366), 310.
[410] Oguamanam (n 409); Engler (n 366), 310.
[411] Engler (n 366), 311.

sectoral approach throughout the convention.[412] Moreover, although the LOSC aims at sustainably managing living marine resources, it does in a single or target stock management manner and aims to achieve 'maximum sustainable yield' — a contentious concept from a scientific point of view because some argue that, *inter alia*, it disregards the ecological relationship between species, habitat quality and environmental elements.[413]

The second instrument in AWNJ that was addressed in Chapter 1.1 is the 1992 CBD. As highlighted in Chapter 1, although the CBD attempts to foster the intrinsic value of biodiversity in its preamble, it fails to practically do so in its provisions adopting an anthropocentric view of biodiversity conservation for its social, economic and cultural value to humans.[414] However, it is also true that, though not in the text of the Convention, the important role of the EBA has been embraced by supplementary protocols and reports to the Convention.[415] Nonetheless, this application is challenged by the significant discretion given to Contracting Parties in applying the provisions of the Convention in their national regime, in the name of safeguarding their interests and sovereignty.[416]

As for the regional frameworks in AWNJ, Chapter 1.1 analysed the framework for the protection of the Mediterranean Sea under the EU MSFD and Barcelona Convention. Although significantly comprehensive in aiming to achieve GES of Mediterranean waters through an EBA, the area-based nature of the protection framework fails to warrant for the highly complex interplay between the MSFD and the Barcelona Convention, the presence of EU and non-EU States, as well as the different regional and sectoral regimes at play.[417]

Chapter 1.2 focused on a few instruments which govern the protection and preservation of the marine environment in ABNJ. At the international level, it looked at the provisions found in the 1982 LOSC on the High Seas and the Area — with the latter being complemented by its 1994 Implementation Agreement on the Area. Regarding the application of an EBA, the provisions on the high seas identified that significant discretion is given to Flag States' jurisdiction, which may render the universal application of environmental standards, including the ones under an EBA, rather challenging. As for the Area regime, the 1982 LOSC has unprecedented value in introducing the principle of common heritage of mankind, which

[412] Yoshifumi Tanaka, 'The changing approaches to conservation of marine living resources in international law' (2011) 71 Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 291; Engler (n 366), 310.
[413] LOSC (n 20), arts 61 and 119; Tanaka (n 413); Engler (n 366), 312.
[414] Oguamanam (n 409); Birnie and Boyle (n 55); Engler (n 366), 312.
[415] UNEP, 'Guidelines for Integrating Ecosystem-based Adaptation into National Adaptation Plans: Supplement to the UNFCCC NAP Technical Guidelines' (UNEP 2021) <https://unfccc.int/sites/default/files/resource/EbA_NAP.pdf>; Engler (n 366), 313.
[416] Oguamanam (n 409); Birnie and Boyle (n 55); Engler (n 366), 313.
[417] Wang (n 363); Engler (n 366), 314.

fosters values such as, *inter alia*, ecological integrity, mirroring those advocated by the EBA. However, at the same time, the provisions included in its 1994 Implementation Agreement on the Area encourage a market-based approach to natural resources prioritizing the interests of industrialized States, and thus contrasting the more holistic and integrated features of the principle of common heritage of mankind.

On top of the 1982 LOSC and the 1994 Implementation Agreement, Chapter 1.2 on ABNJ also discussed the framework of ocean protection and preservation established under the recently concluded BBNJ Agreement. Importantly, the BBNJ makes explicit mentions to both the ecosystem approach and an unprecedented principle to which the text refers to as an 'integrated approach to ocean management'.[418] It also includes obligations to carry out strategic environmental impact assessments, which are proactive and preventive in nature — notions closely linked to the precautionary focus of the EBA. To this end, the Agreement also creates a Conference of the Parties specially charged with carrying out such environmental impact assessments and overlook the overall compliance of States Parties with the agreement. Although these elements seem to suggest that the BBNJ agreement will be adamant in carrying out a biodiversity protection framework that is in line with an EBA, this still remains to be seen in practice — both in terms of defining concepts as well as enforcing its provisions in conformity with other international agreements such as the LOSC and its Implementation Agreements.

As far as regional instruments in ABNJ are concerned, Chapter 1.2.iii explored the regional framework of protection of the marine environment established under CCAMLR for Antarctic marine living resources. In this regard, among regional frameworks for marine living resources' management, CCAMLR is regarded as a pioneer given that as early as 1980 the Convention already included an ecosystemic perspective to natural resources management, and nowadays, the Commission makes a sustained effort to implement an EBA to fisheries.[419] However, despite such efforts, Chapter 1.2.iii discussed how the increasing presence of fishing States as well as growing fishing grounds has led to the prioritization of economic considerations over environmental ones. Indeed, this is a characteristic that often identifies regional frameworks in so far as their goal appears to be narrowed to addressing and mitigating the impacts caused from increasing fishing activity, rather than curtailing and managing that activity as to address broader ecosystem issues.[420]

[418] BBNJ (n 233), art 5(e), (f).
[419] CCAMLR Convention (n 271), arts i and ii; Engler (n 366), 313.
[420] Engler (n 366), 314.

Indeed, international and regional recognition and effective application of a comprehensive, substantive and normative obligation of the EBA has faltered.[421] The discretion afforded to States by the diverse array of instruments fails to consolidate the potential normative and binding nature of the approach as an approach that could inform a more integrated and holistic protection of the marine environment.[422] Ultimately, this often comes down to the ethical considerations as to what the main objective of the EBA should be: conservation or management.

On one hand, the EBA is seen as furthering anthropocentric and utilitarian concerns that prioritize the ecosystem's goods and services necessary for human benefit.[423] On the other hand, the current trends of environmental degradation that are resulting directly from the scale of anthropogenic activities have shifted the attention towards more ecocentric and biocentric articulations of the EBA that prioritize conservation and preservation of ecosystems over economic needs. These articulations aim to clearly mitigate the negative externalities of economic models of production, but also to foster the man-nature nexus through notions such as ecosystem services, ABMTs and TEK as well as legal subjectivity of natural elements in view of including them as subjects of rights.[424] These notions and approaches and their specific interaction with the EBA will be discussed in the following sections.

ii. Valuing the Ocean and its Ecosystem Services

With a heightened awareness of the value of ecosystems, so came an increasing awareness of the services they provide to plants, animals, microorganisms, non-living organisms as well as human beings.[425] Although the first mentions to ecosystem services can be traced back to the 1970s, the concept began to gain popularity only by the late 1990s, primarily due to two influential publications — one by Robert Costanza and others entitled 'The value of the world's ecosystem services and natural capital' and the other by Gretchen Daily with the title 'Nature's Services'.[426] Eventually, in 2001 came the creation of the Millennium Ecosystem Assessment

[421] Engler (n 366), 316.
[422] Tarlock (n 409); Engler (n 366), 316.
[423] Steven L Yaffee, 'Three faces of ecosystem management' (1999) 13(4) Conservation Biology 713; Engler (n 366), 316.
[424] Sofia Suárez, *Defending Nature: Challenges and Obstacles in Defending the Rights of Nature Case Study of the Vilcabamba River* (Bibliothek der Friedrich-Ebert-Stiftung 2013); De Lucia (n 20), 114-5.
[425] Richard G Pearson, 'Reasons to conserve nature' (2016) 31(5) Trends in Ecology and Evolution 366; Hans Keune and others, 'Defining Nature', in Ingrid J Visseren-Hamakers and Marcel TJ Kok (eds), *Transforming Biodiversity Governance* (Cambridge University Press 2022) 8.
[426] Robert Costanza and others, 'The value of the world's economic services and natural capital' (1997) 387 Nature 253; Gretchen Daily (ed), *Nature's services: societal dependence on natural ecosystems* (Island Press 1997); Engler (n 366), 296.

and ecosystem services framework, which highlighted that ecosystem services signify the fundamental dependence between the natural world and human beings, and are usually divided into provisioning, regulating, cultural and supporting services.[427] They came about as an attempt to assign value to the variety of benefits humans can derive from the environment, as well as guaranteeing ecosystem health and integrity.[428]

Ecosystem services are often characterized by their prioritization of anthropocentric notions, resulting in the economic valuation of nature and its elements based upon instrumental values of nature. These relate to value in terms of achieving a desired goal in the interests of human beings, and are characterized as provisioning services, which include food provision, the development of blue technology, the extraction of mineral resources, energy provision and transportation. These services are framed under an economic valuation, thus relating to assets or property.[429] In fact, it is estimated that "63 per cent of the total value of the biosphere is contributed by marine ecosystems, mostly coastal ecosystems" whereby, "if the ocean were a nation, it would rank as the seventh-largest economy in the world."[430] The consequence of such is that it allows a rather narrow view of the ocean's role to permeate people's values, as it tends to exclude non-marketable and non-commodifiable values.[431]

This view of the ocean's importance in a strictly economical way fosters anthropocentric perception of the ocean, as humans are conveyed as separate from the natural world, whereby the latter is merely seen as an object of study or use, and its value is merely instrumental to human goals. In order to achieve a more sustainable treatment of the ocean, it does not suffice to see humans as an integral part of ecosystems rather, most importantly, it is

[427] Millennium Ecosystem Assessment (n 388).
[428] Millennium Ecosystem Assessment (n 388); Joseph Alcamo and others, 'Ecosystems and human well-being: a framework for assessment. A Report of the Conceptual Framework Working Group of the Millennium Ecosystem Assessment' (Island Press 2003).
[429] Kai MA Chan and others, 'Opinion: Why protect nature? Rethinking values and the environment' (2016) 113(6) Proceedings of the National Academy of Sciences of the United States of America 1462; Sandra Diaz and others, 'Assessing nature's contributions to people' (2018) 359(6373) Science 270; Riyan JG van den Born and others, 'The missing pillar: Eudemonic values in the justification of nature conservation' (2018) 61(5-6) Journal of Environmental Planning and Management 841; Austin Himes and Barbara Muraca, 'Relational values: The key to pluralistic valuation of ecosystem services' (2018) 35 Current Opinion in Environmental Sustainability 1; Ghijselinck (n 1).
[430] World Wildlife Fund, 'The value of our oceans: the economic benefits of marine biodiversity and healthy ecosystems' (WWF 2008) <https://media.wwf.no/assets/attachments/47-wwf_studie_healthy_oceans.pdf> accessed on 25 June 2024; UN Secretariat, 'Interactive Dialogue 2: Managing, Protecting, Conserving and Restoring Marine and Coastal Ecosystems', 2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development (United Nations 2022), 2; Douglas McCauley, Kristian Teleki and Gloria Fluxà Thienemann, '8 ways to rebuild a stronger ocean economy after COVID-19' (*World Economic Forum*, May 12 2020) <https://www.weforum.org/agenda/2020/05/how-to-build-a-bluer-ocean-economy-after-cobid-19/> accessed on 25 June 2024; Laffoley and others (n 339), 1518.
[431] Himes and Muraca (n 429); Ghijselinck (n 1).

crucial to view the ocean and its services as an essential part of earth systems that foster human life.[432] It is crucial therefore that ecosystem services are used as a concept that links ecological, social and economic systems, through multidisciplinary knowledge extracted from ecology, geography, and economics.[433]

It is also true however that market values and economic valuation of ecosystems services may be valuable in maintaining ecosystem integrity. Indeed, economic valuation is important for policy and decision-making insofar as it aims to give value to the direct and indirect benefits humans can derive from ecosystems and for that value to be balanced against development strategies that may impact the environment.[434] Economic valuation includes several methods such as: revealed preferences, stated preferences, cost-based approaches, and benefit transfer.[435] Moreover, these have been implemented to highlight the interdependence of societal well-being with ecosystems and thus raise the public as well as political awareness necessary to protect and conserve the environment.[436] This, in turn, has allowed to account for environmental negative externalities when assessing economic development, as well as prioritizing conservation, given that natural resources are evermore scarce, and thus need to be allocated in cost-effective measures.[437] Finally, economic valuation of ecosystem services can also help with the implementation of liability regimes for environmental damages, assessing the imposition of subsidies, incentives, and taxes.[438]

Nonetheless, instrumental values associated to economic valuation also come with their implications. Firstly, they are believed to be unreliable because methodological issues often affect valuation estimates.[439] Secondly, critical and ethical views often contrast the so-called monetization of ecosystems and their services.[440] Along these views, some argue that economic valuation is not a panacea and that there are cases where it does not work well, nor it should be used — instead it should be used more as data useful for the complex assessment of sustainably

[432] Dräger Foundation (n 6), 20.
[433] Roy Haines-Young and Marion Potschin, 'The links between biodiversity, ecosystem services and human well-being', in David G Raffaelli and Chrisopher LJ Frid (eds), *Ecosystem ecology: a new synthesis* (Cambridge University Press 2010); Engler (n 366), 296.
[434] Yann Laurans and others, 'Use of ecosystem services economic valuation for decision making: questioning a literature blindspot' (2013) 119 Journal of Environmental Management 208; Erik Gómez-Baggethun and others, 'The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes' (2010) 69 Ecological Economics 1209; Engler (n 366), 296.
[435] Engler (n 366), 297.
[436] Gómez-Baggethun and others (n 434); Engler (n 366), 297.
[437] Laurans and others (n 434); Engler (n 366), 297.
[438] Gómez-Baggethun and others (n 434); Engler (n 366), 297.
[439] Engler (n 366), 297.
[440] Gómez-Baggethun and others (n 434); Engler (n 366), 298.

managing natural resources.[441] Precisely because economic valuation does not encompass the whole value of an ecosystem but rather the marginal value of sacrificing the next best unit of a natural habitat.[442]

Indeed, although economic valuation may not be that useful on its own, it can aid the valuation of ecosystems based on more intrinsic or aesthetic values — which may also be insufficient on their own.[443] Intrinsic values of nature are seen as "morally non-anthropocentric intrinsic values", thus advocating that nature deserves direct moral and ethical consideration for its own well-being, not depending on its value for the sake of humanity.[444] The intrinsic value of natural elements is often connected to ecocentrism, encouraging the inclusivity of humans as interconnected to the environment, as well as expanding the conception of rights also to non-human entities.[445]

However, there is an inherent contradiction in considering nature as intrinsically valuable. This is because if valuing the ocean in order to protect it, assumes that value is assigned not only from a purely ecocentric point of view but also from an anthropocentric perspective, in order to guarantee both the prosperity of the environment and the human species. In this regard, the ecosystem services framework will not cease to be characterized by anthropocentric conceptions. Nonetheless, "as humans are only one of many species in an ecosystem, the values they place on ecosystem functions, structures, and processes may differ significantly from the values of those ecosystem characteristics to species or the maintenance (health) of the ecosystem itself."[446] Therefore, in order for the ocean to be accurately valued and protected, it must include ecocentric notions of well-being for its own sake but as well for the functioning of earth systems, including the survival of humans as a species part of the natural world. In other words, both instrumental and intrinsic values of nature can be either anthropocentric or non-anthropocentric.[447] Accordingly, it is important to allow for intrinsic

[441] Michelle Marvier and Peter Kareiva, 'The evidence and values underlying 'new conservation'' (2014) 29(3) Trends in Ecological Evolultion 131; Engler (n 366), 298.
[442] Marvier and Kareiva (n 441); Engler (n 366), 298.
[443] Marvier and Kareiva (n 441); Engler (n 366), 298.
[444] Chelsea Batavia and Michael Paul Nelson, 'For goodness sake! What is intrinsic value and why should we care?' (2017) 209 Biological Conservation 366; Ghijselinck (n 1).
[445] Batavia and Nelson (n 444); Ghijselinck (n 1).
[446] Stephan C Farber, Robert Costanza and Matthew A Wilson, 'Economic and ecological concepts for valuing ecosystem services' (2002) 41(3) Ecological Economics 375.
[447] J Baird Callicott, 'Explicit and implicit Values in the ESA', in Frank Davies and others (eds), *The Endangered Species Act at Thirty: Retrospect and Prospects*, vol 1(Island Press 2004); R Kerry Turner, 'The place of economic values in environmental valuation', in Ian Bateman and KG Willis (eds), *Valuing Environmental Preferences* (Oxford University Press 1999); National Research Council, *Valuing Ecosystem Services: Toward Better Environmental Decision-Making* (National Academies Press 2005), 36 <http://www.nap.edu/catalog/11139> accessed 25 February 2024.

values of nature to be combined with more anthropocentric values of nature, but not only in regard to strictly economic valuation.

Precisely from this notion of interconnectedness between humans and nature is that relational values come into play. They advocate for a reciprocal human-nature relationship, and are more closely linked to the so-called cultural ecosystem services, whereby people's identity as well as emotional and physical well-being is closely linked to their relation with natural elements.[448] Indeed, the relational value of the ocean is also evident in its role in providing the oxygen we breathe, regulating global and regional climate, including the mitigation of climate change through carbon dioxide uptake, as well as supporting life systems through ocean circulation and the distribution of key nutrients and substances.[449] These services are what are regarded as regulating and supporting services. Within relational values, also cultural and recreational services are included, relating to the connection and identity some coastal communities feel towards the ocean, beyond notions of sustenance and persistence.[450]

Indeed, this culture-nature relation is what helps people feel closer and therefore responsible for the state of nature.[451] It follows a deontological or duty-generating approach, in contrast to more utilitarian approaches characteristic of instrumental values – like the ones identified with anthropocentric views; whereby in light of the intrinsic value of natural elements, there is an implication of a set of rights including the right to exist.[452] It is precisely from this biocentric perspective that notions of environmental personhood are born — a topic that will be discussed in Section v. Advocates of relational values of nature include many Indigenous people and communities which argue neither for purely ecological nor instrumental valuing of nature but also in terms of their reciprocal relation and conception of nature within their cosmovision in the sense of 'giving back' to nature. The valuation of the marine environment by traditional knowledge systems will be discussed in Section iv. [453]

This relational approach to nature is not only represented through Indigenous cosmovisions, but arguably has also been a trait central to several religions and philosophies

[448] Kurt Jax and others, 'Caring for nature matters: a relational approach for understanding nature's contributions to human well-being' (2018) 35 Current Opinion in Environmental Sustainability 22; Paola Arias-Arevalo and others, 'Widening the Evaluative Space for Ecosystem Services: A Taxonomy of Plural Values and Valuation Methods' (2018) 27(1) Environmental Values 29; Chan and others (n 429); Ghijselinck (n 1).
[449] Dräger Foundation (n 6), 17-8.
[450] Edward B Barbier, 'Marine ecosystem services' (2017) 27(11) Current Biology PR507; Laffoley and others (n 339), 1517.
[451] Chan and others (n 429); Ghijselinck (n 1).
[452] National Research Council, *Valuing Ecosystem Services: Toward Better Environmental Decision-Making* (National Academies Press 2005) 36.
[453] Robin Kimmerer, 'Returning the gift' (2014) 7(2) Minding Nature 18; Arias-Arevalo and others (n 448); Ghijselinck (n 1).

along Western history, such as ecological philosophy and related principles which have permeated even within the ocean's framework of protection.[454] An example of which can be found in the establishment of the principle of common heritage of humankind. Relational values have also allowed a shift from a strict sectoral approach to a more integrated, cross-sectoral management of the ocean; for instance, across marine spaces through MSP as well as across actors such as governments, non-governmental actors, private actors and Indigenous peoples and communities.[455] The role of ABMTs such as MSP and MPAs will be discussed in Section iii.

