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**MSc in Sustainability and Quality in Marine
Industry**

**BEYOND BORDERS: ASSESSING THE HIGH
SEAS TREATY'S IMPACT ON GLOBAL MARINE
BIODIVERSITY**

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ABSTRACT

This thesis examines the potential impact of the UN Biodiversity Beyond National Jurisdiction (BBNJ) agreement, also known as High Seas Treaty, on global marine biodiversity. It starts by examining the importance of Areas Beyond National Jurisdiction (ABNJ) and the shortcomings of existing ocean governance frameworks, focusing on the lack of comprehensive legal structures for ABNJ. A detailed examination of the treaty's progression is provided, emphasizing its main principles and goals, such as area-based management and environmental impact assessments. The thesis assesses next how the treaty could improve the protection of marine biodiversity by examining studies on Marine Protected Areas and sustainable-use practices. The conclusion evaluates the benefits and limitations of the treaty, emphasizing that its success will rely on global collaboration and enforcement.

Keywords: BBNJ agreement, high seas, marine biodiversity, ocean governance, Areas Beyond National Jurisdiction (ABNJ).

Η διπλωματική εργασία αυτή, εξετάζει τον πιθανό αντίκτυπο της συνθήκης του ΟΗΕ υπό τον τίτλο «Βιοποικιλότητα σε Ύδατα εκτός Εθνικής Δικαιοδοσίας» (BBNJ), γνωστή και ως Συνθήκη για την Ανοικτή Θάλασσα, στην παγκόσμια θαλάσσια βιοποικιλότητα. Ξεκινά εξετάζοντας τη σημασία των Περιοχών εκτός Εθνικής Δικαιοδοσίας (ABNJ) και τις αδυναμίες των υφιστάμενων πλαισίων διακυβέρνησης των ωκεανών, εστιάζοντας στην έλλειψη περιεκτικών νομικών πλαισίων για τις περιοχές αυτές (ABNJ). Παρέχεται επίσης λεπτομερής εξέταση της προόδου της συνθήκης, δίνοντας έμφαση στις βασικές αρχές και στόχους της, όπως η διαχείριση βάσει περιοχής και οι αξιολογήσεις περιβαλλοντικών επιπτώσεων. Στη συνέχεια, η διπλωματική εργασία αυτή αξιολογεί πώς η συνθήκη θα μπορούσε να βελτιώσει την προστασία της θαλάσσιας βιοποικιλότητας εξετάζοντας μελέτες για Θαλάσσιες Προστατευόμενες Περιοχές και πρακτικές αειφόρου χρήσης. Στο συμπέρασμα, αξιολογούνται τα οφέλη και οι περιορισμοί της συνθήκης, τονίζοντας ότι η επιτυχία θα βασιστεί στην παγκόσμια συνεργασία και επιβολή της.

Λέξεις-κλειδιά: Συνθήκη «Βιοποικιλότητα σε Ύδατα εκτός Εθνικής Δικαιοδοσίας» (BBNJ), ανοικτή θάλασσα, θαλάσσια βιοποικιλότητα, διακυβέρνηση ωκεανών, Περιοχές εκτός Εθνικής Δικαιοδοσίας (ABNJ).

Abbreviations and Acronyms

ABNJ	Areas Beyond National Jurisdiction
ABS	American Bureau of Shipping
AFS	Antifouling systems
APEI	Areas of Particular Environmental Interest
BBNJ	Biodiversity in areas Beyond National Jurisdiction
BWMC	Convention for the Control and Management of Ships' Ballast Water and Sediments
CAMLR	Conservation of Antarctic Marine Living Resources
CBD	Convention on Biological Diversity
CITES	Convention on International Trade of Endangered Species
DOSI	Deep Ocean Stewardship Initiative
DWFN	Distant Water Fishing Nations
EEZ	Exclusive Economic zone
EIA	Environmental Impact Assessment
EU	European Union
GA	General Assembly
GEF	Global Environmental Facility
GOOS	Global Ocean Observing System
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
IACS	International Association of Classification Societies
IATTC	Inter-American Tropical Tuna Commission
ICO	Intergovernmental Oceanographic Commission
IGC	inter-governmental conference
IMO	International Maritime Organization
ISA	International Seabed Authority
IUCN	International Union of the Conservation of Nature
IUU	Illegal, Unreported and Unregulated fishing
IWC	International Whaling Commission

MARPOL	International Convention for the Prevention of Pollution
MEA	Multilateral Environmental Agreement
MPA	Marine Protected Area
MSR	Marine Scientific Research
NGOs	Non-governmental organizations
OECD	The Organization for Economic Co-operation and Development
OSPAR	The Protection of the Marine Environment of the North-east Atlantic
PSMA	Port State Measures Agreement
PSSA	Particularly Sensitive Sea AreaS
RFMOs	Regional Fisheries Management Organizations
ROPME	Regional Organization for the Protection of the Marine Environment
SIOFA	Southern Indian Ocean Fisheries Agreement
SPREP	The Secretariat of the Pacific Regional Environment Programme
VMEs	Vulnerable Marine Ecosystems
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFSA	United Nations Fish Stocks Agreement
US\$	United States of America Dollars
WWF	World Wildlife Fund

List of Treaties, Agreements & Conventions

- United Nations Convention on the Law of the Sea (UNCLOS) was adopted by the Third United Nations Conference on the Law of the Sea and opened for signature, together with the Final Act of the Conference, at Montego Bay, Jamaica, on 10 December 1982. Entered into force: 16 November 1994.
- Convention on the Territorial Sea and Contiguous Zone. Entered into force: 10 September 1964.
- Convention on the Continental Shelf, Entered into force: 10 June 1964.
- Convention on the High Seas. Entered into force: 30 September 1962.
- Convention on Fishing and Conservation of Living Resources of the High Seas. Entered into force: 20 March 1966.
- UN Fish Stocks Agreement (UNFSA), ratified as of December 1996.
- The Agreement on the conservation and sustainable use of marine Biodiversity of areas Beyond National Jurisdiction (BBNJ) was adopted on 19 June 2023, should reach 60 countries ratification by the 3d UN Ocean conference in June 2025 to enter into full force.
- Prevention of Pollution from Ships (MARPOL) was adopted in 1973 and amended in 1978, contains six technical annexes covering: oil pollution (Annex I), noxious liquid substances (Annex II), harmful substances in packaged form (Annex III), sewage from ships (Annex IV), garbage from ships (Annex V), and air pollution from ships (Annex VI).
- Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC) - The Convention, adopted in 2004.
- Nairobi Convention on the removal of wrecks was signed on Friday, June 21, 1985, and came into force on May 30, 1996.
- International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention). Entered into force on 17 September 2008.
- Hong Kong Convention (HKC). Ratified and will enter into force on 26 June 2025.

- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, (INTERVENTION) 1969 – Adopted on 29 November 1969 and entered into force on 6 May 1975.
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 – Adopted on 13 November 1972 and entered into force: 30 August 1975. The 1996 Protocol was adopted on 7 November 1996 and entered into force: 24 March 2006.
- FAO Code of Conduct for Responsible Fisheries was adopted on 31 October 1995.
- The Convention on Migratory Species (CMS) was adopted on 23 June 1979.
- Convention on International Trade of Endangered Species (CITES). The convention was opened for signature in 1973 and CITES entered into force on 1 July 1975.
- The Convention on Biological Diversity (CBD) It was adopted on 29 January 2000 as a supplementary agreement to the CBD and entered into force on 11 September 2003
- OSPAR Convention was opened for signature in Paris on 22 September 1992. It entered into force on 25 March 1998.
- CAMLR Convention was opened for signature on 1 August 1980 and entered into force on 7 April 1982.
- Barcelona Convention was adopted on 16 February 1976 in Barcelona and entered into force in 1978..
- Noumea Convention entered into force in 1990.
- Lima Convention entered into force 19 May 1986.
- Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR) was opened for signature on 1 August 1980 and entered into force on 7 April 1982.
- North Atlantic Marine Mammal Commission (NAMMCO) entered into force on 8 July 1992.

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1 INTRODUCTION

1.1 THE IMPORTANCE OF THE OCEANS

The vast expanse of the world's oceans, covering over 70% of the Earth's surface, plays a pivotal role in sustaining life on our planet. (Solomon & Marcus, 2018), (Beardall & Slobadanka, 2006) . Within this immense aquatic realm lie the Areas Beyond National Jurisdiction (ABNJ), comprising the High Seas water column and seabed Area, encompass over 60% of Earth's global ocean. Areas Beyond National Jurisdiction hosts a complex ecosystems that play key roles in sustaining life and providing important goods and services. ABNJ encompass nearly half the planet's surface, biological diversity found in these areas remains largely unprotected. Studying the oceans and ABNJ is of paramount importance due to their critical contributions to global biodiversity, climate regulation, and human livelihoods. (Gjerde, et al., 2016)

Biodiversity, the variety of life in all its forms, including genetic, species, and ecosystem diversity, thrives in these marine environments. The oceans are home to an estimated 2.2 million species, many of which are still undiscovered. (Mora, et al., 2011) This rich tapestry of life not only supports intricate food webs and ecological processes but also offers invaluable resources for medicine, food, and industry. Furthermore, oceans drive economies worldwide through fisheries, maritime transport, and tourism, as well as emerging industries like offshore renewable energy and biotechnology. Together, these sectors not only provide livelihoods for millions of people worldwide but also contribute significantly to the global Gross Domestic Product (Santosh, 2024). The United Nations has estimated that trade in ocean-based goods and services is worth at least \$2.5 trillion annually, equal to about 3% of global GDP (World Economic Forum, 2024) In the face of escalating threats such as overfishing, pollution, and climate change, understanding and protecting oceanic biodiversity is essential for maintaining ecological balance and resilience. (Bopp, et al., 2013)

Moreover, Areas Beyond National Jurisdiction (ABNJ) represent a significant portion of the global commons, highlighting the need for international cooperation in their management. The sustainable use and conservation of these areas are vital for preserving marine biodiversity and ensuring the continued provision of ecosystem services that benefit all humanity. As such, studying the oceans and ABNJ is not just a scientific endeavor but a crucial step towards securing a sustainable future for our planet.

1.2 THE IMPORTANCE OF AREAS BEYOND NATIONAL JURISDICTION (ABNJ)

Areas Beyond National Jurisdiction (ABNJ) are regions of the world's oceans that are outside the exclusive economic zones (EEZs) of any one nation. The EEZs typically extend up to 200 nautical miles from a country's coastline, within which the coastal state has exclusive rights to exploit marine resources, including fish, oil, and gas. (NOAA Ocean Exploration, n.d.) Beyond these EEZs, the waters and their resources are considered international territory, and their management falls under international law rather than the jurisdiction of any single nation.

ABNJ encompass two main areas:

- **The High Seas:** These are the waters beyond the 200 nautical mile limit of national jurisdiction. They are governed by the United Nations Convention on the Law of the Sea (UNCLOS) that establishes guidelines for activities at sea and the utilization of ocean resources. No State has control over the high seas, where all nations have rights like navigation, fishing, placing underwater cables and pipelines, and carrying out scientific research.
- **The Area** this refers to the ocean floor and subsoil beyond the limits of national jurisdiction. The International Seabed Authority (ISA), established under UNCLOS, regulates mineral-related activities in the Area to ensure that the benefits are shared globally, particularly with developing countries. This part of ABNJ is rich in minerals like polymetallic nodules, cobalt crusts, and hydrothermal vent deposits.

The “high seas” cover an estimated 45% of the Earth’s surface, 64% of the oceans’ surface, and include the deep seabed “Area” (the “*common heritage of mankind*” as defined by the United Nations Convention on the Law of the Sea) and the water column beyond national jurisdiction. (United Nations, n.d.)