A revaluation of the ocean's importance beyond economic profit has led to stray away from the traditional zonal approach of international law of the sea to a more integrated and inclusive framework of protection and conservation.[456] This framework is characterized by, *inter alia*, increased stakeholder participation, regional governance and holistic management across marine areas and sectors — notions distinctive to the EBA addressed in the previous Section.[457] Aspects which are also integrated within ABMTs such as MPAs and MSP, which will be discussed in the following Section iii. Importantly, given the increasing translational nature of international law of the sea, the feature of stakeholder participation also has come to include notions in line with a more pluralistic and sociological perspective of the law.[458] Thus, this expands the sources and instruments of law to those beyond traditional sources such as State law and contributes to a more inclusive and culturally sensitive approach to ocean governance, challenging anthropocentric legacies that have historically marginalized certain considerations and undervalued non-economic aspects of marine ecosystems. In this regards, Section iv will address the marginalisation of traditional knowledge and the opportunities that may come from integrating it within international legal doctrine. Finally, Section v will discuss the importance of the valuation of marine ecosystem services under the concept of environmental personhood and its rights of nature movement.

[454] Karen Armstrong, *Sacred Nature: How we can recover our bond with the natural world* (The Bodley Head 2022); Ghijselinck (n 1).
[455] UN Secretariat (n 430), 3.
[456] Martin (n 77), 421.
[457] Martin (n 77), 422.
[458] Michael A Hefland (ed), *Negotiating State And Non-State Law: The Challenge Of Global And Local Legal Pluralism* (Cambridge University Press 2015) 2; Nico Krisch, *Beyond Constitutionalism: The Pluralist Structure Of Postnational Law* (Oxford Constitutional Theory 2010) 69–108; Martin (n 77), 425.

iii. Area-based Management Tools (ABMTs)

ABMTs are spatial approaches that aim to govern and manage anthropogenic activities in specific areas, both within and beyond national jurisdiction.[459] These can be either single-sector tools, such as those meant to govern one specific activity like RFMOs, or cross-sectoral instruments, aimed at governing the full range of sea activities carried out in a specific zone.[460] MSP and MPAs both tend to fall into the latter category. Precisely for this, this Section aims to analyse both MSP and MPAs' potential to afford a cross-sectoral and integrated management of the ocean space.

It is to be noted that, although MSP and MPAs are not mentioned in the 1982 LOSC nor in the CBD, both are considered crucial for the protection and preservation of the marine environment.[461] Notably, this role is ever more accounted for as evident in the recent adoption of the BBNJ agreement which explicitly defines both ABMTs and MPAs, and includes provisions on the establishment of ABMTs in the high seas.[462] Indeed, although similar in their conservation goals, MPAs and MSP are two different management tools; whereby the former aim at governing the protection of a specific area, while the latter is a spatial and temporal framework that tackles the activities at sea through a series of planning instruments.[463] As highlighted in Chapter 1, a highly sectoral approach due to an equally fragmented international law and institutional configuration to ocean governance in both AWNJ and ABNJ — at both international and regional level — dominates the protection and preservation of the marine environment. It is therefore believed that a true implementation of comprehensive ABMTs such as MSP and MPAs, together with an EBA as highlighted in Section i of this Chapter, could help move towards a more integrated framework which includes ecological, social, economic and cultural considerations of ecosystem services, as discussed in the previous section.[464] Accordingly, this Section will focus first on the efficiency of MSP and then on MPAs for the achievement of a comprehensive and integrated ocean protection.

The first mentions to concepts similar to MSP can be traced back to the eighties. These were framed under the terms of 'coastal zone management' and 'sea use planning', which

[459] High Seas Alliance, 'Area Based Management Tools (ABMTs) BRIEFING #2: How do MPAs and other ABMTs differ?' (2021) <https://www.highseasalliance.org/wp-content/uploads/2021/04/ABMTs-BRIEFING-2_-How-do-MPAs-and-other-ABMTs-differ_.pdf>.
[460] High Seas Alliance (n 459).
[461] Becker-Weinberg Vasco, 'Enhancing Marine Protected Areas and Marine Spatial Planning Through an Ecosystem Approach', in Rosemary Rayfuse, Aline Jaeckel and Natalie Klien (eds), *Research Handbook on International Marine Environmental Law* (2nd edn, Edward Elgar Publishing 2023), 6.
[462] See BBNJ (n 233), arts 1, 14, 17, 19.
[463] Becker-Weinberg (n 461).
[464] Secretariat of the Convention of Biological Diversity (n 388), 11; Becker-Weinberg (n 461).

included efforts to co-ordinate and harmonize the different management activities of the distinctive entities that possessed ocean-related responsibilities within one sector but with the possibility of aiming at a cross-sectoral approach to planning.[465] Both terms were originally envisioned as management tools for AWNJ, however their potential for international waters was also posed as a possibility.[466]

It was then only in 2009 when the first explicit mention to MSP was made by the UNESCO, whereby it was defined as an integrated and not merely sectoral public process of assessing and allocating, both spatially and temporally, anthropogenic activities at sea in order to attain ecological, economic and socially sound goals through measures of control, monitoring, evaluation, research, stakeholder involvement and financial resources' identification.[467] Subsequently, the CBD Secretariat further expanded on the concept in 2012, and it came to be defined as "an area-based management framework that addresses multiple management objectives" that "is not a single tool, but rather an approach or framework to provide a means for improving decision-making as it relates to the use of marine resources and space."[468]

Indeed, MSP is increasingly being recognized as a tool for managing conflicting interest at sea. By 2017, around 40 States had implemented MSP programmes at different scales, with the most significant effort happening in the EU with the adoption of the 2014 MSP Directive.[469] MSP is rapidly being implemented as both a conservation tool and an instrument to nurture the development of the blue economy.[470] At the same time, it has also greatly been used in a

[465] Douglas M Johnston, *Theory and History of Ocean Boundary-Making* (McGill-Queen's University Press 1988) 57-58; Becker-Weinberg (n 461), 7-8.
[466] Johnston (n 465); Becker-Weinberg (n 461), 7-8.
[467] Charles Ehler and Fanny Douvere, 'Marine spatial planning: a step-by-step approach toward ecosystem-based management' (Intergovernmental Oceanographic Commission - UNESCO 2009) IOC/2009/MG/53, 19-24 <https://unesdoc.unesco.org/ark:/48223/pf0000186559#>; Becker-Weinberg (n 461), 8.
[468] Secretariat of the Convention on Biological Diversity and the Scientific and Technical Advisory Panel, 'Marine Spatial Planning in the Context of the Convention on Biological Diversity: A Study carried out in Response to CBD COP 10 Decision X/29' (CBD 2012) Technical Series No. 68, 11 <https://www.cbd.int/doc/publications/cbd-ts-68-en.pdf>; Becker-Weinberg (n 461), 7.
[469] European Parliament and Council Directive EU 2014/89 of 23 July 2014 Establishing a Framework for Maritime Spatial Planning (Marine Spatial Planning Directive) [2014] OJ L 257/135; Charles Ehler, '2nd International Conference on Marine spatial planning: a step-by-step approach toward ecosystem-based management' (Intergovernmental Oceanographic Commission — UNESCO 2017) IOC/2017/WR/279 <https://www.mspglobal2030.org/wp-content/uploads/2019/03/marinemaritime-spatial-planning-2017.pdf>; Trouillet Brice and Jay Stephen, 'The Complex Relationships between Marine Protected Areas and Marine Spatial Planning: Towards an Analytical Framework' (2021) 127 Marine Policy 1, 2.
[470] Tundi Agardy, *Ocean Zoning: Making Marine Management More Effective* (Earthscan 2010); Caterina Frazão Santos and others, 'How sustainable is sustainable marine spatial planning? Part I linking the concepts' (2014) 49 Marine Policy 59; Peter JS Jones, LM Lieberknecht and Wan Qiu, 'Marine spatial planning in reality: introduction to case studies and discussion of findings' (2016) 71 Marine Policy 256; Peter JS Jones, 'The emerging policy landscape for marine spatial planning in Europe' (2013) 39 Marine Policy 182.

traditional sectoral focus, for instance to manage marine resources.[471] However, precisely for its potential in multi-use spatial panning, MSP could play an important role for the efficient implementation of an EBA.

The vast array of activities at sea have placed significant strain on the marine environment, which had led the attention towards more efficient as well as integrated ocean governance systems. In this regard, the EBA has been identified as a key pillar for the sustainable management of marine areas through ABMTs such as MSP.[472] However, in order for this to be efficiently achieved, there ought to be a reconsideration of the concept of State jurisdiction whereby States are categorized into either Flag, Coastal or Port States, and instead the attention must lie on the more general goal of sustainable ocean governance in accordance with the EBA.[473] Additionally, the significance of ABMTs requires the recognition of the interconnectedness of different factors at play in a specific area, which includes the recognition of the biocentric notion of a human-nature nexus. In practical terms, this mean that efforts to management of sea space should be more holistic, rather than focused on single sector or species, and aimed at directly managing human activities rather than ecosystems and their natural resources.[474] Moreover, MSP could prove to be an important tool for the achievement of an EBA as it possesses great policy presence given its potential in improving decision-making in areas with competing human activities as well as increasingly threatened marine environment.[475]

Let us turn towards the normative presence of MSP in international environmental law and law of the sea. As afore mentioned, there is a lack of mention of MSP in both the 1982 LOSC and the 1992 CBD. However, both conventions include provisions which could accommodate the implementation of MSP. In regard to the LOSC, several provisions could be

[471] Timothy G O'Higgins, Manuel Lago and Theodore H DeWitt (eds), *Ecosystem-Based Management, Ecosystem Services and Aquatic Biodiversity: Theory, Tools and Applications* (Springer International Publishing 2020) 405; Ehler and Douvere (n 467).

[472] UN Environment, 'Conceptual guidelines for the application of marine spatial planning and integrated coastal zone management approaches to support the achievement of sustainable development goal targets 14.1 and 14.2' (2018) UN Regional Seas Reports and Studies No. 207; O'Higgins, Lago and DeWitt (n 471), 405.

[473] Lawrence Juda, *International Law and Ocean Use Management: The Evolution of Ocean Governance* (Routledge 1996) 285; Tavis Potts, 'Marine spatial planning and various uses and interests relating to the marine environment', in Daud Hassan, Tuomas Kuokkanen and Niko Soininen (eds), *Transboundary Marine Spatial Planning and International Law* (Routledge 2015) 57; Niko Soininen and Daud Hassan, 'Marine spatial planning as an instrument of sustainable ocean governance', in Daud Hassan, Tuomas Kuokkanen and Niko Soininen (eds), *Transboundary Marine Spatial Planning and International Law* (Routledge 2015); Maria Gavouneli, *Functional Jurisdiction in the Law of the Sea* (Martinus Nijhoff Publishers 2007) 33; Becker-Weinberg (n 461), 10.

[474] O'Higgins, Lago and DeWitt (n 471), 404-5.

[475] Lene Buhl-Mortensen and others, 'Maritime ecosystem-based management in practice: Lessons learned from the application of a generic spatial planning framework in Europe' (2017) 75 Marine Policy 174; O'Higgins, Lago and DeWitt (n 471), 405.

relevant for MSP implementation such as: the general obligation to protect and preserve the marine environment in its entirety; the incentive for global and regional cooperation in the prevention, reduction, and control of marine environmental pollution; the prevention of environmental harm; and the obligation to protect and preserve rare or fragile ecosystems.[476] As for the CBD, the Secretariat of the Convention has emphasized the role of ABMTs such as MPAs and MSP, specifying that the latter has the specific potential to improve decision-making based on EBA principles such as: long-term goals; the recognition of humans as integral parts of ecosystems; the adaptive management approach; and a need to sustain ecosystems and their services.[477]

As for the normative value of MSP in regional ocean governance, the role of the EU has to be stressed. Through its 2014 MSP Directive, the EU has created an obligation for its Member States to adopt national legislation on MSP through plans that attain to safeguard coherence and transboundary cooperation for the protection and preservation of the marine environment.[478] Although not binding in its form nor method of implementation, the Directive is binding in terms of the goal to be achieved and thus, in doing so, seeks to directly mitigate the cross-border effects of pollution caused from the development of offshore and competing economic activities at sea.[479] Indeed, the MSP Directive came in order to aid the transposition and interaction between different EU Directives and policies applicable in the region that aim to protect the marine environment, such as the Integrated Maritime Policy as well as the 2008 MSFD.[480] Notably, as discussed in Chapter 1, the MSFD further interacts with several Regional Seas Programmes — such as the Barcelona Convention for the Mediterranean Sea — and aims at maintaining GES through an EBA.[481] Nonetheless, Chapter 1 has also highlighted that despite the effort for a comprehensive and integrated EU regional maritime policy, transboundary regional cooperation and coordination continues to be a great impediment for a

[476] LOSC (n 20), arts 116-119,192, 194(2), 194(5),197, 206; Becker-Weinberg (n 461), 9.
[477] Secretariat of the Convention on Biological Diversity and the Scientific and Technical Advisory Panel (n 468), 11; CBD (n 43); Becker-Weinberg (n 461), 8.
[478] Marine Spatial Planning Directive (n 469), 134-45; Becker-Weinberg (n 461), 10.
[479] Consolidated Versions of the Treaty on European Union and of the Treaty Establishing the European Community (2002) OJ C 325/1, art 288; Marine Spatial Planning Directive (n 469), art 3(2); Becker-Weinberg (n 461), 10.
[480] MSFD (n 152); European Commission, 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - An Integrated Maritime Policy for the European Union' COM (2007) 574 final.
[481] MSFD (n 152), arts 1(1) and 3(5); European Commission, 'Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)' COM (2020) 259 final, p 29; Council of Europe, General Affairs and International Relations, 2973rd (EU) Council Meeting, 16 November 2009; Becker-Weinberg (n 461), 10-11.

truly efficient ocean protection and preservation.[482] Indeed, Member States continue to greatly adopt MSP as a rather spatially and single-sector focused tool in an already fragmented ocean governance, as evident in the example of the Mediterranean Sea amongst others, and in the attempt to recognize the normative value of the EBA.

Now turning towards the MPA concept, although there is not a single definition of MPAs under international law but several conceptions of it, the modern concept of MPAs first began developing in the 1970s — following Pacific nations' efforts in establishing mechanisms to protect the commons.[483] Without going too much into the origins and development of MPAs, suffice it to say that increasing uses and activities at sea coupled with growing threatening impacts on the marine environment, have led to concept to evolve from coastal protected areas towards protected designated zones in ABNJ — as also evident in the recent adoption of the BBNJ. Indeed, MPAs are increasingly implemented as key management tools for global marine conservation strategies as well as the integration of economic growth, environmental sustainability and social justice.[484] However, precisely for their multidisciplinary nature, numerous social, economic and political challenges hinder both their establishment and effective implementation — as visible for instance in the tensions created between resource exploitation, on one hand, and biodiversity conservation on the other.[485] These and other shortcomings — including the mismatch of MPA scale to issue and context, inappropriate planning or management processes, and MPAs that create illusions of protection — will not be dealt with in great detail as they have been explored in Chapter 1 in the context of the CCAMLR Antarctic MPAs. Rather, this Section focuses on their potential for implementing an integrated framework of ocean protection and preservation.

In fact, despite the challenges associated with MPAs' creation and effective implementation, they have gained increased recognition in the international realm. Some

[482] Marine Spatial Planning Directive (n 469), arts 11 and 12; European Commission, 'Report from the Commission to the European Parliament and to the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive' COM (2018) 562 final, p 21; Becker-Weinberg (n 461), 11.
[483] Duncan Vaughan and Tundi Agardy, 'Marine Protected Areas and Marine Spatial Planning – Allocation of Resource Use and Environmental Protection', in John Humphreys and Robert WE Clark (eds), *Marine Protected Areas - Science, Policy and Management* (Elsevier 2020) 17; Becker-Weinberg (n 461), 12.
[484] Rodolphe Devillers and others, 'Canada's uncharted conservation approach' (2019) 364 Science 1; Sylvaine Giakoumi and others, 'Revisiting "Success" and "Failure" of marine protected areas: a conservation scientist perspective.' (2018) 5 Frontiers of Marine Science 223; Carlos M Duarte and others, 'Rebuilding marine life' (2020) 580 Nature 39; Micheal Kriegl and others, 'Marine Protected Areas: At the Crossroads of Nature Conservation and Fisheries Management' (2021) 8 Frontiers in Marine Science 1, 2.
[485] Robert Kearney, CD Buxton and G Farebrother, 'Australia's no-take marine protected areas: appropriate conservation or inappropriate management of fishing?' (2012) 36 Marine Policy 1; Marie Christine Cormier-Salem, 'Participatory Governance of Marine Protected Areas: A Political Challenge, an Ethical Imperative, Different Trajectories' (2014) 7(2) Surveys and perspectives integrating environment and society 13; Kriegl and others (n 484).

scholars even argue that they "emerged as panaceas in the ocean conservation arena."[486] Importantly, according to the CBD, a global and regional network of MPAs should be established and, pursuant to CBD's Aichi Biodiversity Target 11, at least 10% of coastal and marine areas ought to be "conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes."[487] These calls for action have also been voiced by the UN General Assembly in different documents calling for the establishment and effective implementation of ABMTs such as MPAs.[488] Indeed, the United Nations' Sustainable Development Goal 14 also includes a target to conserve at least 10% of coastal and marine areas.[489]

So how has the concept of MPAs developed in practice in both AWNJ and ABNJ in order to account for a comprehensive and integrated framework of ocean protection and preservation? In regard to AWNJ, several regional as well as multilateral efforts have attempted to establish MPAs, such as for instance by the OSPAR and the IMO.[490] However, as was seen in the case of the Mediterranean Sea discussed in Chapter 1.1, these efforts to regionally protect the ocean are often sectoral and transboundary cooperation is constantly challenged by the establishment of MPAs that have differing objectives and levels of protection.[491] As for ABNJ, the growing interest in marine space as well as the burden this places on the environment, calls for an effective and comprehensive framework to sustainably manage the ocean.[492] Although under both the LOSC and the CBD, States are encouraged if not obliged to protect and preserve

[486] Oran R Young and others, 'Moving beyond panaceas in fisheries governance' (2018) 115 Proceedings of the National Academy of Sciences of the United States of America 9065.
[487] CBD (n 43), art 8; CBD Conference of Parties, 'Decision IX/20 Marine and Coastal Biodiversity' (9 October 2008) UN Doc UNEP/CBD/COP/DEC/IX/20, para 14 and Annex I; CBD Conference of Parties, 'Decision X/2 The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets' (29 October 2010) UN Doc UNEP/CBD/COP/DEC/X/2.
[488] UNGA, 'Ocean and the Law of the Sea' (21 February 2003) UN Doc A/RES/57/141, para 53; UNGA, 'Oceans and the Law of the Sea' (5 March 2004) UN Doc A/RES/58/240, para 54; UNGA, 'Oceans and the Law of the Sea' (4 February 2005) UN Doc A/RES/59/24, paras 70-73; UNGA, 'Our Oceans, Our Future: Call for Action' (14 July 2017) UN Doc A/Res/71/312.
[489] United Nations Department of Social and Economic Affairs, 'Goal 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development' (*UN* 2024) <https://sdgs.un.org/goals/goal14> accessed 17 August 2024.
[490] Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted on 22 September 1992, entered into force on 25 March 1998) 32 ILM 1069; IMO, 'Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Area' (6 November 1991) Resolution A 720(17) consolidated and revised by IMO, 'Revised Guidelines for the identification and designation of Particularly Sensitive Sea Area' (1December 2005) Resolution A 982(24); IMO, 'Guidelines for the Designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas' (29 November 2001) Resolution A 927(22).
[491] Vaughan and Agardy (n 483), 15; Becker-Weinberg (n 461), 14.
[492] Vaughan and Agardy (n 483), 16.

the marine environment and its biodiversity, few have established management mechanisms within their national jurisdiction and even less beyond their national jurisdiction.[493] As discussed in Chapter 1.2, even when there is a framework in place it is more than often either sectoral, as is the case of RFMOs, or limited to a specific region with little to no integration with neighbouring sea areas and limited by internationally legally-binding rules — as evident in the case of the CCAMLR Antarctic MPAs.

Although potentially a 'panacea' or 'diplomatic success' for conservation strategies, MPAs effect on the protection and preservation of the marine environmental is still scarce.[494] Precisely, it is not enough to recognize the designation of an MPA, but rather this ought to be accompanied by effective implementation of management and oversight programmes, as well as coordinated network of MPAs.[495] Similarly to MSP, MPAs also ought to be accompanied by a comprehensive and integrated approach with proper coordination between international, regional and multilateral treaties, which is increasingly complex in the current multi-layered and fragmented governance. It is against these setbacks that the EBA comes in handy, and indeed without a proper implementation of it, MPAs — as well as other ABMTs — will fall short from the current fragmentation and sectoral nature of international and regional law.[496]

In this regard, MPAs greatly align with the EBA in so far as they: intertwine social, ecological and economic elements; are not a 'one size fits all' as they ought to be created in the special social-ecological context to the area; and recognize the complex relation between human and nature in balancing conflicting interests at stake.[497] This is increasingly relevant also given the recent adoption of the BBNJ and its potential for the establishment of ABMTs in ABNJ, and only "time will tell whether an adequately ambitious and integrated approach to management of the ABNJ is agreed, subsequently developed, and adopted."[498] It is also relevant for ecocentric and biocentric notions of mending back the relationship between man and nature, as anthropogenic activities and marine environmental adverse effects are increasingly viewed as intertwined and independent.

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[493] Jeff Ardron and others, 'Marine spatial planning in the high seas' (2008) 32 Marine Policy 832; Frank Maes, 'The international legal framework for marine spatial planning' (2008) 32 Marine Policy 797; Vaughan and Agardy (n 483), 16.
[494] Brooks Cassandra M and others, 'The Ross Sea, Antarctica: A highly protected MPA in international waters' (2021) 134 Marine Policy 1; Brooks (n 182); Becker-Weinberg (n 461), 15.
[495] Becker-Weinberg (n 461), 15.
[496] Becker-Weinberg (n 461), 16-7.
[497] Linwood H Pendleton and others, 'Debating the effectiveness of marine protected areas' (2018) 75(3) ICES Journal of Marine Science 1156; Kriegl and others (n 484), 5-6; Vaughan and Agardy (n 483), 17.
[498] Vaughan and Agardy (n 483), 17.

Given the considerations above, MSP and MPAs are two ABMTs which are complementary yet distinctive in protecting and preserving the marine environment. Although both instruments have their shortcomings, they aim to sustainably manage the interaction between ecosystems and human activities at sea in an integrated and holistic way — characteristics which are ever more imperative given the current environmental degradation caused by increasing human pressures on the environment.[499]

Importantly, as it has been stressed throughout this thesis, an integrated and comprehensive framework to ocean protection is even more warranted for in the marine environment in light of the interconnected and transboundary nature of water and its pollution. Indeed, the current fragmented, multi-sectoral as well as multi-level ocean governance for the protection of the marine environment, creates an even more hostile environment for a truly integrated framework. In this regard, both MSP and MPAs could establish collaborative mechanisms in terms of decision-making as well as stakeholder participation, which could generate the necessary will and ability to comprehensively protect the marine environment. However, it is also true that MSP and MPAs may also be established under different paradigms, given that the creation of MPAs is usually triggered by international commitments while MSP is more of a national State initiative.[500] Furthermore, the consensus is that MPAs are usually established under a primary conservation rationale, while MSP can have other primary goals such as economic development, also known as blue growth, or natural resources management, such as is the case with fisheries.[501]

Nevertheless, MSP and MPAs ought to not come at odds with each other if an EBA is implemented – especially one that welcomes more biocentric notions of the marine environment. Indeed, both tools welcome principles and approaches in line with an EBA and could be used simultaneously to support each other in the implementation of an integrated ocean governance. At the very least, this integrated framework welcomes notions of an interconnected ocean in itself and with the rest of the natural world, including human beings. Importantly, an MSP without a functioning network of MPAs falls short of efficiently protecting an area, similarly to how MPAs are unable to integrate different interests at stake if there is not an overall spatial planning that brings together different sectors and relevant

[499] Ehler and Douvere (n 467); Agardy (n 470); Halpern and others (n 187); Vaughan and Agardy (n 483), 15.
[500] Vaughan and Agardy (n 483), 14.
[501] The World Bank, 'What Is the Blue Economy?' (*The World Bank*, 2017) <https://www.worldbank.org/en/news/infographic/2017/06/06/blue-economy> accessed on 17 August 2024; Vaughan and Agardy (n 483), 19.

stakeholders.[502] Therefore, without the proper implementation of a system based on an EBA, biocentric valuation of the ocean and its services, solid MSP and a network of MPAs, the current piecemeal ocean governance fails to fully account for a comprehensive and integrated ocean protection and preservation that fosters transboundary cooperation at both regional and international level. The next sections analyse first the role of traditional knowledge systems in further advancing such integrated framework and then the concept of environmental personhood as an innovative tool for a comprehensive protection of the marine environment.

iv. Traditional Ecological Knowledge (TEK)

Before delving into the topic of TEK, some clarifications about terminology ought to be made. Traditional knowledge and Indigenous knowledge are two terms often used interchangeably to signify a "place-based and evolving knowledge complex" of local communities and/or Indigenous people.[503] However, they may have nuances when applied to the context of environmental and marine protection and conservation. Indigenous knowledge is often referred to as a subset of traditional knowledge, as the former is often specific to the body of knowledge owned by Indigenous peoples.[504] Whereas traditional knowledge is a broader term used to include Indigenous knowledge but also knowledge from non-Indigenous groups such as local communities and their practical insight of local ecosystems, agricultural practices, and sustainable use of natural resources.[505] In fact, Indigenous knowledge is often referred to as a more holistic body of knowledge, encompassing biological, ecological and physical systems but also social, cultural and spiritual ones, passed down from generation to generation.[506] Whereas, traditional knowledge is often context and temporally-limited within a specific local and geographical community.[507] Precisely for the holistic nature of Indigenous knowledge in the context of environmental protection and conservation, it is generally linked to exploring the deeper cultural and spiritual roots in the relationship between man and nature.

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[502] Ehler and Douvere (n 467); Vaughan and Agardy (n 483), 20.
[503] Lauren E Eckert and others, 'Linking Marine Conservation and Indigenous Cultural Revitalization: First Nations Free Themselves from Externally Imposed Social-Ecological Traps' (2018) 23(4) Ecology and Society 1, 1.
[504] Daniel Raychelle Aluaq and others, 'What is "Indigenous Knowledge" And Why Does It Matter? Integrating Ancestral Wisdom and Approaches into Federal Decision-Making' (*The White House*, 2 December 200) <https://www.whitehouse.gov/ostp/news-updates/2022/12/02/what-is-indigenous-knowledge-and-why-does-it-matter-integrating-ancestral-wisdom-and-approaches-into-federal-decision-making/> accessed on 25 June 2024; National Park Service, 'Indigenous Knowledge and Traditional Ecological Knowledge' (*NPS*, 26 June 2024) <https://www.nps.gov/subjects/tek/description.htm> accessed on 26 June 2024.
[505] Omwoyo Bosire Onyancha, 'Indigenous knowledge, traditional knowledge and local knowledge: what is the difference? An informetrics perspective' (2022) 73(3) Global Knowledge, Memory and Communication 237.
[506] National Park Service (n 504); Raychelle Aluaq and others (n 504).
[507] Bosire Onyancha (n 505).

In this regard, there is also a further subset of Indigenous traditional knowledge which is of heightened importance for this Section, this being traditional ecological knowledge, which specifically focuses on the relationships between living beings and their environment. TEK is continuously developed and refined through observation, experience, and interaction with the natural world, including the adaptation to ecological and social conditions of, *inter alia*, globalization, making it particularly relevant for environmental management and conservation policies.[508] Precisely for this reason, this thesis prioritizes the use of the term TEK as it focuses on environmental considerations while more broadly looking at the whole body of traditional knowledge from both local and Indigenous communities.

Importantly, although Indigenous lands are only a small percentage of the total Earth's territory, they contain 80% of its biodiversity.[509] This evident good stewardship of the environment by Indigenous people is often associated with their application and use of TEK.[510] TEK often contains valuable information regarding "species' ranges, baselines, and trends and contributed to mapping, monitoring, and reporting changes in local biodiversity, including collective evidence of resource overexploitation, invasive species expansion, pollution, and climate-change impacts."[511] However, it is important to note that there is no such thing as 'pan-Indigeneity' and that, in fact, Indigenous communities are heterogeneous, very specific to their particular context — be it geographical, social, political or economic.[512]

Nevertheless, different Indigenous communities share many common points especially in terms of environmental concerns with for instance customary tenures and an overall

[508] National Park Service (n 504); Jan Petzold and others, 'Indigenous knowledge on climate change adaptation: A global evidence map of academic literature' (2020) 15(11) Environmental Research Letters 113007; Jennifer B Rasmussen, 'Advancing Environmental Justice through the Integration of Traditional Ecological Knowledge into Environmental Policy' (2023) 14(6) Challenges 1, 5.

[509] Anthony Swift, 'Chiefs at UN Call on Canada to Respect Indigenous Lands' (*Natural Resources Defense Council*, 3 May 2018) <https://www.nrdc.org/bio/anthony-swift/chiefs-call-canada-respect-indigenous-lands> accessed on 26 June 2024.

[510] United Nations Environment Programme, 'Indigenous Peoples and the Nature They Protect' (*UNEP*, 19 September 2023) <https: //www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> accessed on 25 June 2024; Swift (n 613); Rasmussen (n 508), 2.

[511] Eduardo S Brondizio and others (eds), 'Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services 2019) <https://zenodo.org/records/6417333> accessed on 26 June 2024; Forest Peoples Programme, 'Local Biodiversity Outlooks 2 The contributions of Indigenous peoples and local communities to the implementation of the Strategic Plan for Biodiversity 2011–2020 and to renewing nature and cultures' (Forest Peoples Programme 2020) <https://www.cbd.int/gbo/gbo5/publication/lbo-2-en.pdf> accessed on 26 June 2024; Díaz Sandra and others (n 432); Victoria Reyes-García and others, 'Recognizing Indigenous Peoples' and Local Communities' Rights and Agency in the Post-2020 Biodiversity Agenda' (2022) 51 Ambio 84, 85.

[512] Suzanne Von Der Porten and others, 'The Role of Indigenous Resurgence in Marine Conservation' (2019) 47 Coastal Management 1, 3.

heightened responsibility and stewardship towards the environment.[513] Although Indigenous communities have been known for their adaptability and resilience to change, considering that TEK is highly place-based and species dependent, their knowledge might get lost along the current trends of biodiversity loss.[514] Hence the importance of international instruments such as the 1992 CBD as well as the recent 2023 BBNJ in advancing a collective responsibility, through notions such as traditional knowledge, to protect and conserve marine biodiversity.

It is important therefore to note some main and common characteristics of Indigenous cosmovisions about nature and how they can inform ecological knowledge, especially of the marine environment. Firstly, Indigenous people often envision the whole of the natural world to be alive, resting on the premise that every living species coexists together as individual and equal elements of the natural world.[515] The Earth is therefore characterized by an interconnected web of life, whereby humans and non-human elements share complex relations — fostering a nature which is enriched with social, cultural as well as spiritual values.[516]

Indigenous communities also view humans as an integral part of nature so much as nature is an integral part of human well-being, whereby the natural world is not viewed only as a set of exploitable resources but under a relationship of respect, care, and responsibility.[517] In this regard, Indigenous cosmovision of nature contrasts with dominant Western views, which tend to place value upon nature for its commodification, thus conceiving it merely as property or a resource.[518] Precisely for the Westernized visions of nature, Indigenous people have often criticized current global approaches to environmental degradation, describing them as not only failing Indigenous people, but the entirety of life.[519] These observations by

[513] Eckert and others (n 503), 1.
[514] Eckert and others (n 503), 7.
[515] Łaszewska-Hellriegel (n 218), 1374.
[516] Reyes-García and others (n 511), 86.
[517] Benji Jones, 'Indigenous People Are the World's Biggest Conservationists, But They Rarely Get Credit for It.' (*Vox*, 11 June 2021) <https://www.vox.com/22518592/indigenous-people-conserve-nature-icca> accessed on 24 June 2024; Rasmussen (n 508), 5.
[518] Aimée Craft and others, 'UNDRIP Implementation: More Reflections on the Braiding of International, Domestic and Indigenous Laws' (*Centre for International Governance Innovation*, 30 October 2018) <https://www.cigionline.org/publications/undrip-implementation-more-reflections-braiding-international-domestic-and-indigenous/> accessed on 26 June 2024; Deborah McGregor, 'Honoring our relations: an Anishinaabe perspective on environmental justice', in Julian Agyeman and others (eds), *Speaking for Ourselves: Environmental Justice in Canada* (UBC Press 2009); Kyle Whyte, 'The Dakota access pipeline, environmental injustice, and U.S. colonialism' (2017) 19(1) Red Ink 154: An International Journal of Indigenous Literature, Arts, and Humanities, 154-169; Deborah McGregor, Steven Whitaker and Mahisha Sritharan, 'Indigenous Environmental Justice and Sustainability' (2020) 43 Current Opinion in Environmental Sustainability 35, 35.
[519] Deborah McGregor, 'Living well with the earth: Indigenous rights and the environment', in Damien Short and Corine Lennox (eds), *Handbook of Indigenous Rights* (Routledge 2016) 167-180; Kyle Whyte, 'Too late for Indigenous climate justice: ecological and relational tipping points' (2020) 11 WIREs Climate Change e603; Maude Barlow, 'Building the case for the universal declaration of the rights of mother earth. Does Nature Have Rights? Transforming Grassroots Organizing to Protect People and the Planet' (*Council of Canadians, Fundación*

Indigenous communities are not a recent thing, rather they have been manifested as early as the 1992 Earth Summit, and continue to depict a bleak and urgent call for today's environmental crisis.[520] Indeed, the continued and growing worrying levels of environmental degradation have identified that such dominant societal views are no longer desirable for truly guaranteeing a comprehensive and integrated environmental protection and conservation.

It is then precisely under a mutual kinship between humans and nature that another main characteristic of Indigenous cosmovisions can be identified. This relates to an adaptive and dynamic stewardship ethic which entails guardianship for future generations as well as an attachment and care for the Earth.[521] Studies have shown that Indigenous communities worldwide, including Indigenous coastal peoples, have advocated for environmental and marine sustainability based on a reconnection to their homelands, cultural roots and communities, fostered around "reclaiming, restoring, and regenerating homeland relationships" — a necessary step to avoid degradation of vital natural resources.[522] In fact, Indigenous stewardship towards nature goes beyond the ecological aspect of preserving the environment, but also acts as a social resurgence of Indigenous people against imposed Western views, loss of governance rights and the subsequent anthropogenic caused environmental degradation.[523]

Another main characteristic of Indigenous cosmovision of nature is the culture-nature nexus and the related attribution of agency to non-human elements. Owing to the interconnectedness between humans and nature, many scholars have noted how there is a co-occurrence of biological and linguistic diversity hotspot in Indigenous territory, suggesting a mutually-supportive relationship between cultural and biological diversity.[524] In the same way that there seems to be a mutually-supportive relationship between Indigenous management systems and environmental conservation.[525] Whereas, arguably, the culture and nature

Pachamama and Global Exchange 2010), 6-11 <https://www.pachamama.org.ec/wp-content/uploads/2022/08/DoesNatureHaveRights.pdf> accessed on 26 June 2024; McGregor, Whitaker and Sritharan (n 518).

[520] UNESCO, 'Kari-Oca Declaration' (30 May 1992) The World Conference of Indigenous Peoples on Territory, Environment and Development; UNESCO, 'The Lima declaration: world conference of Indigenous women: progress and challenges regarding the future we want' (October 2013) World Conference of Indigenous Women; McGregor, Whitaker and Sritharan (n 518).

[521] Reyes-García and others (n 511), 86.

[522] Jeff Corntassel and C Bryce, 'Practising sustainable self-determination: Indigenous approaches to cultural restoration and revitalization' (2011) 18(2) The Brown Journal of World Affairs 151, 153; Von Der Porten and others (n 512), 16; Eckert and others (n 503), 8.