Figure 1 World Oceans [Source: National Geographic]

While national waters, coastal and marine biodiversity is protected by numerous international agreements, including the United Nations Convention on the Law of the Sea or the Convention on Biological Biodiversity, in the absence of binding international regulations and controls, the high seas remain the least-protected area on our blue planet – making them vulnerable to exploitation, pollution and unsustainable commercial activities. (Marine Conservation Institute, n.d.), (Jameel, 2023)

The high seas suffer the cumulative effects of habitat destruction; pollution; destructive fishing practices; shipping; and other human activities now affect 66% of the ocean. And as technology develops, emerging activities such as deep-sea mining, geo-engineering pose and irresponsible scientific research practices are posing additional risks to high seas marine life and ecosystems (The Pew Charitable Trusts (Pew), 2020) (Druel & Gjerde, 2013)

The current management framework for areas beyond national jurisdiction (ABNJ) is mainly focused on specific sectors like fisheries, shipping, and seabed mining, and is overseen by various global and regional institutions. However, there is a lack of a comprehensive cross-sectoral mandate with regulatory power that prioritizes conservation in areas beyond national jurisdiction. This emphasizes the pressing necessity for integrated, ecosystem-based management of ABNJ to safeguard marine ecosystems and biodiversity, and to responsibly exploit resources for socio-economic gains while minimizing negative environmental effects.

Although there is a significant number of high seas governance organizations (as displayed below), these bodies vary greatly in their mandates, such as fisheries management, shipping regulation and seabed mining management, but none has a comprehensive cross-sectoral mandate with regulatory authority focusing on conservation in areas beyond national jurisdiction.

Table 1 International Governance Bodies with High Seas Mandate

Abbreviation	Full name	Abbreviation	Full name
Regional fisheries management organizations		Regional seas organizations	
CCSBT	Commission for the Conservation of Southern Bluefin Tuna	CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
GFCM	General Fisheries Commission for the Mediterranean	MAP	Mediterranean Action Plan for the Barcelona Convention
IATTC	Inter-American Tropical Tuna Commission	OSPAR	OSPAR Commission (from the Oslo and Paris Conventions)
ICCAT	International Commission for the Conservation of Atlantic Tuna	SPREP	Secretariat of the Pacific Regional Environment Programme
IOTC	Indian Ocean Tuna Commission	Global/sectoral organizations	
NAFO	Northwest Atlantic Fisheries Organization	CITES	(The Conference of Parties to) The Convention on International Trade in Endangered Species of Wild Fauna and Flora
NEAFC	North East Atlantic Fisheries Commission	IMO	International Maritime Organization
NPAFC	North Pacific Anadromous Fish Commission	ISA	International Seabed Authority
NPFC	North Pacific Fisheries Commission	IWC	International Whaling Commission
SEAFO	South East Atlantic Fisheries Organization		
SIOFA	South Indian Ocean Fisheries Agreement		
SPRFMO	South Pacific Regional Fisheries Management Organization		
WCPFC	Western and Central Pacific Fisheries Commission		

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Consequently, currently only around 1% of oceans are safeguarded in effectively managed and highly protected Marine Protected Areas (MPAs) established with the goal of conserving biodiversity, protecting habitats, and preserving species that are under threat from human activities. (Marine Conservation Institute, 2024)

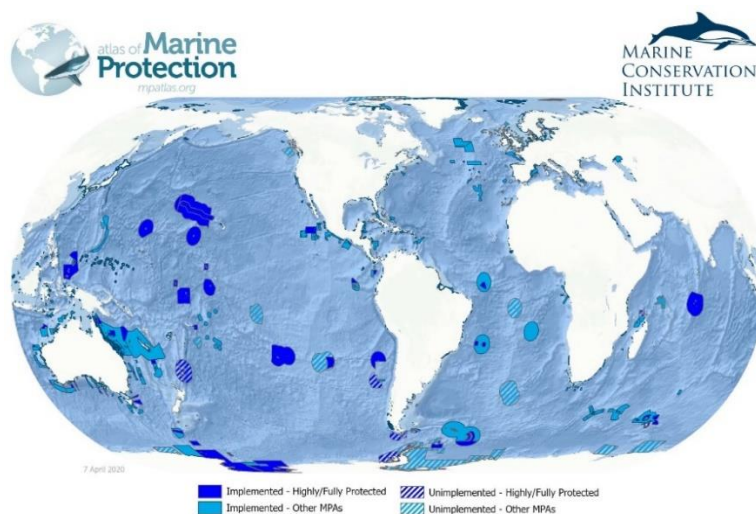


Figure 2 *Marine Protected Areas (MPAs)* [Source:mpatlas.org]

1.3 PURPOSE OF THE STUDY

Serious questions and concerns have been voiced the last decades on whether current ocean governance framework is ample enough to safeguard and conserve marine biodiversity in ABNJ and has the right legal and institutional mechanisms in place to do so.

This study aims to provide a holistic assessment of Ocean Governance as it has evolved through the years and what new the High Seas Treaty brings with its introduction on global marine biodiversity conservation efforts.

1.4 RESEARCH QUESTION & ARGUMENT

The existing legal framework for protecting marine biodiversity in Areas Beyond National Jurisdiction (ABNJ) is primarily governed by the United Nations Convention on the Law of the Sea (UNCLOS). However, UNCLOS has significant gaps and limitations regarding the protection of marine biodiversity in these areas. The High Seas Treaty, also known as the Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction ('BBNJ'), aims to address these gaps and provide a more robust framework for the conservation and sustainable use of marine biodiversity in ABNJ. In this research we will explore the current legal framework and governing organisations and argue that the new treaty brings along potential shortfalls and benefits.

It should be noted that this is only an initial assessment based on what we know so far as the treaty has not been implemented yet pending its ratification so it becomes international law. To do so it requires for 60 countries to sign and ratify it by the 3rd UN Ocean Conference in June 2025. So far 91 countries have signed it but only 6 have ratified it.