[523] Reyes-García and others (n 511), 86.

[524] Adrian Martin, Shawn McGuire and Sian Sullivan, 'Global Environmental Justice and Biodiversity Conservation' (2013) 179 The Geographical Journal 122, 128.

[525] Martin, McGuire and Sullivan (n 524).

separation evident in today's world is one of the main causes of the current global socio-environmental injustice.[526]

An example of the Indigenous culture-nature nexus can be seen in the Andean concept of '*Sumak Kawsay'* or '*Buen Vivir'* — constitutionally recognized in Ecuador and also expressed in the Rio+20 International Conference of Indigenous Peoples on Self-Determination and Sustainable Development — which presupposes 'living well' within a community which includes the natural world, thus endowing also natural elements with political representation as well as ethical value.[527] This concept is taken from the *Kichwa* language and aims to restore a social goal that places value on nature itself as a valuable entity in and for itself.[528] Indeed, the intrinsic connection between human and nature and culture and nature presupposes the attribution of agency to non-human entities such as nature itself.[529] The topic of the expansion of legal personhood to natural elements will be introduced in the following paragraphs in view of its relation with TEK and will be further developed in the following Section V. Precisely, the creation of new legal constructs goes hand in hand with the adaptive and flexible nature of Indigenous communities and their knowledge, suggesting how important TEK can be for tackling global environmental protection concerns.[530]

Therefore, how can TEK permeate the legal realm? Especially, how can it permeate non-Indigenous systems of State authority? In this regard, scholar Maria Akchurin highlights that it could at least promote a conception of nature as intrinsically valuable in parallel with human beings, thus helping mend back the separation between humans and nature by highlighting their interconnectedness.[531] There is a parallel drawn between Indigenous resurgence and resource management as well as the protection of ecosystems due to their intrinsic connection to their ancestral land.[532] Although recent trends have shown a push for Indigenous contributions to nature protection and conservation as a way to enhance environmental justice, consensus still sees an inherent challenge in adapting Indigenous

[526] Martin, McGuire and Sullivan (n 524).
[527] CBD, 'Rio+20 International Conference of Indigenous Peoples on Self-Determination and Sustainable Development' (19 June 2012); McGregor, Whitaker and Sritharan (n 518), 37.
[528] Akchurin (n 1), 954.
[529] Susan Chiblow, 'Anishinabek women's Nibi Giikendaaswin (Water knowledge)' (2019) 11(2) Water 209; Aimée Craft, 'Giving and receiving life from Anishinaabe nibi inaakonigewin (our water law) research', in Jocelyn Thorpe, Stephanie Rutherford, L Anders Sandberg (eds), *Methodological Challenges in Nature-Culture and Environmental History Research* (Routledge 2017) 105-119; McGregor, Whitaker and Sritharan (n 518), 36.
[530] Von Der Porten and others (n 512), 4.
[531] Akchurin (n 1), 939.
[532] Siri U Søreng, 'Legal pluralism in Norwegian inshore fisheries: Differing perceptions of fishing rights in Sami Finnmark' (2013) 12(1) Maritime Studies 9; Leanne Simpson, *Dancing on our Turtle's back: Stories of Nishnaabeg re-creation, resurgence, and a new emergence* (Arbeiter Ring Publishing 2011); Von Der Porten and others (n 512), 1-2.

knowledge to current legal systems.[533] Despite this, as it will be shown in the coming paragraphs, TEK can be adapted also in non-Indigenous contexts, like in the case of the Mar Menor case in Southern Spain.

Notably, Indigenous environmental justice is crucial to address both the current environmental crisis but also the social one still faced by many communities. One solution could be to interlace TEK and Western science, for example informing policies on infrastructure against environmental adverse effects such as coastal erosion.[534] Their knowledge has been helpful against climate induced degradation through adaptive capacity and resilience mechanisms.[535] Indigenous communities can also inform biodiversity targets as well as social ones, given that their cosmovisions are highly aligned with the current CBD's 2050 vision and thus could exercise their internationally recognized rights in their territories and resources.[536] This in turn could help oppose current power imbalances between Eurocentric and Western State authority and local and Indigenous communities, as well as create open and intercultural dialogues through the recognition of the role of Indigenous knowledge and ultimately help push for a truly equitable biodiversity conservation.[537] In the following paragraphs, some examples of how TEK revolutionizes current ontological and epistemological legal constructs will be discussed in light of: (a) the valuing of natural elements; (b) the EBA; and (c) the notion of environmental personhood.

In regard to valuing the natural world, the Indigenous reciprocal relation between nature and man is reinforced through relational values of nature. As discussed in Section ii on ecosystem services, these establish ethical as well as political concerns through a mixture of intrinsic as well as instrumental values of nature towards beings beyond humans, including the natural world such as the ocean as well as related ancestral spiritual beings such as the Australian spirit of Sea Country.[538] Although relational values advocate for natural elements'

[533] Mamaweswen Niigaaniin and Timothy MacNeill, 'Indigenous culture and nature relatedness: Results from a collaborative study' (2022) 44 Environmental Development 100753; Rasmussen (n 508), 6; Ghijselinck (n 1), 5.
[534] Rasmussen (n 508), 2.
[535] Samuel Seble, 'Witsaja iki, or the good life in Ecuadorian Amazonia: knowledge co-production for climate resilience', in Ariell Ahearn, Martin Oelz, Rishabh Kumar Dhir (eds), *Indigenous Peoples and Climate Change: Emerging Research on Traditional Knowledge and Livelihoods* (International Labour Organization 2019) 51-63; Laura Cameron and others, 'The Turtle Lodge: sustainable self-determination in practice' (2019) 15(1) AlterNative: An International Journal of Indigenous Peoples 13; McGregor, Whitaker and Sritharan (n 518), 37.
[536] Reyes-García and others (n 511), 85.
[537] Anna Deplazes-Zemp and Mollie Chapman, 'The ABCs of relational values: Environmental values that include aspects of both intrinsic and instrumental valuing' (2021) 30(6) Environmental Values 669; Chan and others (n 429); Ghijselinck (n 1), 3.
[538] Michele Lobo, Alam Ashraful and Bandyopadhyay Sumana, 'Tiger Atmospheres and Co-Belonging in Mangrove Worlds' (2022) 6(2) Environment and Planning E: Nature and Space 736; Katharina Fackler and Silvia Schultermandl, 'Kinship as Critical Idiom in Oceanic Studies' (2022) 20(2) Atlantic Studies 195; Zoe Todd, 'Fossil Fuels and Fossil Kin: An Environmental Kin Study of Weaponised Fossil Kin and Alberta's So-Called

intrinsic worth, they go beyond that in so far as they also argue for social issues, recognition of territorial rights and customs as well as the rights of minorities and redress for past atrocities.[539] At the very least they foster a sense of care and ethical responsibility between humans and nature, pushing away from an anthropocentric perspective towards heightened conservation outcomes under biocentric notions of the environment.[540]

Across and within Indigenous communities, relational values are fostered in a number of ways including Indigenous laws, different forms of written and verbal art such as poetry and storytelling, religious and cultural ceremonies as well as practices such as swimming, diving, surfing, and even some types of fishing.[541] According to the *Nguni* languages, such as the *isiXhosa* of South Africa, the ocean, known as '*Ulwandle'*, "feels, breathes, heals, [and] is a resting place for 'liquid' ancestors."[542] In Māori traditional knowledge, rational values are reflected in the notion of '*Whakapapa'*, loosely translated to genealogy, which expresses the interrelation between nature, as in the land, water and natural resources, and the people, including past, present and future generations.[543] This ethical and legal responsibility is further rooted in the concept of '*Turungawaewae'*, meaning 'a place to stand', which highlights the kinship between Māori and their inhabited spaces.[544] Moreover, the ocean can have different meanings for different communities or even within the same community. For instance, as highlighted by Canadian scholar Rinaldo Walcott in portraying the ambiguous and ambivalent relations of Black First Nation people with the ocean as a site of both "Black birth as well as Black Death" following the scars of colonialism.[545]

Moreover, a 2017 study conducted by a group of Indigenous scholars including Sarah-Jane Tiakiwai and others examined a case study of the EBA integrated into British Columbia's Marine Plan Partnership for the Pacific North Coast and the Great Bear Initiative — two initiatives of resource management and economic development that integrate Indigenous

'Energy Resources Heritage'' [2022] Antipode 1, 17; Michele Lobo and Meg Parsons, 'Decolonizing Ocean Spaces: Saltwater Co-Belonging and Responsibilities' (2023) 2 Progress in Environmental Geography 128, 130; Reyes-García and others (n 511), 86.

[539] Ghijselinck (n 1), 3, 5.

[540] Ghijselinck (n 1), 5.

[541] Dylan McGarry, Helen Walne and Mpume Mthombeni, 'The Blue Blanket' (*YouTube*, 2021) <https://www.youtube.com/watch?v=rHq7Fpp9tvA> accessed 27 June 2024; Jordan Waiti and Belinda Wheaton, 'Indigenous Māori Knowledges of the Ocean and Leisure Practices' in Anderson K Peters and others (eds), *The Routledge Handbook of Ocean Space* (Routledge 2022) 85–100; Lobo and Parsons (n 538), 130-1.

[542] McGarry, Walne and Mthombeni (n 541); Lobo and Parsons (n 538), 132.

[543] Phil O'B Lyver and others, 'Building biocultural approaches into Aotearoa-New Zealand's conservation future' (2019) 49(3) Journal of the Royal Society of New Zealand 394; Ghijselinck (n 1), 5.

[544] O'B Lyver and others (n 543); Ghijselinck (n 1), 5.

[545] Rinaldo Walcott, 'The Black Aquatic' (2021) 5(1) Liquid Blackness: Journal of Aesthetics and Black Studies 63, 65; Lobo and Parsons (n 538), 131.

perspectives and cosmovisions.[546] The EBA runs parallel to TEK in so far as it nurtures the idea of interconnectedness between issues, species, and factors at play and requires an equally interconnected management of ecosystems, species and anthropogenic activities — rather than an isolation thereof.[547] In the case study, the researchers highlighted how an EBA in the Pacific Northwest has allowed for establishment of a collaborative management which ensures the involvement of Indigenous people in at least five ways: power dynamics, jurisdiction, adaptive management, agency, and the recognition of TEK.[548]

Regarding power dynamics and jurisdiction, the approach in the Pacific Northwest entails the integration of TEK in the management of coastal resources alongside Western science as well as other stakeholder perspectives from governmental actors to non-governmental ones such as corporations and environmental groups.[549] Importantly, in the Canadian context, the EBA developed as a result of the constant struggle of First Nations groups for inclusion and participation in environmental governance which impacted upon their people as well as territories, especially given the increasing active role of extractive industries.[550] This social struggle therefore resulted in the creation of an approach which intertwined ecological as well as cultural and social welfare considerations both in terms of physical well-being as well an economic one through the reconstruction of economies focused on conservation rather than consumption.[551] Thus, the struggle allowed for a shift in power dynamics whereby the political plurality given by interactions between Indigenous communities and governmental actors has led to a "transformative shift in policymaking."[552] Although this context was specific to the Canadian case at stance, it is not a reality only pertinent to this country. In fact, the role of environmental social movements by both non-governmental actors and Indigenous communities were one of the main factors for the establishment of the rights of nature movement in the constitutional framework of Ecuador.[553]

Furthermore, the TEK informed EBA in the Pacific Northwest, was characterized as an 'adaptive approach' in so far as the applicable science and subsequent management,

[546] Sarah-Jane Tiakiwai, Jonathan Timatanga Kilgour and Amy Whetu, 'Indigenous Perspectives of Ecosystem-Based Management and Co-Governance in the Pacific Northwest: Lessons for Aotearoa' (2017) 13 AlterNative: An International Journal of Indigenous Peoples 69, 69.
[547] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 69.
[548] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 75.
[549] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 69,78.
[550] Heli Saarikoski, Kaisa Raitio and Janice Barry, 'Understanding "successful" conflict resolution: Policy regime changes and new interactive arenas in the Great Bear Rainforest' (2013) 32 Land Use Policy 271; Tiakiwai, Timatanga Kilgour and Whetu (n 546), 72.
[551] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 72.
[552] Saarikoski, Raitio and Barry (n 550); Tiakiwai, Timatanga Kilgour and Whetu (n 546), 76.
[553] Akchurin (n 1), 939.

monitoring, and implementation schemes are a product of 'learning by doing' — a flexible and dynamic system that allows for the permeation of an equally flexible and dynamic system of TEK.[554] Given the ever-so changing state of the ecosystem, a level of flexible policymaking is necessary for managing uncertain ecosystem changes — similarly to how Indigenous communities have long adapted to these fluctuations over generations.

For instance, Māori traditional knowledge has long informed the management and governance schemes of marine environments, such as the *Waka-Taurua* framework, alongside Western scientific knowledge to create an integrated EBA.[555] It is precisely through collaborative adaptive management that different stakeholders, including Indigenous people, are given the agency and right to be able to intervene in decision-making.[556] This in turn links to the social struggle aforementioned and the recognition of Indigenous people and their knowledge on top of their right to self-determination in the context of having agency over factors which impede on their future.[557] The 2017 study on the Pacific Northwest then concludes by offering a potential framework that other countries could explore and adapt to their unique contexts by implementing new governance structures and collaborating with Indigenous communities to include TEK — even in cases where Eurocentric conceptions and Western science may prevail.

TEK also permeates the legal realm by helping inform the notion of environmental personhood and its associated rights of nature movement. Indigenous cosmovision of nature are aligned with the rights of nature movement in pushing for the intrinsic worth of natural elements through an ever closer relation between humans and nature.[558] This notion of interconnectedness is also shared by some scientists in the conception of the Earth as a whole consisting of "the land, oceans, atmosphere and poles, and [including] the planet's natural cycles – carbon, hydrogen, nitrogen, phosphorus, and sulphur – as well as deep Earth

[554] Nanwakolas Council, Coastal First Nations and BC Ministry of Forests, 'Lands and Natural Resource Operations. Ecosystem based management on BC's Central and North Coast (Great Bear Rainforest)' (2012) Implementation update report <https://coastfunds.ca/wp-content/uploads/2016/05/EBM_Implementation-Update_report_July-31_2012-1.pdf> accessed on 27 June 2024; Tiakiwai, Timatanga Kilgour and Whetu (n 546), 72-3.
[555] James Ataria and others, 'Whakamanahia Te mā tauranga o te Mā ori: Empowering Mā ori Knowledge to Support Aotearoa's Aquatic Biological Heritage' (2018) 52(4) New Zealand Journal of Marine and Freshwater Research 467; Craig L Stevens, K Paul-Burke and Peter Russell, 'Pū tahitanga: The Intersection of Western Science and Mā tauranga Mā ori in the Context of Aotearoa New Zealand's Physical Oceanography' (2021) 55(1) New Zealand Journal of Marine and Freshwater Research 249; Kimberley H Maxwell and others, 'Navigating towards Marine Co-Management with Indigenous Communities on-Board the Waka-Taurua' (2020) 111 Marine Policy 1, 4; Lobo and Parsons (n 538), 135.
[556] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 77.
[557] Tiakiwai, Timatanga Kilgour and Whetu (n 546), 77.
[558] Tineke Lambooy, Jan Van De Venis and Christiaan Stokkermans, 'A Case for Granting Legal Personality to the Dutch Part of the Wadden Sea' (2019) 44 Water International 786, 793; Łaszewska-Hellriegel (n 218), 1373.

processes."[559] However, much like nature has been secluded and separated from civilization's care and protection, Indigenous people have also suffered a similar treatment.[560] Accordingly, along with the resurgence of Indigenous people's rights comes the establishment of the rights of equally excluded subjects, this being natural elements. Or how professor and sociologist Boaventura de Sousa Santos argues "when the excluded have rights" the forms of protection must also follow suit.[561]

It is within this social as well as environmental struggle that biocultural rights come into play. In fact, they are another example of how TEK can permeate the legal realm of environmental protection and conservation. They go beyond rights of nature in the context of Indigenous communities as they argue for nature's rights as well as the rights of the communities over their land, water, and resources.[562] Precisely for this, biocultural rights support the creation of stewards or guardians of natural elements — people who can voice the concerns for the Earth and can speak up against perpetrators of environmental damage.[563] For instance, the role of the Māori tribe in New Zealand as '*Katiaki'*, meaning 'guardians of nature', allowed for the establishment of legal rights of several natural elements, arguing through a logic which highlighted their ancestral ties to their land, all the way from the mountains to the rivers to, finally, the ocean.[564] Specifically in regard to the ocean, to which the Māori refer to as '*Moana'*, the community are ethically and legally responsible for it as part of their people, home to the '*Tangaroa'* (the ancient god of the sea), a '*Mauri'* meaning 'a life force', and a '*Wairua'* translated to the 'spiritual integrity' of both human and non-human entities.[565]

In this regard, the notion of biocultural rights emanates in the culture-nature nexus characteristic of Indigenous communities. Traditional knowledge helps preserve diversity, both

[559] IMO, 'Resolution on the Amendment to the London Protocol to Regulate the Placement of Matter for Ocean Fertilization And Other Marine Geoengineering Activities' (18 October 2013) Resolution LP 4(8); Łaszewska-Hellriegel (n 218), 1374.
[560] Giorgia Pavani, 'Il diritto comparato e lo studio delle forme alternative di giustizia' (2019) 37 Diritto Publico Comparato ed Europeo Online 915, 917.
[561] Boaventura de Sousa Santos, 'Cuando los excluidos tienen Derecho: justicia indígena, plurinacionalidad e interculturalidad', in Boaventura de Sousa Santos and Agustín Grijalva Jiménez (eds), *Justicia indígena, plurinacionalidad e interculturalidad en Ecuador* (Abya Yala and Fundación Rosa Luxemburg 2012) 13; Pavani (n 560).
[562] González-Morales (n 133), 121.
[563] González-Morales (n 133), 134.
[564] Adam Wernick, 'Environmental Lawyers Seek Legal Rights for the Natural World' (*The World*, 22 November 2017) <https://theworld.org/stories/2017/11/22/rights-nature> accessed on 27 June 2024; Eleanor Ainge Roy, 'New Zealand River Granted Same Legal Rights as Human Being' (*The Guardian*, 16 March 2017) <https://www.theguardian.com/world/2017/mar/16/new-zealand-river-granted-same-legal-rights-as-human-being> accessed on 27 June 2024; Caroline McDonough, 'Will the River Ever Get a Chance To Speak? Standing Up for the Legal Rights Of Nature' (2020) 31 Villanova Environmental Law Journal 143, 154-5.
[565] Jordan Waiti and Shaun Awatere, 'Kaihekengaru: Māori Surfers' and a Sense of Place' (2019) 87 Journal of Coastal Research 35; Ataria and others (n 555); Lobo and Parsons (n 538), 131.

in terms of biological elements and cultural ones — precisely fostering the rights of Indigenous and local communities as well as sustainable development and environmental protection and conservation at the same time.[566] This intersection is given by the conscious integration of these communities with the environment, which can in turn influence non-Indigenous societal notions to mend back the relationship with nature and avoid the degradation that treating nature as a mere commodification poses for the environment.[567] An important aspect of biocultural rights is the fact that they are adaptive to the specific needs and circumstances of communities, thus although universal in their treatment of nature, they are flexible to changes in ecosystems — important for informing for instance the difference in physical characteristics of the ocean.[568] It follows then that, within the concept of biocultural rights, TEK can help nurture other important notions such as the advancement of social, economic and cultural rights as well as the rights of communities, the environment and ethnic people.[569]

However, social and environmental issues are not always perceived to be mutually supportive objectives. Indeed, they are often seen in opposition driven by the underlying fear of extinction on one hand, and the required respect for human rights on the other hand — which in turn shows a paradox that on one hand seeks to deal with the repercussions on nature's protection and conservation and on the other the repercussions on human health and prosperity and distributional justice.[570] Namely, this is exacerbated by the human-nature separation, making it ever so difficult to offer an equal playing field for both social justice and sustainability.[571] Nevertheless, one of the objectives of TEK is precisely to mend back this separation and offer a perspective where social and environmental considerations ought not to be at odds with one another.