1.5 OUTLINE OF THE THESIS

This thesis will consist out of an introduction, three main chapters, that will all create the answer to my main research question, and a concluding chapter. The first chapter will form an introduction to the thesis, the importance of the Oceans and the Areas Beyond National Jurisdiction.

The second chapter will provide an in-depth analysis of Ocean Governance legislative environment, the institutions and frameworks that support this legislative environment and the importance of Marine Protected Areas. The chapter will conclude with an analysis of the lack of comprehensive international legal framework on Ocean Governance with focus on ABNJ.

In the third chapter, I will focus on UN BBNJ agreement, the journey towards the drafting of this agreement, and a detailed analysis and assessment of the main principles, objectives and key elements.

On the forth chapter I will present an evaluation of the high seas treaty, what is designed to address in regards to marine biodiversity in Areas Beyond National Jurisdiction ABNJ and its benefits as well as possible limitations. While specific studies quantifying the benefits of the BBNJ Treaty are limited, there are some noteworthy modeling studies which have simulated the potential global net benefits of implementing sustainable, ocean-based interventions as well as economic benefits from the implementation of extended Marine Protected Areas which a presented in this chapter.

The fifth and final main chapter of this thesis will provide a comprehensive conclusion on the High Seas Treaty's expected impact on global marine biodiversity .The treaty is a major advancement in ocean governance, but its success will depend on the degree of international cooperation and the development of effective enforcement mechanisms. The thesis ends by highlighting the treaty's ability to reduce biodiversity loss, along with acknowledging the challenges it must overcome to reach its maximum effectiveness.

2 OCEAN GOVERNANCE

This chapter we will focus on three main elements: a) an in-depth examination of the legal and regulatory landscape of Ocean Governance and its development up to the present day with emphasis to its contribution to environmental protection in ABNJ. B) Examine the existing organizations and structures that uphold this legal setting, their efforts, and examine if and how they relate to activities that take in ABNJ and c) Evaluates deficiencies in environmental laws in areas beyond national jurisdiction and the potential for current agreements and institutions to broaden their scope to cover the marine environment in those areas (Gjerde, et al., 2008).

2.1 INTRODUCTION TO UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS)

2.1.1 A HISTORICAL PERSPECTIVE – FROM THE “FREEDOM OF-THE-SEAS PRINCIPLE” TO UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS)

Before UNCLOS, the oceans were largely governed by the 17th century concept of the ‘freedom of the seas’, which restricted countries' rights and jurisdiction over the oceans to a small area of water near their coastlines. According to this concept, national rights were limited to a specified belt of water extending from a nation's coastlines, usually 3 nautical miles (5.6 km; 3.5 mi) (three-mile limit), according to the "cannon shot" rule widely accepted in Europe. Coastal States were to exercise dominion over their territorial seas as far as projectiles could be fired from a cannon based on the shore. It is believed that on the basis of this formula developed the traditional three-mile territorial sea limit. The rest of the seas was free for all and belonged to no one. Therefore, vessels could navigate without any restrictions and not only that; vessels regardless of origin could fish, explore, trade etc. in these free waters. (United Nations, 1998)

By the mid of 20th century, it was clear that there was a growing concern over the toll taken on coastal fish stocks by long-distance fishing fleets and over the threat of pollution and wastes from marine transport to shores and ocean life.

As years went by the vessels got larger, started trading worldwide, countries became interested in harvesting not only fish but also what lies on sea bed and underneath. To make the matter worse a race for dominance was also evident in the naval forces as traditional maritime powers were also competing for their worldwide presence not only on the surface waters but also

underneath it. All these were threatening to transform the oceans into another arena for conflict and instability.

In 1945, President Harry S Truman, responding to pressure from domestic oil interests, unilaterally extended United States jurisdiction over all natural resources on that nation's continental shelf - oil, gas, minerals, etc. This marked the initial significant challenge to the principle of "freedom of the seas." Soon after other countries followed in expanding their sovereign rights, territorial waters for various reasons from limiting to foreign fishing fleets to regulating navigation in to an extended sea area from shore in order to protect their water against pollution from ocean going vessels and growing oil exploration at sea. (United Nations, 1998)

The initial Conference on the Law of the Sea (UNCLOS I) by the United Nations took place in 1956 in Geneva, Switzerland. UNCLOS I resulted in four treaties:

- Convention on the Territorial Sea and Contiguous Zone (entry into force: 10 September 1964)
- Convention on the Continental Shelf, (entry into force: 10 June 1964)
- Convention on the High Seas, (entry into force: 30 September 1962)
- Convention on Fishing and Conservation of Living Resources of the High Seas, (entry into force: 20 March 1966) (Hillier, 1998)

The convention resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982 and came into force in 1994 and replaces the previous four conventions. A subsequent agreement relating to the implementation of Part XI of the Convention was adopted on 28 July 1994 and entered into force on 28 July 1996. This Agreement and Part XI of the Convention are to be interpreted and applied together as a single instrument.

UNCLOS was a foundational step in establishing international maritime law and maritime zones, focusing on navigation, territorial rights, and resource use. While creating obligations on States to protect and preserve the marine environment, as stated in Articles 196(1), Article 206 and the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments the specific issues of biodiversity conservation were not addressed. (Tanaka, 2012) This contributed to the limited scientific understanding, emerging environmental awareness, and the dominant economic and legal priorities of the time. As global

awareness and understanding of environmental issues evolved, later conventions and treaties began to incorporate biodiversity and environmental protection more comprehensively.

The Convention on the High Seas and the Convention on Fishing and Conservation of Living Resources of the High Seas were crucial in establishing rules of international law for the high seas. The Convention of High Seas sought to establish rules for the freedom of the high seas, covering navigation, fishing, laying submarine cables and pipelines, and flying over the high seas. Rules were also set for the prevention of collisions and the maintenance of order on the high seas. It was a significant step in international maritime law, as it provided clarity and a set of agreed-upon rules for countries to follow.