Thus, how can TEK in turn help foster a more integrated framework of marine protection and preservation? Indigenous-led marine protection and conservation does not happen only at international level through open dialogues and the conclusion of instruments, but also at local level — which feeds back into the loop leading to more international

[566] González-Morales (n 133), 121.
[567] Kabir Sanjay Bavikatte and Tom Bennett, 'Community stewardship: The foundation of biocultural rights' (2015) 6(1) Journal of Human Rights and the Environment 7, 29; González-Morales (n 133), 122.
[568] González-Morales (n 133), 133.
[569] Luciana Abreu, 'La configuración de la propiedad comunitaria indígena en el Código Civil y Comercial. Reflexiones desde la dimensión ambiental y desde los derechos bioculturales', en Renato Rabbi-Baldi (ed), *Los derechos de la persona en el nuevo Código Civil y Comercial. Aproximación a algunos aspectos novedosos* (Universidad de Buenos Aires 2017) 141-165; Sánchez Zapata (n 13), 104.
[570] Gregory C Shaffer and Mark A Pollack, 'Hard vs. Soft Law: Alternatives, Complements, and Antagonists in International Governance' (2010) 94 Review 706; Martin, McGuire and Sullivan (n 524).
[571] Martin, McGuire and Sullivan (n 524).

recognition among global leaders, inter-Indigenous collaborations, international organizations and instruments.[572] For instance, the *Comcaac*, also known as the Seri people, native to the Gulf of California in Mexico, counteract to decreasing marine biodiversity through Indigenous-led protection and management scheme of the marine environment, integration TEK along with territorial, cultural and environmental integrity.[573] Indigenous and local communities are also known for participating locally in monitoring schemes for the implementation and evaluation of conservation actions.[574] For example, this is the case with both the Inuit of Canada and the coastal Saami of Northern Scandinavia which, through TEK, have contrasted industrial control of Arctic species with their own title over these species' conservation.[575]

These are only a few examples that can be mentioned, others include the re-implementation of traditional fishing grounds in Fiji and the Talamanca people of Costa Rica efforts in marine protection and conservation.[576] Notably, the role of organizations such as the Coordinator of Indigenous Organizations of the Amazon River basin or the Indigenous Peoples' International Centre for Policy Research and Education, has been substantial in fostering the recognition of Indigenous rights in the negotiations of the UN Reducing Emissions from Deforestation and Forest Degradation programme.[577] Nonetheless, the increasing ocean issues as well as the ongoing marginalization of coastal Indigenous communities, requires policy-makers, non-governmental organizations and other civil society actors to place heightened importance and attention on TEK, especially in highly diverse political and environmental contexts.[578]

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[572] Von Der Porten and others (n 512), 2.
[573] Claudia E Delgado-Ramirez, 'Los Pescadores Seri, Yaqui Y Kine~ nos: Un Estudio Comparativo Sobre La Inserción Del Capitalismo En Tres Comunidades Pesqueras Del Golfo de California' (Tesis de Maestrıa en Antropologıa Social, Escuela Nacional de Antropologia e História-Chihuahua 2009); Von Der Porten and others (n 512), 2.
[574] Reyes-García and others (n 511), 87.
[575] Frank James Tester and Peter Irniq, 'Inuit Qaujimajatuqangit: Social history, politics and the practice of resistance' (2008) 61 Arctic 48; Government of Nunavut, 'Consensus Government' (2016) <https://www.gov.nu.ca/sites/default/files/documents/2021-11/gn_info_package_-_consensus.pdf> accessed on 27 June 2024; Von Der Porten and others (n 512), 3.
[576] Joseph Corcoran (ed), 'Locally-managed marine area network, Fiji. Equator initiative case study series' (United Nations Development Programme 2002) <https://www.equatorinitiative.org/wp-content/uploads/2017/05/case_1348160544.pdf> accessed on 27 June 2024; Von Der Porten and others (n 512), 11.
[577] Linda Wallbott, 'Indigenous peoples in UN REDD negotiations: ''Importing power'' and lobbying for rights through discursive interplay management' (2014) 19(1) Ecology and Society 21; Reyes-García and others (n 511), 87.
[578] Jeff Corntassel and Cindy Holder, 'Who's sorry now? Government apologies, truth commissions, and Indigenous self-determination in Australia, Canada, Guatemala, and Peru' (2008) 9(4) Human Rights Review 465; Von Der Porten and others (n 512), 3, 12.

Among the reasons to foster TEK is that, although highly influenced by Indigenous cosmovision of nature, it is not only helpful in strictly Indigenous contexts. For instance, TEK can significantly enhance environmental marine management and conservation in the EU, even in the absence of Indigenous communities in the strictest sense, by incorporating insights from local communities, ethnic minorities, and other groups who have developed a deep understanding of their local ecosystems through long-term interaction and observation. For instance, local fishing communities in coastal regions, such as the Basque fishermen, possess extensive knowledge of marine species, seasonal patterns, and sustainable fishing practices that can inform fisheries management policies and conservation efforts.[579] Similarly, the traditional land use practices of the Sámi people in Scandinavia can inform sustainable grazing and land management strategies that protect both terrestrial and marine ecosystems.[580]Additionally, local communities that have experienced and adapted to environmental changes over generations, particularly those in vulnerable coastal areas, can offer valuable strategies for climate change adaptation, while recognizing and integrating the cultural heritage of ethnic minorities and rural communities can foster a sense of ownership and responsibility towards environmental stewardship. For example, the Cornish communities' historical ties to the sea can be leveraged to promote marine conservation initiatives.[581]

Furthermore, initiatives such as the movement for the rights of nature in Europe, including efforts in France with the Rhône river and the Tavignano River in Corsica, Germany, the Netherlands, and Denmark with the Wadden sea as well as Spain and its Mar Menor case, exemplify the growing interest among citizens and local representatives in marine protection.[582] The case of the Wadden Sea, where the Noardeast-Fryslân Municipality initiated legal action to grant the sea rights, illustrates how communities can be considered local and traditional in their natural existence and their role in marine environmental stewardship.[583]

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[579] Iñaki Barcena and Pedro Ibarra, 'The Ecologist Movement in the Basque Country', in Klaus Eder and Maria Kousis (eds), *Environmental Politics in Southern Europe: Actors, Institutions and Discourses in a Europeanizing Society* (Springer 2001).

[580] Jan Riseth and Arild Vatn, 'Modernization and Pasture Degradation: A Comparative Study of Two Sámi Reindeer Pasture Regions in Norway' (2009) 85(1) Land Economics 87.

[581] Tim Martindale, 'Livelihoods, Craft and Heritage: Transmissions of Knowledge in Cornish Fishing Villages' (PhD Dissertation, University of London, 2012); Tim Martindale, 'Heritage, Skills and Livelihood: Reconstruction and Regeneration in a Cornish Fishing Port' in Julie Urquhart and others (eds), *Social Issues in Sustainable Fisheries Management. MARE Publication Series, vol 9* (Springer 2014); Julie Urquhart and Tim Acott, 'A Sense of Place in Cultural Ecosystem Services: The Case of Cornish Fishing Communities' (2013) 27(1) Society and Natural Resources 3.

[582] Eduardo Salazar Ortuño and Teresa Vicente Giménez, 'La iniciativa legislativa popular para el reconocimiento de personalidad jurídica y derechos propios al Mar Menor y su cuenca' (2022) 13 Revista Catalana de Dret Ambiental 1, 4-5.

[583] Lambooy, Van De Venis and Stokkermans (n 558), 794.

In Spain, the Mar Menor initiative, driven by local citizens, fishermen, and ecologists, emphasizes the importance of community mobilization in advocating for the legal recognition of natural entities.[584] In addition, ILP for the Mar Menor enshrines citizens with the crucial role of guardianship over the marine ecosystem, as outlined in its governance structure.[585] This empowers local communities, scientists, and stakeholders to actively safeguard the ecological integrity of the Mar Menor through structured, participatory governance. By implementing TEK, from both Indigenous and local communities, with scientific knowledge, policymakers, and conservationists can develop more holistic and sustainable approaches to managing marine and terrestrial ecosystems, ultimately improving conservation outcomes while fostering social equity and cultural preservation. Both the Dutch case for the Wadden Sea and the Spanish case for the Mar Menor, amongst others, will be explored more in-depth in the following Section v on environmental personhood.

Given the considerations above, although with several implications in regard to its practical application, TEK is increasingly important for furthering the conception of the ocean a one ecosystem and the integrated protection thereof. This means that the future prospects to combat current marine environmental degradation ought to go farther than offering mere solutions to resource depletion and pollution, but ought to weave in deeper concerns led by a resurgence of these communities.[586] Although current international instruments, such as the Universal Declaration of Human Rights and the UN Declaration on the Rights of Indigenous People, attribute certain recognition of Indigenous rights, they do not recognize more subtle and systematic ontological and epistemological concerns that align with more Indigenous cosmovision and beliefs.[587] These efforts require two important roles: on one hand, the recognizer, this being the State authority; and on the other, the recognized, this being the Indigenous or local community.[588]

Precisely for these reasons, it may be valuable to stray away from a conception of rights and power that rests on central State authority and move towards a more pluralist notion of the

[584] Salazar Ortuño and Vicente Giménez (n 582), 20.
[585] Decreto 259/2019, de 10 de octubre, de declaración de Zonas Especiales de Conservación y de aprobación del Plan de Gestión Integral de los espacios del Mar Menor (Spain) (10 October 2019), art 9; Ley 3/2020, de 27 de julio, de recuperación y protección del Mar Menor (Spain) (27 July 2020), art 7; Salazar Ortuño and Vicente Giménez (n 582), 28.
[586] McGregor, Whitaker and Sritharan (n 518), 37.
[587] Centre for International Governance Innovation (CIGI): UNDRIP Implementation More Reflections on the Braiding of International, Domestic and Indigenous Laws. The Centre for International Governance Innovation, 2018; Forest Peoples Programme (n 511); McGregor, Whitaker and Sritharan (n 518), 37; Reyes-García and others (n 511), 87.
[588] Von Der Porten and others (n 512), 3.

state, allowing for other stakeholder views, including the TEK of Indigenous and local communities, to inform governance system and therefore help inform marine protection frameworks.[589] This coupled with an EBA, ecosystem services framework, and ABMTs which integrate more ecocentric notions of the marine environment could work together to achieve a more holistic and integrated framework of marine protection, especially in view of fostering an ever-closer man-nature nexus and an equally interconnected ocean. The next Section addresses how such effort may be carried out through the expansion of legal personality to natural elements, such as the ocean.

v. Environmental Personhood

Legal personhood or personality is attributed to bearers of legal rights and obligations.[590] The primal example of bearers of rights are humans. However, throughout history, the notion of legal personality has been expanded to include other entities such as states, corporations and organizations — as visible especially in international law doctrine.[591] Initially, rights were not even granted to all humans all the same. Socio-political and human rights movements have led the fight towards the legal emancipation of, for instance, slaves, children, and women. These movements were all sparked by the recognition of the intrinsic value of a particular group.[592] Scholar Alexander Nékám describes this intrinsic value as the recognition of the rights of certain groups due to the fact that their interests are perceived as socially important and thus in need of protection.[593] It follows that subjectivity is the result of an ethical request from a social group on the basis of cultural as well as political considerations that aim to prioritize the interests of certain groups, or non-living entities, which are considered to be valuable, vulnerable and/or unprotected by society.[594]

Recently, several other non-living entities, beyond States and corporations, have been included within the concept of legal personality. For instance, professor Rodrigo Miguel Núñez explores the granting of legal personhood in modern society to what he conceives as 'uncomfortable entities' because they blur the line between subjects and objects; such as

[589] Corntassel and Bryce (n 522); Von Der Porten and others (n 512), 4.
[590] Catherine Brölmann and Janne Elizabeth Nijman, 'Legal personality as a fundamental concept of international law' in Jean d'Aspremont and Sahib Singh (eds), *Concepts for International Law - Contributions to Disciplinary Thought* (E Elgar 2017) 16; Christopher Finlayson, *Legal Personhood of Natural Resources: The Potential for Ocean Jurisdiction* (New Zealand Centre for Global Studies =Te Pokapū Akoranga Aorere o Aotearoa 2022) 3.
[591] Lambooy, Van De Venis and Stokkermans (n 558), 792.
[592] Lambooy, Van De Venis and Stokkermans (n 558), 792.
[593] Alexander Nékám, *The Personality Conception of the Legal Entity* (Harvard University Press 1938) 28; Núñez (n 390), 384.
[594] Núñez (n 390), 385.

chimeras, cyborgs, artificial intelligence and, finally, nature.[595] Legal debates on the possibility of granting legal personality to nature date back to the late 1960s and 1970s with the birth of the so-called rights of nature movement, parallel to the development of the ecology movement of the 20th century.[596] However, attributing legal personality to nature has been a topic of debate that finds its roots in long-standing religious claims, whereby Judeo-Christian conception of nature is in a constant state of conflict with men.[597]

Nevertheless, as humans continue to inflict irreparable damage, various philosophies have been developed in favour of the protection of nature's intrinsic value and its inherent right to exist.[598] Amongst the various movements is deep ecology, advocating for a revolutionary change in the way nature ought to be legally represented and protected. The renowned author, Bill Devall, makes a clear distinction between reformist and revolutionary environmentalism, classifying the deep ecology movement in the latter category.[599] While reformists aim to correct the existing legal implications for the protection of nature in present legal frameworks, revolutionaries intend to restructure the legal fundamentals for more effective environmental policies.[600]

Discourses such as the deep ecology one have furthered the discourse of other movements such as the rights of nature, which may come in various forms: legally-binding rights, morally authoritative biotic rights or human responsibilities towards nature.[601] Internationally, non-binding instruments such as the World Charter for Nature and the Universal Declaration of Animal Rights, aim to attribute, to a certain level, rights upon nature, and these have led to the establishment of other creative measures on the national level.[602] Rights of nature could potentially be given to nature as a whole, including, and important to this thesis, the marine environment and its biodiversity. This could warrant for a more comprehensive and integrated framework of ocean protection desirable given the current environmental situation. The following paragraphs, first, outline the origins, development and rationale behind the environmental personhood discourse. Then, an analysis of the advantages

[595] See generally Núñez (n 390).
[596] Salazar Ortuño and Vicente Giménez (n 582), 16.
[597] Bill Devall, 'The Deep, Long-Range Ecology Movement: 1960-2000--A Review' (1980) 20 Natural Resources Journal 304.
[598] Roderick Nash, *The Rights of Nature: A History of Environmental Ethics* (Wis: University of Wisconsin Press 1989), 9.
[599] Devall (n 597).
[600] Devall (n 597).
[601] Dinah Shelton, 'Nature as A Legal Person' [2015] VertigO, para. 4.
[602] Shelton (n 601), para 6.

and implications of attributing legal personality to natural elements, specifically looking at the ocean, is carried out.

One of the first explicit appearances of the discourse on the rights of nature was led by the renowned environmental lawyer, Christopher Stone. Other prior less explicit mentions to notions similar to rights of nature include the 1949 renowned publication by Aldo Leopold on 'The Land Ethic' – whereby he argued for an evermore more close relationship between the Earth and humans presupposing the attribution of rights to nature in light of its presence as part of the community.[603] Several years later, specifically in 1972 – in concurrence with Arne Naess' coining of the deep ecology philosophy – Christopher Stone released a notorious paper entitled 'Should Trees Have Standing?', following the American *Sierra Club* case whereby an environmental non-governmental organization was not allowed to file a claim against a United States Forest Service permit allowing for the construction of a ski resort in the protected Sequoia National forest.[604] The rights of nature movement seeks to ascertain a more rights-based approach which assumes nature has intrinsic rights that, thus, do not require the rights to be attributed to nature.[605] This follows from Stone's characterization of nature as a 'rights holder' that would "have legally recognized worth and dignity in its own right and not merely to serve as means to benefit us."[606] This for instance recalls the ecosystem services framework which frames the valuation of nature based on the services it provides to man. However, as highlighted throughout this thesis, the ocean has immense value — not only for the survival of the human species — but also in itself and for itself through life-supporting systems on Earth.

The main argument behind the rights of nature movement is that natural elements should have standing and that this should be protected and enforced through guardians, such as environmental non-governmental organizations.[607] Given that natural elements lack an actual voice and thus cannot have a will of their own, they require guardians to voice their concerns, especially when public authorities are unwilling to do so.[608] The challenge lies in identifying these concerns and framing them under a more biocentric lens rather than an anthropocentric one. It is then within this issue that the man-nature nexus becomes extremely

[603] Aldo Leopold, 'The land ethic', in Aldo Leopold (ed), *A Sand County Almanac: And Sketches Here and There*, (Oxford University Press 1949).
[604] Hendrik Schoukens, 'Rights of Nature In The European Union: Contemplating The Operationalization Of An Eco-Centric Concept In An Anthropocentric Environment?', in Joana Castro Pereira and André Saramago (eds), *Non-Human Nature in World Politics* (Springer Nature Switzerland AG 2020) 325.
[605] Christopher D Stone, 'Should trees have standing? Towards legal rights for natural objects.' (1972) 9(4) Southern Californian Law Review 451.
[606] Stone (n 605).
[607] Schoukens (n 604), 325.
[608] Shelton (n 601); Alves and others (n 359), 5.

important, because without a connection between the two, it is rather difficult to establish priorities and a common good.[609]

In order to avoid abstraction between the power to represent the common concern of humankind and nature, there ought to be the presence of guardians, this being declared subjects with which the right to guardianship is explicitly recognized for the rights of present and future generations.[610] A recognition that is based on collaborative and participatory frameworks which rely on an ecological solidarity — a notion for instance already included within France's national legal instruments — enshrining the relationship between humanity and nature.[611] Thus, the rights of nature movement lays down the theoretical grounds upon which the claims are based and brings forward a potential framework under which these claims can be enforced in the legal paradigm; insofar as it also helps establishing an interrelation and cooperation between man and ecosystems, challenging the current manifestation of such separation in legal thinking and practice.[612]

The movement proposes concepts beyond granting standing to nature. Firstly, it brings forward the idea of 'Earth Jurisprudence', which refers to the fact that Earth in its entirety has fundamental rights – such as the right to existence and flourishment – which can be infringed and, thus in turn, need to be protected.[613] Nevertheless, as with most fundamental rights, this does not mean that nature should be granted absolute rights, but rather its rights ought to be balanced together with the other interests at stake.[614] This follows from ecological ethics and biocentric conceptions of nature, which presuppose a human responsibility towards the environment, which in turn manifests in an ecological justice that equitably and fairly distributes benefits amongst all elements of an ecosystem, including humans.[615] For instance,

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[609] Ugo Mattei, *Beni comuni. Un manifesto* (Editori Laterza 2011) 54, 62; Maria Rosaria Marella, 'Antropologia del soggetto di diritto. Note sulle trasformazioni di una categoria giuridica' in Francesco Bilotta and Fabio Raimondi (eds), *Il soggetto di diritto* (Jovene Editore 2020) 72; Núñez (n 390), 382.

[610] Stefano Rodotà, *Vivere la democrazia* (Editori Laterza 2018) 98; Ferdinando G Menga, *L'emergenza del futuro. I destini del pianeta e le responsabilità del presente* (Donzelli Editore 2021); Núñez (n 390), 381.

[611] The Charter of the National Park (France) (14 April 2006) n. 436; LOI n° 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages; Code de l'environnement (France) (14 August 2024), art 110-1(2)(6); Mireille Delmas-Marty, *Sortir du pot au noir. L'humanisme juridique comme boussole* (Buchet Chastel 2019) 18, 90; Mauro Pennasilico, 'La "sostenibilità ambientale" nella dimensione civil-costituzionale: verso un diritto dello "sviluppo umano ed ecologico"' (2020) 3 Rivista quadrimestrale di diritto dell'Ambiente 4, 55; Núñez (n 390), 382.

[612] Judith Rochfeld, *Justice pour le climat! Les nouvelles formes de mobilisation citoyenne* (Jacob 2019) 163; Núñez (n 390), 383.

[613] Anne L Schilmoller and Alessandro Pelizzon, 'Mapping the terrain of earth jurisprudence: Landscape, thresholds and horizons' (2013) 3(1) Environmental and Earth Law Journal 1; Cormac Cullinan, *Wild Law: A Manifesto for Earth Justice* (2nd edn, Chelsea Green Pub 2011); Teresa Vicente Giménez (ed), *Justicia ecológica en la era del Antropoceno* (Trotta 2016).

[614] Stone (n 605), 457-458.

[615] Vicente Giménez (n 13), 19.

in the 1980s professor Roderick Nash, from the University of California, published several articles on the rights of nature, arguing for an extension of rights to nature as a natural and logical evolutionary path of rights.[616] It is thus within this line of reasoning that the principle of common heritage and concern of humankind is born within the law of the sea; stressing the importance of (marine) natural resources, not only for their use, but also for their inherent conservation and protection as valuable elements of the marine environment.[617]

Therefore, a sense of community fosters and nurtures the notion of environmental personhood. In this regard, professor Rodrigo Míguez Núñez argues that the idea of a common concern of humankind creates a transgenerational duty and, most importantly, stresses the establishment of another entity that is crucial for the development of international environmental law and law of the sea, this being 'humanity'.[618] 'Humanity' becomes a legal subject to a biodiversity patrimony that has value, not for its commercial value, but given its instrumental as well as relational value for the survival of every form of life.[619] For instance, as argued by Yoshifumi Tanaka, the emergence of this new actor in international law of the sea is evident with the principle of common heritage of humankind or mankind; whereby humankind not only becomes a conceptual actor but also an operational organ through the International Seabed Authority.[620] Arguably, it can be said that the International Seabed Authority acts as a guardian of sorts for the interests of humankind in the Area. It is true that the intrinsic value of the environment can be established without the personification of such, but the idea of attributing certain human characteristics to the environment may contribute to people's conception of its importance for Earth systems.[621] Even within the long-standing natural law doctrine, nature was seen as valuable as human beings for creation, not only through human interaction.[622] Thus, it is this equal and reciprocal ethical importance that biocentric perspectives and legal approach advocate for.[623]

Biocentric conceptions of nature are also what sparked the construct of biocultural rights. Recalling as it has been explained in the previous Section on TEK, these are different from rights of nature insofar as they are more focused on the socio-environmental issues, this

[616] Salazar Ortuño and Vicente Giménez (n 582), 17.
[617] Alves and others (n 359), 5.
[618] Ariane Gailliard, 'Sacraliser la nature plutôt que la personnifier (ou les mirages de la personnification)' (2018) 44 Dalloz 2422; Antonio Tarantino, 'Umanità (diritti dell')', in Elio Sgreccia and Antonio tarantino (eds), *Enciclopedia di Bioetica e Scienza giuridica* (ESI 2017) 533; Núñez (n 390), 381.
[619] Núñez (n 390), 381.
[620] LOSC (n 20), chapter V; Tanaka (n 3), 19.
[621] Łaszewska-Hellriegel (n 218), 1372.
[622] Łaszewska-Hellriegel (n 218), 1372.
[623] Nash (n 598); Łaszewska-Hellriegel (n 218), 1372.

being the connection between local communities — be it Indigenous, ethnic or local people — and the ecosystems they inhabit.[624] In this sense, biocultural rights rest on the premise of an open dialogue between governmental bodies, public administration, civil society and the local community, which in turn relies on a more pluralist conception of law as to include perspectives which are beyond the ones of the central state.[625] It is precisely through this open dialogue that traditional knowledge systems play an important role, as this knowledge is equalled to other sources of knowledge such as common law or scientific ones.[626] However, unlike other knowledge, it is often not written down but rather passed down verbally through generations, hence the importance of open dialogues and participatory schemes. Traditional knowledge plays a part not only in offering valuable information for the protection of the environment as a whole, including the ocean, but it also challenges ontologies and epistemologies on the relationship between man and nature.[627]

However, the reality of more biocentric ideals — such as environmental personhood and biocultural rights — is still a narrow one in international law of the sea as anthropocentrism still governs most of the instruments on an international level. For instance, the prevalence of national governmental interests over global environmental degradation has manifested on the international level leading to three main issues: (a) the problem of global consensus building – as shown by recent global climate negotiations; (b) the lack of political will to address global socio-ecological decay – as illustrated by the United States' withdrawal from the Paris Climate Agreement and their refusal to ratify the LOSC; and (3) the concerns about global justice visible in the increasing North–South divide – referring to the socio-economic gap between the Global North and Global South, both in relation to development and wealth.[628]

Indeed, advocates of the rights of nature movement contend that modern environmental law is not enough to tackle the current environmental crisis that the world is facing. Although environmental and marine protection are gaining increasing momentum since the mid 20th century, they have often perpetuated the conception of natural elements as something that ought

[624] González-Morales (n 133), 119.
[625] González-Morales (n 133), 119.
[626] González-Morales (n 133), 119.
[627] Keune and others (n 425), 13.
[628] 'A 60 Second Guide To . . . The Global North/South Divide' (*Rgs.org*, 2021) <https://www.rgs.org/CMSPages/GetFile.aspx?nodeguid=9c1ce781-9117-4741-af0a-a6a8b75f32b4&lang=en-GB> accessed 25 April 2024; Louis J Kotzé and Duncan French, 'The Anthropocentric Ontology of International Environmental Law And The Sustainable Development Goals: Towards An Ecocentric Rule Of Law In The Anthropocene' (2018) 7 Global Journal of Comparative Law 30.

to be owned or exist at the service of humans.[629] As stressed throughout this thesis, this conception of nature and in turn of the ocean is what characterizes anthropocentric thinking and is believed to be one of the major causes of current environmental and marine degradation and biodiversity loss trends.[630] In this regard, environmental personhood helps to attribute significant and enduring normative value to natural elements' rights.[631] Specifically, the rights of nature movement is regarded as a possible nudge towards changing societal views in favour of decreasing human activities and behaviours that persist to damage the environment, including the marine one.[632]

For instance, UN efforts are notable in outlining the push for a more biocentric approach to the protection of the environment and its elements. This is particularly true with the adoption of the 1982 World Charter of Nature.[633] Although not legally-binding, this instrument received a great deal of attention and approval from governments all over the world and, thus, has been regarded as highly authoritative.[634] Throughout its chapters, the Charter outlines, *inter alia*, the safeguarding of ecological integrity, the supreme importance of preserving natural systems, the important role of eco-friendly principles, the functions of signatories with a view of controlling and limiting economic development, and it also offers several rules on implementation.[635] However, the Charter comes with its implications including the effective implementation in the national legal orders and, most of all, the lack of political will to do so.

More recently, in 2012, a 'Universal Declaration for the Rights of Mother Nature' was proposed by a group of non-governmental organizations, Indigenous groups, and civil society in a UN conference on sustainable development.[636] Four years later, in 2016, the UN General Assembly set up an open dialogue on 'Harmony with nature' which has as its primary objective

[629] Kaitlin Sheber, 'Legal Rights for Nature: How the Idea of Recognising Nature as a Legal Entity Can Spread and Make a Difference Globally' (2020) 26 Hastings Environmental Law Journal 147, 151; Nicola Pain and Rachel Pepper, 'Can Personhood Protect the Environment? Affording Legal Rights to Nature' (2021) 45 Fordham International Law Journal 315, 322.
[630] Matija Zgur, 'All the Earth's Legal Children: Some Sceptical Comments About Nature's Legal Personhood' (2020) 2 Diritto e Questioni Pubbliche 87, 90; Pain and Pepper (n 629).
[631] Paola Villavicencio Calzadilla and Louis J Kotzé, 'Somewhere Between Rhetoric and Reality: Environmental Constitutionalism and the Rights of Nature in Ecuador' (2017) 6 Transnational Environmental Law 401, 407; Meg Good, 'The River as a Legal Person: Evaluating Nature Rights-Based Approaches to Environmental Protection in Australia' (2013) 1 National Environmental Law Review 34, 35; Stefan Knauß, 'Conceptualizing Human Stewardship in the Anthropocene: The Rights of Nature in Ecuador, New Zealand and India' (2018) 31 Journal of Agricultural and Environmental Ethics 703, 705; Pain and Pepper (n 629), 323.
[632] Schoukens (n 604), 313.
[633] UNGA Res 37/7 (28 October 1982) UN Doc A/RES/37/7.
[634] Kotzé and French (n 628), 33.
[635] UNGA Res 37/7 (n 633); Kotzé and French (n 628), 34-35.
[636] UN Secretary-General, 'Harmony with Nature: Report of the Secretary-General' (18 August 2014) UN Doc A/69/322, para 4.

non-anthropocentric conceptions of the law such as the rights of nature.[637] Non-governmental organizations, such as the Community Legal Defence Fund and the Earth Law Centre, have been verbal about their agenda of promoting rights of nature.[638] Several non-profit projects have also received direct funding from the EU Commission, such as Speak4Nature – which aims at bridging together legal doctrine as well as other social sciences in the ambit of ecological and environmental justice.[639] In fact, in 2017, the European Parliament, representatives from environmental institutions, non-governmental organizations and other experts met to discuss the adoption of rights of nature and environmental personhood as whole within the EU Acquis Communautaire.[640] Thus, this goes to show that the recognition of the importance and role of environmental personhood is increasingly being recognized by the international community, on different levels.

National legal instruments have also shown to be a useful tool in opening opportunities for the attribution of legal personality to natural elements and creating a potential chain of reaction on a global level. In 2008, Ecuador was the first country to constitutionally declare the status of nature, called 'Pacha Mama' by some Indigenous communities, as a subject of law.[641] These came in the form of broad standing constitutional rights, whereby all people can bring about claims to public authorities in order to enforce the *Pacha Mama* rights, without prejudice to the other rights in the Constitution.[642] On a national level, this aided the creation of various political discourses: (a) the eco-socialist discourse, advocating for the rights of nature as response to extractivist capitalism; (b) the transformative discourse, supporting the attribution of legal personality to nature for reshaping human-nature relationships; and (c) the anthropocentric developmentalist discourse, encouraging the attribution of rights to nature as an instrument for stronger environmental regulation.[643]

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[637] UN Secretary-General, 'Harmony with Nature: Note by the Secretary-General' (1 August 2016) UN Doc A/71/266, para 5; UN Secretary-General, 'Harmony with Nature: Report of the Secretary-General' (4 August 2015) UN Doc A/70/268, para 4.

[638] Community Environmental Legal Defense Fund, CELDF Statement on Orange County, FL 'Rights of Nature' Law (*CELDF*, 4 November 2020), <https://perma.cc/423D-HJSV> accessed on 25 June 2024; Earth Law Center, Community Toolkit for Rights of Nature <https://perma.cc/W7NM-L5RW> accessed on 24 June 2024.

[639] Speak4Nature, Interdisciplinary Approaches on Ecological Justice (2024) <https://www.speak4nature.eu/> accessed on 24 June 2024.

[640] UN Secretary-General, 'Harmony with Nature: Report of the Secretary-General' (29 July 2017) UN Doc A/72/175, para 41.

[641] Shelton (n 601), para 24.

[642] Constitution of the Republic of Ecuador (Ecuador) (20 October 2008), art 71; Villavicencio Calzadilla and Kotzé (n 631), 424; Pain and Pepper (n 629), 335.

[643] Synneva Geithus Laastad, 'Nature as A Subject of Rights: A Discourse Analysis on Ecuador's Constitutional Rights of Nature' (Master, University of Oslo 2016), 6.

These discourses have the potential to shape national policy in favour of the conservation of nature and its creatures. In fact, by 2016, courts had reviewed thirteen cases brought under the rights of nature provisions, including: one that related to the rights of the Vilcabamba river, ten which ruled in favour of nature, and out of the thirteen, four which were brought by government officials, four which came from criminal matters and the rest which were initiated by individual citizens and civil society groups.[644] By 2019, the number of cases brought before the Ecuadorian courts on rights of nature matters had increased to twenty-four claims.[645]

Nonetheless, these cases were not free from implications. Some scholars, such as professor Craig Kauffman and Pamela Martin, argued that they were tools to consolidate State power and imposed little to no actual restriction on its power.[646] On top of that, the cases exposed some of the obstacles of enforcing rights of nature in courts, such as: (a) conceptual problems on the foundations of those rights; (b) the multiplicity of parties that brought about claims with no clear grounds for arbitration; (c) conflict of rights and the balancing needed between other constitutionally protected rights; and (d) the difficult task of having to determine the net effects of rights of nature policies.[647]

Although the impact of *Pacha Mama* rights in Ecuador is still to be properly consolidated, their mere establishment has significantly helped to influence other countries to acknowledge and engage with the legal debate.[648] For instance, Bolivia and Pittsburgh, Pennsylvania both followed in 2009 and 2010 respectively, in implementing nature as a legal person in their constitutions.[649] With regard to the former, Bolivia created the so-called 'Law of the Rights of Mother Earth' which conceives the Earth as a "collective subject of public interest" — resembling the principle of common heritage of humankind in international law of the sea.[650] Similarly to Ecuador, the regime aims to oppose humans' dominance over nature by attributing natural elements their own range of rights.[651] Specifically, the law provides for the

[644] Eric Alston, 'Ecuador's 2008 Constitution: The Political Economy of Securing an Aspirational Social Contract' (2018) 3 Constitutional Studies 69, 88; Pain and Pepper (n 629), 336.
[645] Craig M Kauffman, 'Why Rights of Nature Laws are Implemented in Some Cases and Not Others: The Controlled Comparison of Bolivia and Ecuador' (29 March 2019) International Studies Association Annual Conference, 8; Pain and Pepper (n 629), 336.
[646] Craig M Kauffman and Pamela L Martin, 'Can Rights of Nature Make Development More Sustainable? Why Some Ecuadorian Lawsuits Succeed and Others Fail' (2017) 92 World Development 130, 131; Mauricio Guim and Michael A Livermore, 'Where Nature's Rights Go Wrong' (2021) 107 Virginia Law Review 1347, 1409.
[647] Guim and Livermore (n 646).
[648] Laastad (n 643), 98.
[649] Shelton (n 601), paras 24 and 28.
[650] Ley n 071 de Derechos de la Madre Tierra (Bolivia) (21 December 2010).
[651] Gwendolyn J Gordon, 'Environmental Personhood' (2018) 43 Columbia Journal of Environmental Law 49, 54-5; Pain and Pepper (n 629), 337.

creation of an Office of Mother Earth that acts as a guardianship for the enforcement of the Earth's rights.[652] However, this biocentric focus is contradicted by the State obligation to "develop balanced forms of production and patterns of consumption to satisfy the needs of the Bolivian people to live well."[653] It is perhaps for this contradiction, amongst other issues, that there have been no claims brought before the courts for the rights of nature up to today.[654] In fact, scholar Martyna Łaszewska-Hellriegel is of the idea that, although rights of nature have been constitutionally recognized in both Ecuador and Bolivia, they have not been clearly implemented, suggesting that their recognition falls short of a system of enforcement on other levels which cannot avoid issues such as corruption, no rule of law and a weaker education system.[655]

Other practical expressions of how establishing rights of nature could work in the legal domain are the examples of New Zealand, Belize, and Colombia. Firstly, New Zealand is one of its kind in recognizing the legal personality of three natural elements: forests, mountains and rivers.[656] Notably, the Whanganui river was recognized as an "indivisible and living whole", attributed rights based upon the spiritual connection the *Whanganui Iwi* possessed towards it, which empowers them as the guardians of the river.[657] A similar conception of the ocean as an indivisible and living whole could be implemented in international law and practice.