The Convention on Fishing and Conservation of Living Resources of the High Seas, which entered into force on 20 March 1966, focused on the conservation of the living resources of the high seas, the sustainable use of these resources and establishing cooperation between states to manage fish stocks and other living marine resources. While the convention established important principles for the conservation and management of high seas resources, its effectiveness was limited due:

- a) To lack of enforcement mechanism and ensuring states compliance,
- b) Its failure fully address all the complexities involved in managing high seas resources, especially as fishing technologies and practices evolved
- c) It insufficiency in managing overfishing and depletion of fish stocks which continued to be still a significant problem even after its introduction.

Despite the foundational work of the initial conventions, there was a clear need for a more comprehensive and effective framework to address the evolving challenges in ABNJ in regard to:

- a) The growing recognition of the need for an ecosystem-based approach to managing marine resources, rather than the species-specific approach that had previously been dominant;
- b) The need for a more sophisticated and adaptive regulatory framework to address advances in fishing technology and increasing human activity in the oceans;
- c) The emerging need for a broader conservation approach for protecting marine biodiversity;

- d) climate change impact on the oceans calling for more comprehensive measures that were beyond the scope of the initial conventions;
- e) Setting up clearer legal mechanisms and more effective governance structures that existing conventions had limitations in terms of jurisdiction and enforcement.

From then and on there a momentum build up aiming to set rules and regulations for all ocean areas which led to the Third United Nations Conference on the Law of the Sea, to write a comprehensive treaty for the oceans. The Conference was convened in New York in 1973 with 160 countries participating and concludes nine years later with new treaty: the United Nations Convention on the Law of the Sea (UNCLOS or also referred as UNCLOS III). This replaces the previous four conventions. It entered into force 12 years later, on 16 November 1994.

A subsequent agreement relating to the implementation of Part XI of the Convention was adopted on 28 July 1994 and entered into force on 28 July 1996. This Agreement and Part XI of the Convention are to be interpreted and applied together as a single instrument. (United Nations Oceans & Law of the Sea, 2024)

Further agreements followed:

- The UN Fish Stocks Agreement (UNFSA), which came into effect on December 11, 2001, implements the provisions of the UN Convention on the Law of the Sea regarding the conservation and management of straddling fish stocks and highly migratory fish stocks. The main goal of the UN Fish Stocks Agreement (UNFSA) is to guarantee the lasting protection and sustainable utilization of straddling and highly migratory fish stocks under the guidelines of UNCLOS.
- The Agreement on the conservation and sustainable use of marine Biodiversity of areas Beyond National Jurisdiction (BBNJ) was adopted by consensus during the Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction. This significant milestone occurred on June 19, 2023, and the conference concluded on June 20, 2023. Nearly after 20 years of negotiation, member states of the United Nations reached this agreement under the legal framework of the United Nations Convention on the Law of the Sea. The BBNJ Agreement remains open for signature until September 20, 2025, and it will enter into force 120 days after the date of deposit of the sixtieth instrument of ratification, approval, acceptance, or consent. This agreement will be the focus of this dissertation.

“The Convention establishes a comprehensive legal framework to regulate all ocean space, its uses and resources. It contains, among other things, provisions relating to the territorial sea, the contiguous zone, the continental shelf, the exclusive economic zone and the high seas. It also provides for the protection and preservation of the marine environment, for marine scientific research, settlement of disputes and for the development and transfer of marine technology. One of the most important parts of the Convention concerns the exploration for and exploitation of the resources of the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (the Area). The Convention declares the Area and its resources to be the “common heritage of mankind”¹. (International Tribunal for the Law of the sea, n.d.)

2.1.2 UNCLOS PROVISIONS ON HIGH SEAS

United Nations Convention Law of the Sea (UNCLOS) divides marine areas into five main zones namely- Internal Waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ) and the High Seas. They are drawn using a ‘baseline’ which is the low-water line along the coast as officially recognized by the coastal state and graphically presented below

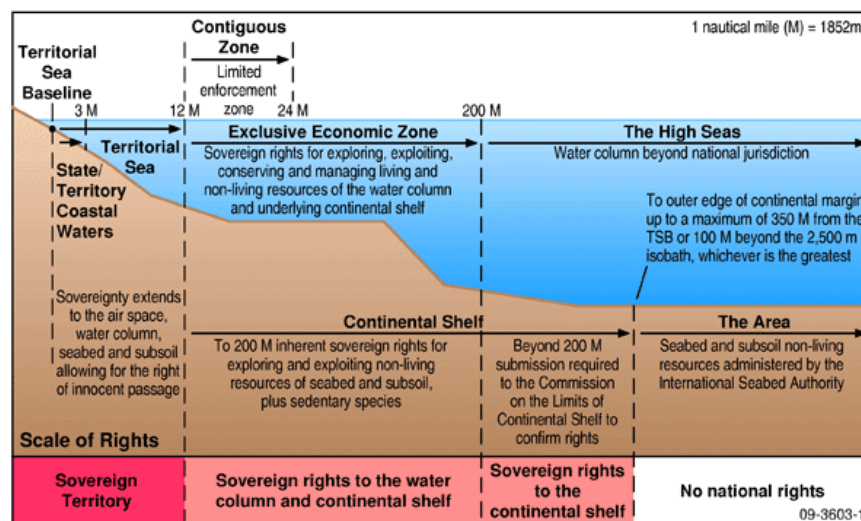


Figure 3 Maritime zones under the UNCLOS (Project, Law of the Sea and Maritime Boundary Advice, 2011)

In the context of Areas Beyond National Jurisdiction (ABNJ), the terms "high seas" and "the Area" are fundamental concepts in international law, particularly under the United Nations Convention on the Law of the Sea (UNCLOS) as these terms refer to specific maritime zones

¹ “Common heritage of mankind is a principle of international law which holds that defined territorial areas and elements of humanity's common heritage (cultural and natural) should be held in trust for future generations and be protected from exploitation by individual nation states or corporations” (United Nations Environmental Program (UNEP), n.d.)

that are beyond the control of any single country, and they are central to the governance of the oceans, including the conservation and sustainable use of marine biodiversity.