Secondly, Belize, home to the second-longest barrier reef in the World recognized as a UNESCO heritage site, is an important hub for thousands of coral and fish species, which are increasingly threatened by human activities.[658] Notably, in 2009, following a cargo ship collision harming 6000 square metres of the reef, damage claims were filed against the ship company in front of the Supreme Court of Belize, who stated that the company was liable and responsible for the damage as, despite the reef not being owned, it was still a living thing.[659]

On the same line, the Supreme Court of Colombia in one of its environmental law landmark cases attributed legal personality to the *Atrato* river, stating that:

[652] The Cyrus R Vance Center for International Justice, Earth Law Center and International Rivers, Rights of Rivers (2019) <https://perma.cc/RAT3-UD7B> accessed on 25 June 2024; Pain and Pepper (n 629), 338.
[653] Ley n 071 de Derechos de la Madre Tierra (n 566), art 8(2).
[654] Pain and Pepper (n 629), 338.
[655] Łaszewska-Hellriegel (n 218), 1378.
[656] Somabha Bandopadhay and Shivam Pandey, 'The Rights of Nature: Taking An Ecocentric Approach For Mother Earth' (2020) 12 Rupkatha Journal on Interdisciplinary Studies in Humanities 7, 7.
[657] Te Awa Tupua (New Zealand) (2017), s 8, 12; Łaszewska-Hellriegel (n 218), 1375.
[658] Bandopadhay and Pandey (n 656).
[659] Bandopadhay and Pandey (n 656).

> "The human species are just one more even within a long evolutionary chain that has endured for thousands of years and, therefore, they are in no way the owners of the other species, neither of the biodiversity nor the natural resources."[660]

This has been an exemplary approach which has even led the Colombian government to declare the Colombian Amazon and several other Andean ecosystems as subjects of rights, resulting in the adoption of many national and regional instruments in favour of the protection of the environment.[661] In these cases, the Colombian courts have stressed the intra and intergenerational role of ecosystems in supporting human communities, instead of just focusing on the intrinsic value of the ecosystem per se.[662]

The national jurisprudence of the Indian Supreme Court shift from anthropocentrism to ecocentrism also deserves special attention as an important example of the benefits of attributing legal personhood to natural environments, specifically animals. The Indian Supreme Court has emphasized the value of this shift in stating that the "eco-centric approach to environment stresses the moral imperatives to respect intrinsic value, interdependence, and integrity of all forms of life" and that humans are merely part of those various forms of life.[663] In their influential line of jurisprudence, three cases stand out more than others, namely: the *T.N. Godavarman Thirumulpad* case, the *T.N. Godavarman Thirumulpad v. Union of India-II* case, and the *Centre for Environment Law, WWF- I v. Union of India* case.[664] In all of these cases, the Court used the ecocentric approach to protect several endangered species, such as the Asiatic Wild Buffalo, the Red Sandalwood and the Asiatic Wild Lion, respectively.[665] The judgements avoided making reference to consideration of human well-being and, in protecting the animals, the Court emphasized the importance of the shift towards ecocentrism for the preservation of vulnerable species and their intrinsic value.[666] This not only suggested the relevance, impact, and benefits of attributing legal personhood to nature for the protection of endangered species, but also paved the path for the manifestation, realization, and application of a heavily ecocentric based jurisprudence.

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[660] Bandopadhay and Pandey (n 656), 8.
[661] Bandopadhay and Pandey (n 656), 8.
[662] Eva Julia Lohse and María Valeria Berros, 'You Cannot Have the Cake and Eat It – How to Reconcile Liberal Fundamental Rights with Answers to the Climate Crisis' (2023) 17 ICL Journal 17, 26.
[663] Satish Shastri, 'Environmental Ethics Anthropocentric to Eco-Centric Approach: A Paradigm Shift' (2013) 55 Journal of the Indian Law Institute 522, 526.
[664] Shastri (n 663).
[665] Shastri (n 663), 527.
[666] Shastri (n 663), 527.

Other recent examples of environmental personhood in national regimes include the Australian State of Victoria recognition of the rights of the Yarra river and a local ordinance of a Dutch municipality advocating for legal recognition of the rights of the Wadden Sea.[667] In regard to the latter, it is interesting to point out the legal personality of so-called waterschappen (waterships).[668] These are some of the oldest Dutch public bodies which aim to protect a certain territory from flooding, establishing and maintaining groundwater level in its area.[669] Waterships are independent and attributed with the competence to grant permits and levy taxes on landowners, land users and citizens as well as enter in agreements with other public institutions for policy harmonization.[670] It is then within this possibility of recognizing the rights of a sea and their guardianship that scholars, such as Wellington Law Professor Petra Butler, have argued that such personality could be extended to the whole ocean.[671]

An even more exemplary case of rights being attributed to water bodies is the recent 2020 Mar Menor case in the south-east peninsula of the Autonomous Community of Murcia, Spain. It is the most recent case of environmental personhood in the EU, as most of its law and policy is highly anthropocentric in nature.[672] However, more recently there has been consensus for a more biocentric approach to the environment, so much so that the EU Economic and Social committee has been working on a draft legislative proposal on 'Fundamental Rights of Nature'.[673]

The Mar Menor case was brought forward through a popular legislative initiative ('iniciativa legislativa popular' or ILP) in 2021 in order to propose the Lagoon as juridical subject and attribute to it its own set of rights including: the right to existence, the right to evolve naturally, as well as rights to protection, conservation, restoration, and resilience.[674] This brings forward an interesting possibility of empowerment for the citizens through

[667] Yarra River Protection Act (Australia) (2017); Omrop Fryslan (The Netherlands) (12 July 2019); Lambooy, Van De Venis and Stokkermans (n 558), 787; Schoukens (n 604), 207.
[668] Dutch Waterships Act (Waterschapswet) (The Netherlands) (February 2010); Lambooy, Van De Venis and Stokkermans (n 558), 797.
[669] Lambooy, Van De Venis and Stokkermans (n 558), 798.
[670] Lambooy, Van De Venis and Stokkermans (n 558), 798.
[671] Petra Butler, 'The ocean and a question of legal personhood' (*Newsroom*, 14 June 2021) < https://www.newsroom.co.nz/ideasroom/the-ocean-and-a-question-of-legal-personhood> accessed on 26 June 2024.
[672] Salazar Ortuño and Vicente Giménez (n 582), 4.
[673] European Economic and Social Committee, *Towards an EU Charter of the Fundamental Rights of Nature* (European Economic and Social Committee 2020) <https://www.eesc.europa.eu/en/our-work/publications-other-work/publications/towards-eu-charter-fundamental-rights-nature> accessed on 16 August 2024; Salazar Ortuño and Vicente Giménez (n 582), 5.
[674] Ley 19/2022, de 30 de septiembre, para el reconocimiento de personalidad jurídica a la laguna del Mar Menor y su cuenca (Spain) (3 October 2022); Teresa Vicente Giménez and Eduardo Salazar Ortuño, 'Los derechos de la naturaleza y la ciudadanía: el caso del Mar Menor' [2022] Revista Murciana de Antropología 15, 23.

participatory and access to justice schemes with a direct effect on decisions that impact the ecosystem in question, enshrined in article 6 of the ILP — notions which nurture the principles and frameworks established in international environmental law through for instance the 1998 Aarhus Convention.[675] The ILP also establishes organs to act as guardians for the Mar Menor, specifically the organs of the Representation and Governance of the Mar Menor which are part of the Defence of the Mar Menor, supervised by an independent Scientific Committee.[676] The notions of participatory mechanisms in line with scientific as well as social considerations follow in the lines of the EBA discussed in the previous sections. Seeing these notions working in practice and hand in hand with more biocentric conceptions of the environment, allows for speculations on the application of such systems of protection and conservation in the broader ocean. Indeed, the Mar Menor ILP was acknowledged in the tenth report of the UN Secretary General on Harmony with Nature, suggesting the potential reach of such initiatives for broader environmental and international law of the sea.[677]

Thus, before continuing, let us summarize the main opportunities and implications for the adoption of environmental personhood. Firstly, and as highlighted thus far, one of the main strong points of environmental personhood is opposing the threats for the ocean under anthropocentric views and policies. Considered one of the main causes of current environmental degradation given its conception of nature as separate from man and as hierarchically lower compared to humans, a more biocentric notion of the responsibility and care for the environment could be convenient. One that, for instance, could be nurtured through attributing certain rights to natural elements. For the ocean this could follow in the line of the already established principle of common heritage of mankind, which not only supports a vision of the ocean as intrinsically valuable for humanity, but for itself and in itself in supporting several essential life systems and implies an intra and intergenerational responsibility from humanity for its protection and care.

However, implementing biocentric notions in an anthropocentric environment fundamentally challenges some of the very basis of current governance schemes as well as introduces concepts which are still not recognized by the current political and economic system itself.[678] Indeed, the Colombian Socio-Juridical Centre for Social Defence (locally known as

[675] Vicente Giménez and Salazar Ortuño (n 674), 23.
[676] Vicente Giménez and Salazar Ortuño (n 674), 24.
[677] UN Secretary-General, 'Harmony with Nature: Report of the Secretary-General' (28 July 2020) UN Doc A/75/266; Salazar Ortuño and Vicente Giménez (n 582), 18.
[678] Elizabeth Jane Macpherson, 'Derechos constitucionales, derechos humanos, derechos indígenas: el lado humano de los derechos de la naturaleza', en María del Pilar García Pachón (ed), *Reconocimiento de la naturaleza*

Centro Sociojurídico para la Defensa Social - SIEMBRA) lists some of the major problems with establishing a doctrine on environmental personhood, including; (a) the application of legal subjectivity and representation of new subjects; (b) managing conflict of rights in their practical application; (c) the potential instrumentalization of certain discourses or visions that characterize rights of nature that could result in their opposition; and (d) their potential in tackling environmental degradation when these right may conflict with other human rights or the rights of the communities.[679] Nevertheless, an important point to make is that, environmental personhood could be seen as an opportunity to reshape and actualize one of the oldest pillars of Western legal doctrine, the hierarchical separation between man and nature, through the attribution of a moral and consequently legal responsibility of humans towards the environment.

Indeed, in contrast to such conceptual and ideological dilemmas, the doctrine of rights of nature is not as unsubstantiated as it is believed to be as, at the very least, it includes judicial and extrajudicial representation and the rights to live, exist, not suffer damage, protection, restoration, and maintenance of life functions — elements which are presently enforced in several national regimes as outlined above.[680] Moreover, in regard to their potential conflicts with other constitutional (human) rights, it is important to stress that rights of nature ought to complement not compete with such rights, in the same way that legal subjectivity of other non-human entities has been doing for entities such as corporations and States themselves.[681]

It follows that environmental personhood comes with a plethora of implications for its establishment in current international legal doctrine. However, it is also true that a focus on more biocentric as well as biocultural values, instead of anthropocentric ones, could enhance environmental outcomes for the protection and conservation of the ocean. Although the current adverse anthropogenic activity seems to paint a rather bleak picture, scholars such as Joshua Gellers, Louis Kotzé and Paola Villavicencio Calzadilla argue that there is a 'silver lining' in current environmental degradation insofar as it aids the development of innovative legal models — such as environmental personhood — through "alternative, potentially progressive, and possibly more effective judicial framings that focus on preserving Earth system

y de sus componentes como sujetos de derechos (Universidad Externado de Colombia 2020) 49-80; Sánchez Zapata (n 13), 104.

[679] Viviana González (ed), *Derechos de la naturaleza y derechos bioculturales: escenarios de posibilidad ante la degradación de la naturaleza*' (Centro Sociojurídico para la Defensa Territorial Siembra 2021).

[680] Sánchez Zapata (n 13), 107.

[681] Pierre Brunet, 'La ecología de los jueces: la personalidad jurídica de los entes naturales (India y Colombia)', en Pierre Brunet (ed), *Para un análisis del discurso jurídico* (Universidad Externado de Colombia 2019) 387-432; Sánchez Zapata (n 13), 107.

integrity."[682] On top of this, attributing certain rights to natural elements could help tackle the obstacles of general environmental law such as, on top of bringing perpetrators to justice or enriching a specific plaintiff, the actual restoration of damaged environments and better access to justice as well as remedies in environmental litigation.[683]

However, the mere recognition of environmental personhood does not suffice in order for it to be effectively enforced. Accordingly, recognition must be implemented hand in hand with enforceable laws in legislation outlining clear priorities and the role of involved actors on different institutional and jurisdictional levels, such as guardians.[684] The role of guardians is extremely important in order to clearly voice the extent of the issue and ensure the enforcement and application of rights of nature, as they are likely to suffer from broader obstacles pertinent to environmental law such as: prioritization of economic considerations, weak enforcement and a lack of funding.[685] The latter is especially true for less developed countries which in the case of the ocean are of particular concern — given that resource extraction is often the principal income for coastal economies.[686] For instance, mining in Ecuador is one of the main lucrative activities, and recent statements by Esperanza Martínez, founder of the environmental organization *Acción Ecológica*, have alluded to the fact that, though Ecuador has integrated the rights of nature within their constitutional framework, the country continues to push unsustainable patterns of extraction.[687] Thus, it is important to stress change on institutional as well as State levels, be it national, regional, or international.

It follows that the discourse of environmental personhood implies a more pluralist conception of the law, this being one that abstains from considering merely governmental opinions. Consequently, it gathers the potential to steer environmental protection and conservation towards more ecological values, even where public authorities are unable or unwilling to do so.[688] For instance, in India, the environmental personhood discourse has aided,

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[682] Joshua C Gellers, 'Earth System Law and the Legal Status of Non-Humans in the Anthropocene' (2021) 7 Earth Systems Governance 1, 1; Villavicencio Calzadilla and Kotzé (n 631), 424; Pain and Pepper (n 629), 323.
[683] Nicholas Bilof, 'The Right to Flourish, Regenerate, and Evolve: Towards Juridicial Personhood for an Ecosystem' 10 (2018) Golden Gate University Environmental Law Journal 111, 120; c, 165-6; Pain and Pepper (n 629), 324.
[684] Susanne Wuijts and others, 'An Ecological Perspective on a River's Rights: A Recipe for More Effective Water Quality Governance?' 44 (2019) Water International 647; Pain and Pepper (n 629), 325.
[685] Emilie Blake, 'Are Water Body Personhood Rights the Future of Water Management in the United States' (2017) 47 Texas Environmental Law Journal 197, 208; Jan Darpö, 'Can Nature Get it Right? A Study on Rights of Nature in the European Context' (2021) European Parliament Policy Department for Citizens' Rights and Constitutional Affairs, 60; Pain and Pepper (n 629), 325.
[686] Villavicencio Calzadilla and Kotzé (n 631), 400.
[687] Antonio José Paz Cardona, 'For Ecuador, a Litany of Environmental Challenges Awaits (Romina Castagnino and Sarah Engel tr, *Mongabay*, 5 February 2020) <https://news.mongabay.com/2020/02/for-ecuador-a-litany-of-environmental-challenges-awaits-in-2020/> accessed on 26 June 2024; Pain and Pepper (n 629), 325.
[688] Pain and Pepper (n 629), 327.

as shown before, a transition from more anthropocentric conceptions of law to more ecocentric ones, in turn transitioning to a less strict governmental approach to the role of environmental activists.[689] In regard to pluralist conception of law, environmental personhood also stresses the importance of the recognition of Indigenous modes of guardianship — a topic which was discussed in the previous Section on TEK. Thus, increased activism from different actors in society is also what may impact the potential of rights of nature in ensuring a more comprehensive and integrated protection of the environment, in so far as it builds up the consensus necessary to impact political will.

However, questions remain as to how such a notion could be integrated in and reconciled with our increasingly transnational world and equally transnational ocean. As alluded to in Chapter 1, law of the sea is an extremely fragmented body of law that lacks a central authority to enforce it. Consequently, this leads to an equally fragmented enforcement of marine environmental standards across different geographical scales as well as sectors — making international law of the sea a realm whereby a big plurality of actors are at play. This becomes difficult for environmental personhood where rights of nature are not recognized to the same extent in different geographical as well as sectoral areas, leading to obstacles for a truly transnational framework in a context where the conceptual framing of rights is highly dependent on local culture and customs.[690]

[689] Palash Srivastav, 'Legal Personality of Ganga and Ecocentrism' (2019) 4 Cambridge Law Review 151, 151-68; Joanna Slater and Niha Masih, 'In India, a Climate Activist's Arrest Shows Shrinking Space for Dissent' (*The Washington Post*, 18 February 2021) <https://www.washingtonpost.com/world/asia_pacific/india-modi-dissent/2021/02/17/b6ab6ec8-7059-11eb-8651-6d3091eac63f_story.html> accessed on 24 June 2024.
[690] Brunet (n 6812), 389; Sánchez Zapata (n 13), 108.

Conclusions

As human activities at sea have expanded, particularly in the economic sphere, the need for an integrated framework for marine protection has become increasingly urgent. Recalling that what is meant by *integrated* is a framework which envisions not only the marine environment as interconnected in itself but also – according to ecocentric and biocentric conceptions of nature – interrelated with the rest of the natural world, including human beings. The division of the ocean into AWNJ and ABNJ and the extension of maritime activities into these areas, has heightened anthropogenic pressures on marine environments, leading to greater concerns over their protection and preservation. The detrimental impacts of pollution, as initially demonstrated by major oil spills in the late 1960s and nowadays by a plethora of other pressures on marine Earth systems, have underscored the transboundary and interconnected nature of ocean waters and the pollution that affects them. Consequently, the focus has shifted from fragmented, sectoral approaches to more integrated, holistic methods for marine protection. This thesis has explored how these integrated approaches, underpinned by ecocentric, biocentric, and anthropocentric perspectives, can be reconciled and fostered within the current legal framework for marine protection and conservation.

The issue at the heart of this thesis is the legal fragmentation of the ocean, which has been treated as a set of separate and distinct jurisdictional as well as geographical areas rather than as a cohesive and interconnected whole. This fragmented treatment is reflected in the international and regional legal frameworks that govern ocean protection and preservation, which often fail to account for the interconnectedness of marine ecosystems and their relationship with human beings. Thus, the central research question guiding this investigation was: how do current international and regional frameworks of protection and preservation of the marine environment include an integrated framework of ocean protection? Alternatively, given the ocean's frequent fragmentation of its spaces and policies, to what extent do the current frameworks allow for an integrated ocean protection and preservation?

The overall conclusion is that the current legal framework has yet to realize its potential in protecting the ocean in an integrated manner and that a shift towards an ecocentric and biocentric framework is necessary. Throughout the thesis, this was tested by examining existing legal frameworks, at regional and international level, identifying their strengths and weaknesses, in Chapter 1 and exploring alternative approaches that could promote a more holistic and interconnected view of ocean protection in Chapter 2.

Specifically, Chapter 1 delved into the existing legal frameworks governing marine protection within AWNJ and ABNJ, examining both regional and international levels. In Chapter 1.1 on AWNJ, it highlighted the strengths and limitations of key legal instruments such as the 1982 LOSC and the 1992 CBD. While these frameworks have made significant strides in codifying international norms and obligations, they have also led to a fragmented and multilayered system that struggles to achieve comprehensive and consistent protection across different jurisdictions. Indeed, the LOSC was analysed for its pioneering role in reshaping States' perception of the ocean and its inclusion of comprehensive obligations for environmental protection. However, the Convention's reliance on a traditional zonal approach and the discretion it affords to States, have often diluted its effectiveness, particularly in enforcement. Similarly, the CBD, while recognizing the intrinsic value of biodiversity, faces challenges in achieving uniform implementation due to varying national circumstances and the prioritization of economic considerations over environmental ones. Then, the regional analysis in Section iii of Chapter 1.1 focused on the Mediterranean Sea, where the EU's MSFD and the Barcelona Convention were evaluated. The Mediterranean's legal framework exemplifies the need for a uniform, holistic approach to marine protection, yet its effectiveness remains hindered by transboundary complexities, legal ambiguities, and geopolitical interests.

In Chapter 1.2 on ABNJ, this thesis explored the multidimensional nature of governance, where different regimes apply to the water column and seabed. Internationally, the LOSC, its 1994 Implementation Agreement and the ongoing negotiations under the 2023 BBNJ process were scrutinized, alongside regional efforts like the CCAMLR in Section iii of Chapter 1.2. These frameworks have shown promise, particularly in promoting EBA and ABMTs, but they also face significant challenges in achieving equitable resource governance and navigating geopolitical tensions. The BBNJ, specifically, is ambitious in its goal of protecting marine biodiversity in ABNJ, but the implications of its adoption and actual implementation are yet to be seen.

Accordingly, given the limitations of the current international and regional frameworks for marine protection, Chapter 2 explored various notions and approaches present in legal doctrine that could inform a more integrated and cohesive framework for marine protection informed by more ecocentric conception of nature. The EBA, the valuation of ocean ecosystem services, the role of ABMTs, the recognition of TEK, and the doctrine of environmental personhood were identified as key components of such a framework. These legal concepts and approaches emphasize the need to move beyond the fragmented, sectoral methods that currently dominate ocean governance and towards a more holistic model that recognizes the

interconnectedness of marine ecosystems. The next few paragraphs summarize the key strengths, limitations and future opportunities of each concept and approach.

Firstly, Section i of Chapter 2 on the EBA showed how it integrates Indigenous knowledge and practices to foster sustainable marine management, challenging the traditional anthropocentric views that have historically marginalized certain voices. The EBA emerges as a holistic and integrated strategy for ocean governance, designed to address the cumulative impacts of human activities on marine ecosystems. The research found that the EBA offers significant strengths in its ability to account for the interconnectedness of ecosystems and the complex interplay between ecological, social, and economic factors. It moves beyond traditional sectoral management by emphasizing the need for a multidisciplinary assessment and a biocentric perspective, which aligns well with the thesis's aim to promote a more integrated framework for marine protection. The approach's focus on place-based management and its area-based nature further supports the development of localized and context-specific strategies, which are essential for attaining to the specific physical characteristics of marine environments and heterogeneity of the ocean.

However, the application of the EBA faces notable limitations, particularly in its operationalization within international environmental law and the law of the sea. The research highlighted the challenges posed by the fragmented and sectoral nature of existing legal frameworks, which often undermine the holistic intent of the EBA. The ambiguity and complexity of the EBA's goals, coupled with the discretionary power afforded to States, contribute to inconsistencies in its implementation. Additionally, the tension between anthropocentric and ecocentric interpretations of the EBA poses a significant ethical dilemma, affecting its effectiveness in promoting sustainable ocean governance. Looking forward, the research suggests that future efforts should focus on clarifying the normative and operational frameworks of the EBA, particularly in the context of international agreements like the recently adopted BBNJ. There is a need for stronger political will to support the institutional and legal reforms necessary for a more integrated application of the EBA, such as for instance a recognition of the role of ABMTs. Furthermore, the incorporation of Indigenous knowledge and a more explicit recognition of the rights of nature could enhance the EBA's potential to foster a truly ecocentric approach to marine protection. These prospects align with the broader research question, which seeks to explore the pathways toward a more cohesive and holistic ocean governance framework.

Secondly, Section ii of Chapter 2 focused on the valuation of marine ecosystems based on their services, highlighting the importance of equitable distribution and recognition of

injustices. The concept of ecosystem services has underscored the intrinsic connection between human well-being and the health of natural ecosystems, offering a valuable framework for understanding and managing the benefits derived from the ocean. One of the key strengths of this framework is its ability to raise awareness and inform policy decisions, particularly through the economic valuation of ecosystem services. This valuation has been pivotal in highlighting the importance of balancing development with conservation efforts. Furthermore, the integration of relational values, which encompass cultural and emotional connections to the ocean, adds a layer of depth to our understanding of human-nature interactions. This broader perspective moves beyond purely economic considerations and is particularly relevant for fostering a sense of stewardship and responsibility toward ocean conservation.

However, the ecosystem services framework is not without its limitations. Its anthropocentric bias often leads to a narrow focus on the economic value of nature, potentially overlooking non-marketable and non-commodifiable values. Additionally, while economic valuation methods have been useful, they come with methodological limitations and may not fully capture the spectrum of ecosystem values, especially intrinsic and relational ones. There is also an inherent contradiction in combining intrinsic and instrumental values — where the former advocates for valuing nature for its own sake, the latter focuses on the benefits to humans. This tension presents challenges in the practical application of the ecosystem services framework. Looking ahead, the future of ocean conservation lies in achieving a more integrated and holistic approach that balances anthropocentric and ecocentric perspectives. It is crucial to ensure that both instrumental and intrinsic values are adequately represented in conservation strategies. Enhancing the multidisciplinary nature of ecosystem services research by incorporating multidisciplinary perspectives from ecology, sociology, and Indigenous knowledge systems could lead to a more nuanced understanding and management of marine ecosystems. This, for instance, is at the core of the agenda of the EU-founded Speak4Nature project. Additionally, developing more robust and inclusive valuation methods that account for both economic and non-economic values will be critical in advancing sustainable ocean governance. Future research should focus on addressing the methodological challenges of economic valuation while exploring innovative ways to incorporate relational values into the ecosystem services framework, particularly in the context of ABMTs. These reflections underscore the importance of adopting a comprehensive approach to ocean conservation that goes beyond traditional economic metrics, ensuring that the full range of ecosystem values is recognized and preserved.

Thirdly, ABMTs like MPAs and MSP were analysed in Section iii of Chapter 2 as means to manage human activities in a way that preserves ecosystem integrity. The Section on ABMTs highlights the critical role that spatial approaches like MSP and MPAs play in the governance and management of marine environments. The main findings emphasize the potential of MSP and MPAs to provide a cross-sectoral and integrated framework for ocean protection, especially when aligned with the EBA. These tools are recognized as essential in managing human activities at sea in a manner that balances ecological, social, economic, and cultural considerations, aiming for sustainable ocean governance.

One of the strengths of ABMTs, particularly MSP, is their ability to manage conflicting interests at sea through a comprehensive spatial and temporal planning process. MSP has gained significant traction globally, with many countries adopting it to harmonize competing uses of marine spaces while promoting conservation and economic development. Similarly, MPAs have been pivotal in global marine conservation strategies, providing designated zones where human activities are regulated to protect biodiversity. Both tools, when effectively implemented, can contribute to a more integrated and holistic management of the ocean, addressing the fragmented and sectoral nature of current ocean governance.

However, the limitations of ABMTs are also evident. MSP, despite its potential for integration, is often implemented with a sectoral focus, which undermines its capacity to achieve comprehensive ocean governance. The normative presence of MSP in international law is weak, with no explicit mention in foundational conventions like the 1982 LOSC or the 1992 CBD, which limits its global applicability. MPAs, while valuable, face challenges in effective implementation, often hindered by political, social, and economic factors. The establishment of MPAs without robust management and oversight, as well as the lack of coordination between MPAs and MSP, can lead to ineffective protection of marine environments.

Looking to the future, the prospects for ABMTs lie in their potential to support an integrated and holistic ocean governance framework. For this to be realized, there needs to be a stronger alignment between MSP and MPAs, underpinned by an EBA that recognizes the interconnectedness of ecological, social, and economic systems. The recent adoption of the BBNJ agreement offers a promising avenue for the establishment of ABMTs in ABNJ, potentially fostering greater international cooperation and comprehensive management of the high seas. However, this will require significant efforts to overcome the current fragmentation of ocean governance, including the development of more cohesive international and regional legal frameworks that support the integrated implementation of MSP, MPAs, and other

ABMTs. Overall, while ABMTs like MSP and MPAs offer substantial promise for ocean conservation, their success depends on overcoming the limitations posed by fragmented governance and sectoral approaches. The integration of these tools within a broader, ecocentric framework that includes robust stakeholder participation and transboundary cooperation will be crucial in achieving the sustainable management of marine environments, both within and beyond national jurisdiction.

Fourthly, the recognition of TEK was discussed in Section iv of Chapter 2, which further underscores the need for an inclusive, culturally sensitive approach to ocean governance. The Section emphasized the importance of integrating traditional knowledge into environmental management and conservation, particularly in the context of marine protection. TEK, rooted in Indigenous and local knowledge systems, offers a holistic understanding of the interconnectedness between humans and nature. This perspective contrasts sharply with dominant Western views that often commodify nature. This thesis highlights the strengths of TEK in promoting sustainable practices, adaptive management, and environmental stewardship, which are essential for addressing current environmental challenges.

One of the key strengths of TEK is its ability to foster a deep, reciprocal relationship between humans and the natural world. This relational approach, grounded in respect and care for the environment, and grounded in biocentric conceptions of nature, can guide more sustainable and ethically grounded conservation practices. This thesis also underscores TEK's adaptive nature, which allows Indigenous communities to respond dynamically to ecological changes over time. This flexibility is crucial for managing ecosystems, especially in the face of climate change and biodiversity loss. Moreover, TEK's emphasis on the cultural and spiritual dimensions of nature adds a layer of ethical consideration that is often scarce in Western environmental management approaches.

However, this thesis also acknowledged certain limitations of TEK. One significant challenge is the difficulty of integrating TEK into existing legal frameworks that are predominantly based on Western science and Eurocentric worldviews. The heterogeneity of Indigenous communities further complicates this integration, as TEK is highly place-based and specific to local contexts. This place-based nature of TEK, while a strength in many ways, can also be a limitation when attempting to apply it to broader, more generalized environmental and marine policies. Additionally, the ongoing loss of biodiversity threatens the preservation of TEK, as the knowledge is deeply intertwined with specific species and ecosystems that are under threat.

Looking forward, the thesis suggests several avenues for the future incorporation of TEK into marine protection frameworks. One promising direction is the potential for collaborative governance structures under the EBA that integrate TEK alongside Western science, as seen in the case of the Pacific Northwest. Such collaborations could help balance power dynamics and ensure that Indigenous communities have a meaningful voice in environmental decision-making. Another prospect is the expansion of legal concepts, such as biocultural rights and environmental personhood, which recognize the intrinsic value of nature and align with Indigenous worldviews. These legal constructs could provide a bridge between TEK and existing legal systems, fostering a more integrated and equitable approach to marine conservation. This is increasingly relevant given the focus placed on traditional knowledge by the 2023 BBNJ. Lastly, this thesis advocates for continued dialogue and collaboration between Indigenous and non-Indigenous stakeholders at both local and international levels, to further strengthen the role of TEK in global environmental governance.

For last but not for least, the notion of environmental personhood analysed in Section v of Chapter 2 stands out as one of the most innovative and transformative concepts explored in this thesis. By challenging the entrenched anthropocentric paradigm, environmental personhood offers a compelling opportunity to reshape and actualize one of the oldest pillars of Western legal doctrine — the hierarchical separation between man and nature. This concept advocates for the attribution of moral and legal responsibilities to natural entities, envisioning a framework where the environment is not merely a resource to be exploited but a subject with intrinsic rights deserving protection.

One of the key strengths of environmental personhood is its potential to counteract the environmental degradation driven by anthropocentric views and objectivist policies. These traditional perspectives often place nature in a subordinate position, leading to exploitative practices that undermine ecological balance. Environmental personhood proposes a biocentric shift, where natural elements are recognized as possessing inherent rights, thus fostering a more respectful and sustainable interaction with the environment. This biocentric approach complements the principle of the common heritage of mankind, which acknowledges the ocean's intrinsic value beyond its utility to humanity and underscores a collective responsibility for its preservation across generations.

However, implementing environmental personhood poses significant challenges. The concept disrupts existing governance frameworks, which are deeply rooted in anthropocentric assumptions and legal traditions. Practical issues include the application of legal subjectivity to natural entities, managing conflicts of rights, and ensuring that the rights of nature do not

inadvertently clash with human rights or community interests. These are only some of the concerns that note the difficulties in integrating environmental personhood into established legal systems and addressing potential conflicts and instrumentalization risks.

Despite these challenges, the doctrine of rights of nature is gaining traction, as evidenced by its judicial and extrajudicial applications in various national regimes. The incorporation of environmental personhood into legal frameworks is not without precedent, as seen in countries that have begun recognizing the rights of nature in their constitutions and judicial frameworks. This recognition, however, must be accompanied by enforceable laws and clear institutional roles, such as guardianship, to ensure the effective implementation of these rights. Guardians play a crucial role in advocating for environmental personhood and addressing obstacles such as economic pressures, weak enforcement, and limited funding, particularly in less developed countries where resource extraction is a primary economic activity.

Furthermore, environmental personhood aligns with and enhances other conservation approaches discussed in this thesis. Its integration with EBA reinforces the need for a holistic management of marine environments by legally acknowledging the interconnectedness of ecosystems. In conjunction with the valuation of ecosystem services, environmental personhood provides a more robust ethical foundation for recognizing the intrinsic and relational value of natural systems. It also supports ABMTs by offering a legal basis for protecting specific marine areas as entities with their own rights. The concept complements and is complemented by TEK, recognizing and integrating Indigenous perspectives on environmental stewardship, thus fostering a more inclusive and culturally sensitive approach to conservation.

The future prospects for environmental personhood lie in overcoming the practical and ideological barriers to its implementation. This includes developing innovative legal models that address the fragmentation of international law, particularly in the context of the ocean, and advocating for reforms that support the recognition and enforcement of environmental rights. As some scholars suggest, the current environmental challenges may serve as a catalyst for the development of progressive legal frameworks, including environmental personhood, that better preserve Earth system integrity. In summary, environmental personhood represents a pivotal advancement in marine conservation, offering a transformative approach that challenges traditional legal doctrines and integrates with existing conservation strategies. Its potential to reshape our legal relationship with nature underscores the need for continued exploration and

adaptation of this innovative concept to achieve a more holistic and integrated framework for environmental protection.

Summing up, the investigation of Chapter 1 suggests that while existing legal frameworks have made significant strides in codifying international norms and obligations, they remain fragmented and insufficient for achieving comprehensive ocean protection. The current frameworks often prioritize economic considerations over environmental ones and fail to adequately address the transboundary nature of marine ecosystems. On top of that, they continue to push for a conception of the ocean, which is abstracted from human beings and their activities, creating obstacles for a truly comprehensive protection thereof. This fragmented approach perpetuates a disjointed view of the ocean, undermining efforts to protect its biodiversity and ecological integrity.

It is in light of these findings that this thesis proposes several recommendations for reforming the current legal framework to promote a more integrated approach to ocean protection. These include harmonizing existing legal instruments, incorporating diverse perspectives and knowledge systems, and adopting innovative notions and approaches such as the EBA, the ecosystem services approach, ABMTs, TEK, and environmental personhood. These concepts not only challenge the anthropocentric legacies of current legal systems but also provide innovative ways to address the complex, transboundary issues facing marine environments today. By embracing these recommendations, the international community can move closer to achieving a truly integrated framework for marine protection, one that recognizes more ecocentric perspectives guiding the interconnectedness of marine ecosystems and their relationship with human beings.

Although this research aimed at comprehensively showing the current legal situation for the protection and preservation of the marine environment, several limitations need to be acknowledged. Firstly, the scope of the research was limited to specific international and regional legal frameworks, which may not fully capture the complexities of marine governance at national or local levels, and the geographical concentration on regions like the Mediterranean or the Antarctic may limit the broader applicability of the findings. Additionally, the reliance on secondary data and the challenges in accessing primary sources, especially concerning Indigenous knowledge, may have implications for the depth of the analysis. Also, theoretical assumptions rooted in ecocentric and biocentric perspectives, while foundational to this research, might not encompass all possible viewpoints, leaving room for alternative interpretations.

Looking forward, there are several areas that warrant further investigation. For instance, the long-term impacts of emerging agreements like the BBNJ, the integration of Indigenous knowledge into marine governance and the development and implementation of environmental personhood in international law require deeper exploration. Moreover, the challenges posed by the ever-changing impacts of climate change, the potential of emerging technologies in conservation, and the sociopolitical obstacles to achieving an integrated framework for marine protection present critical areas for future research. Finally, the economic valuation of marine ecosystems and the need to enhance public participation in ocean governance are pressing issues that remain underexplored and require further academic attention.

Ultimately, the need for an integrated framework for marine protection is not merely an academic exercise; it is a pressing global necessity. The current fragmented legal landscape, with its mix of international, regional, and national instruments, is ill-equipped to address the multifaceted challenges posed by human activities at sea. These further promotes a narrative whereby the ocean is seen as a dived and equally fragmented ecosystem, straying away from its interconnectedness and boundless nature in itself and with human beings. To protect and preserve the ocean and its biodiversity effectively, a shift towards a more cohesive, ecocentric approach is essential. This requires not only the harmonization of existing legal instruments and the implementation of established principles and approaches such as the ecosystem-based one, but also the incorporation of diverse perspectives and knowledge systems that have historically been overlooked. This thesis has explored that an integrated, holistic framework for marine protection is not only desirable but possible and necessary for the sustainable management of the world's oceans. By embracing a more inclusive and comprehensive approach, the international community can move closer to rethinking ocean boundaries for protecting and preserving the ocean for current and future generations.

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