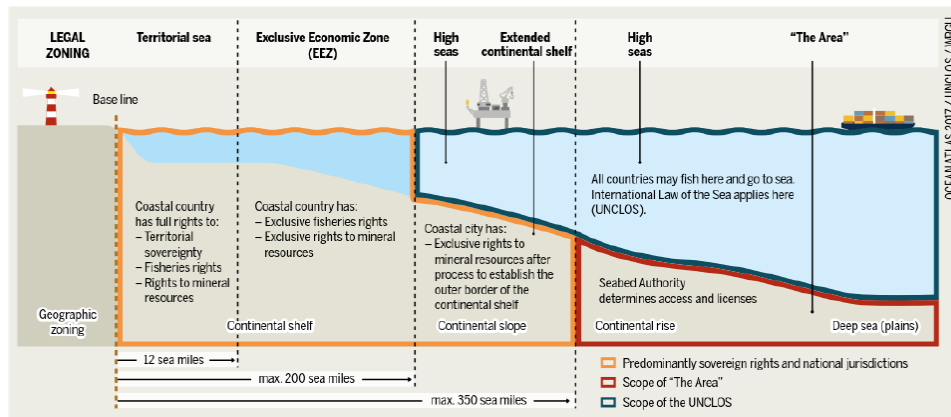


Figure 4 Maritime Zones according to UNCLOS (Bähr, U., et al., 2017)

In particular:

The **“high seas”** are beyond national jurisdiction (ABNJ), meaning no state has sovereignty over these waters. Instead, they are subject to the principle of freedom of the seas. According to UNCLOS, all states, whether coastal or landlocked, enjoy certain freedoms on the high seas, including:

- Freedom of navigation
- Freedom of overflight
- Freedom to lay submarine cables and pipelines
- Freedom of fishing (subject to international agreements)
- Freedom of scientific research
- Freedom to construct artificial islands or other installations (subject to legal requirements)
- Conservation and management: The high seas and their resources are essentially open to exploitation by any state capable of doing so, provided that they adhere to the general obligations of all states to protect and preserve the marine environment and cooperate at both global and regional levels to achieve this (UNCLOS, Articles 192, 194(5), and 197). UNCLOS also establishes a duty to collaborate on the conservation and

management of living resources in the high seas, though it's more detailed provisions are mainly focused on fisheries (UNCLOS, Articles 117-119).

"The Area" refers to the seabed, ocean floor, and subsoil beyond the limits of national jurisdiction, specifically beyond the continental shelf of any coastal state (generally beyond 200 nautical miles or where the continental shelf ends). In contrast to high seas, the Area and its resources are explicitly designated as the "common heritage of mankind," with all resources "vested in mankind as a whole" (UNCLOS, Article 137(2)). The International Seabed Authority, which consists of states that are parties to UNCLOS, is granted significant authority to oversee, inspect, and enforce compliance among operators involved in seabed mining and related activities. (Ringbom & Henriksen, 2017)

The figure below gives an initial overview of how UNCLOS governs different areas of ABNJ and how they are interconnected.

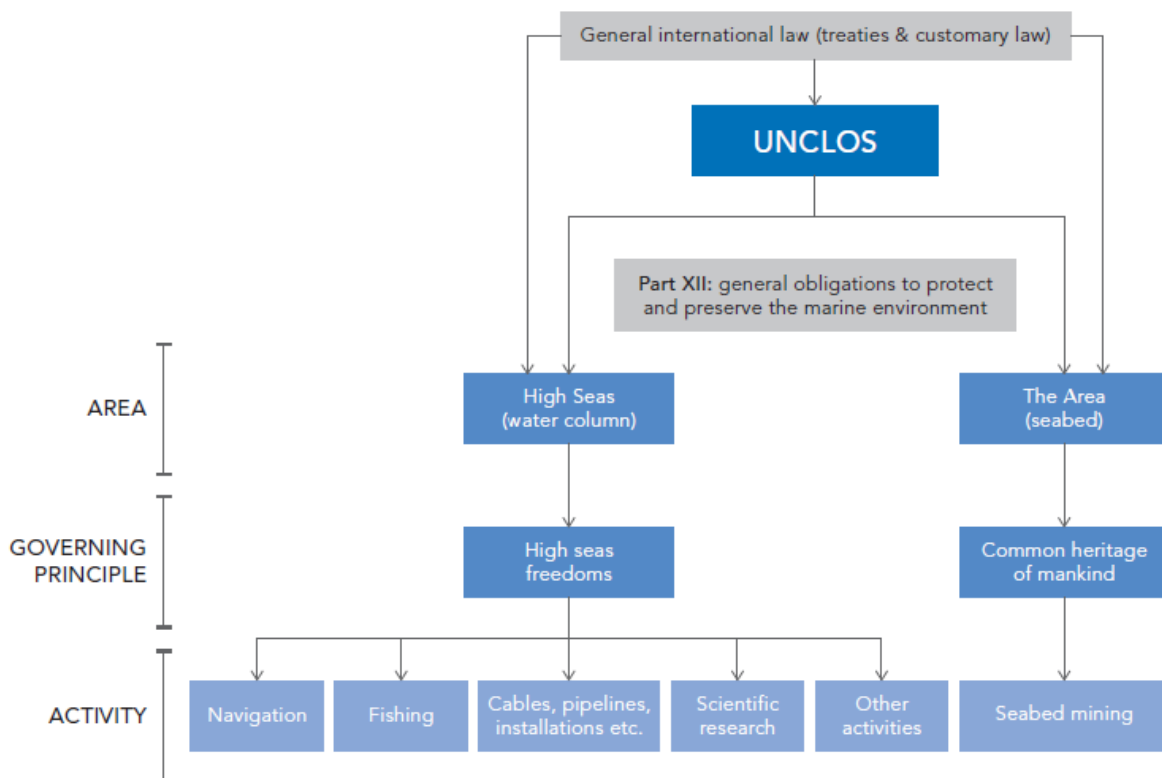


Figure 5 Schematic of key ABNJ matters regulated by UNCLOS [Source: (Ringbom & Henriksen, 2017)]

2.2 INSTITUTIONS AND FRAMEWORKS THAT SUPPORTS UNCLOS

Under the United Nations Convention on the Law of the Sea (UNCLOS), three primary bodies have been established to oversee and implement its provisions, ensuring that the legal framework for ocean governance is adhered to. These bodies are crucial for settling disputes, regulating maritime activities, and ensuring the sustainable use and protection of marine resources. The three main institutions established by UNCLOS are

- **International Tribunal for the Law of the Sea (ITLOS):** A primary judicial body to settle disputes related to the law of the sea, including those concerning activities in ABNJ.
- **The International Seabed Authority (ISA):** A primary body established to regulate the exploration and exploitation of mineral resources in the deep seabed, specifically in the Area (beyond national jurisdiction).
- **The Commission on the Limits of the Continental Shelf (CLCS):** A key body established to assist coastal states in defining the outer limits of their continental shelf beyond the standard 200 nautical miles. Its work helps ensure that states can establish their sovereign rights over the natural resources on and beneath the seabed in these areas while also safeguarding the interests of the international community regarding maritime zones in Areas Beyond National Jurisdiction (ABNJ).

Moreover, various other supportive institutions have been established at either international or regional level to regulate specific activities at sea and support UNCLOS such as but not limited to the following: (Pretlove & Blasiak , 2018)

- The International Maritime Organization (IMO) for international shipping
- The UN Food and Agriculture Organization (FAO) and regional fisheries management organisations (RFMOs) for living marine resources.
- United Nations Environment Programme (UNEP), regional sea conventions (RSCs) and Multilateral Environmental Agreements (MEAs) for conservation and sustainable use of the marine environment
- The Intergovernmental Oceanographic Commission (IOC) of UNESCO for marine scientific research
- The International Whaling Commission (IWC).

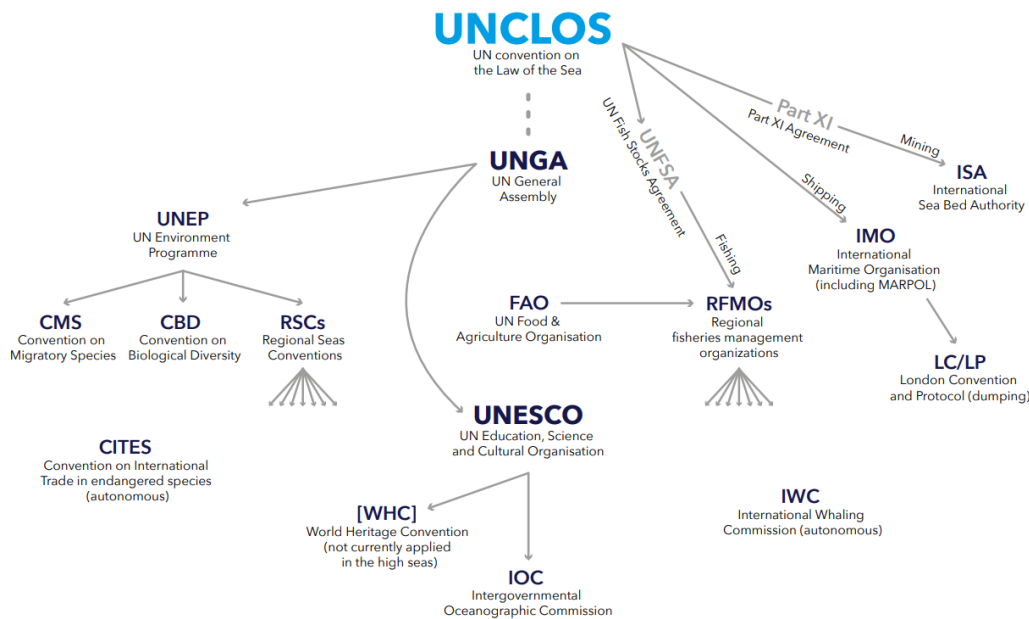


Figure 6: Institutions and frameworks that support UNCLOS [Source: (Ardron & Warner, 2015)]
On the left are those mainly concerned with conservation and on the right are those mainly concerned with human extraction of marine species and resources, as well as the use of the marine environment

To further enhance coordination across all the UN system organizations with activities related to ocean and coastal areas and the International Seabed Authority, an inter-agency mechanism called “UN-Oceans” was established in 2003 and conducts annual meetings since 2005.

In the following subchapters we will review the work of these institutions that support UNCLOS and explore if biodiversity and particularly biodiversity in ABNJ is part of their focus. Furthermore at the end of this chapter, an evaluation of these institutions along with established legal frameworks will be presented on whether they satisfactorily address Ocean Governance and biodiversity conservation especially in ABNJ.

2.2.1 INTERNATIONAL SEABED AUTHORITY (ISA) – EXPLORATION & EXPLOITATION OF MINERAL RESOURCES

The exploitation of mineral resources from the deep seabed has been increasingly in the spotlight in the last years as the demand mineral resources, including the raw materials has increased significantly; fact which is attributable to globalization and industrialization in the developing world. Such raw material deposits are found at depths ranging from 2,000 to 6,000 meters, on the slopes of seamounts, on mid-ocean ridges, on the deep-sea floor and on the floor of the Red Sea. (Umwelt Bundesamt, 2023)

The International Seabed Authority (ISA) has been nominated as an autonomous organization within the United Nations common system to manage both the deep seabed outside national jurisdictions as well as the mineral resources; therefore prohibiting states in claiming sovereign rights over the deep seabed. States are required to organize and oversee all resources² exploration and exploration operations in the Area, notably with a view to administering such mining activities through the International Seabed Authority.

In order to protect and preserve the marine environment with regard to activities in the Area, the International Seabed Authority must adopt the necessary rules, regulations, and procedures. It is also responsible for encouraging and promoting MSR and gathering and disseminating the findings of such research and analysis, when available, with a focus on studies that address the environmental impact of activities in the Area. (Gjerde, et al., 2008) Furthermore the International Seabed Authority must ensure *“the equitable sharing of financial and other economic benefits”* derived from activities as specified above as *“such activities in the Area must be carried out for the benefit of all mankind”*. (Gjerde, et al., 2008)

2.2.1.1.1 The Establishment of the Mining Code

The ISA's work on the Mining Code is critical to ensure that these resources are explored and utilized in an environmentally responsible way, economically viable, and socially equitable and of paramount importance from a biodiversity conservation perspective, particularly in Areas Beyond National Jurisdiction (ABNJ).

The Mining Code comprises of a *“comprehensive set of rules, regulations, and procedures issued by the ISA to regulate prospecting, exploration, and exploitation of marine minerals in the Area defined as the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction”*. (Banet, C. (Ed., 2020). These minerals include polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts, which are valuable due to their content of metals like nickel, copper, cobalt, and rare earth elements.

All rules, regulations and procedures are issued within the general legal framework established by UNCLOS, particularly Part XI on the Area and the 1994 Agreement relating to the implementation of Part XI of UNCLOS. (The International Seabed Authority (ISA), n.d.)

The key elements of the Mining Code are:

² The term ‘resources’ only refers to non-living resources, therefore the ISA does not deal with the conservation and management of living natural resources

- Prospecting and Exploration Regulations which set the framework for the initial stages of seabed mining activities, including the identification of potential mining sites and assessment of mineral deposits. Contractors³ are required to obtain a license from the ISA and to submit detailed plans and reports on their activities and findings Prior to the commencement of any activities the contractors are required to:
 - Submit a contingency plan to respond effectively to incidents arising from its activities in the exploration area;
 - Propose a programme for the training of nationals of developing States.
 - Submit an annual report on its programme of activities.
- Exploitation Regulations which the commercial recovery of minerals. They include requirements for environmental impact assessments, monitoring and management plans to minimize environmental harm, and financial obligations such as royalties and other payments to ensure that benefits are shared.
- Environmental Protection is a critical aspect of the Mining Code. Contractors must adhere to strict guidelines designed to mitigate the impact of mining on marine ecosystems. This includes conducting baseline studies to understand the pre-mining conditions and ongoing monitoring to ensure that any changes to biodiversity are detected and addressed early. This data are also crucial for assessing the long-term impacts of mining activities and for implementing adaptive management strategies to protect marine life.
- The Code outlines the financial terms under which mining activities are conducted. This includes the payment of fees and royalties to the ISA, which are then distributed to member states, particularly developing countries that lack the technology and capital to carry out seabed mining for themselves, to ensure equitable sharing of the benefits derived from seabed resources for the ‘benefit of the mankind’. (Lodge, 2017)
- Promotion of transparency and stakeholder involvement in the decision-making process. By involving scientists, environmental groups, and other stakeholders, the ISA ensures that biodiversity conservation considerations are integrated into the regulatory framework. This collaborative approach enhances the legitimacy and effectiveness of

³ *Both public and private mining enterprises can obtain such contracts provided they are sponsored by a State party to UNCLOS and meet certain standards of technological and financial capacity. (Lodge, 2017)*

conservation measures. It's worth mentioning here that conservation measures include the ability of ISA to designate certain areas of the seabed as "Areas of Particular Environmental Interest" (APEIs) to protect them from mining activities. These areas are set aside to conserve unique or vulnerable marine ecosystems and biodiversity hotspots.

- To ensure adherence to the Mining Code, the ISA has established mechanisms for monitoring and enforcing compliance. This includes regular inspections, audits, and the requirement for contractors to submit periodic reports on their activities.

2.2.1.1.2 Offshore Oil and Gas Exploration and Drilling

Exploration and drilling for oil and gas offshore occurs on the continental shelf of coastal states, where states have sovereign rights over resources and are regulated by their domestic laws as per UNCLOS. In the future, if decisions are made to transfer activities to the Area, the deep seabed beyond the outer limits of the continental shelf of coastal states, the activities would be regulated by the International Seabed Authority which is of significant importance.

2.2.1.1.3 Other Seabed Activities

For a large number of human activities that are taking place in ABNJ and are not related to seabed mining, the International Seabed Authority (ISA) doesn't have the authority to adopt rules to protect the marine environment with respect to the conduct of Marine Scientific research (MSR) formal Environmental Impact Assessment (EIA) when a proposed project is likely to cause significant impacts to marine biodiversity. Notably such requirements do not exist for: *"seabed activities other than mining, (e.g. cable and pipelines, seabed installations, marine scientific research, bio-prospecting, sea-based tourism); high seas activities other than dumping and some fishing (e.g. shipping, marine scientific research, floating installations (e.g. wave, nuclear, CO2 mixers)); impacts of high seas fishing activities on outer continental shelves of coastal nations (e.g. deep-sea fishing impacts on sedentary species and resources, vulnerable benthic ecosystems); impacts of outer continental shelf activities on high seas (e.g. seismic testing noise); military activities; new or emerging uses of the seas"* (Gjerde, et al., 2008)

2.2.2 INTERNATIONAL MARITIME ORGANISATION (IMO)

The International Maritime Organization (IMO) is the United Nations specialized agency dedicated to maintaining the safety and security of shipping while also working to prevent

pollution caused by ships in the sea and air, the efficiency of shipping and maritime security. (International Maritime Organization (IMO), n.d.)

International Maritime Organization (IMO) primary role is to develop conventions containing detailed requirements that enter into force after they have been ratified by a required number of states. The conventions are then implemented into the national legislation of the countries that have ratified/acceded to them, establishing a universal baseline for the maritime sector / shipping industry.

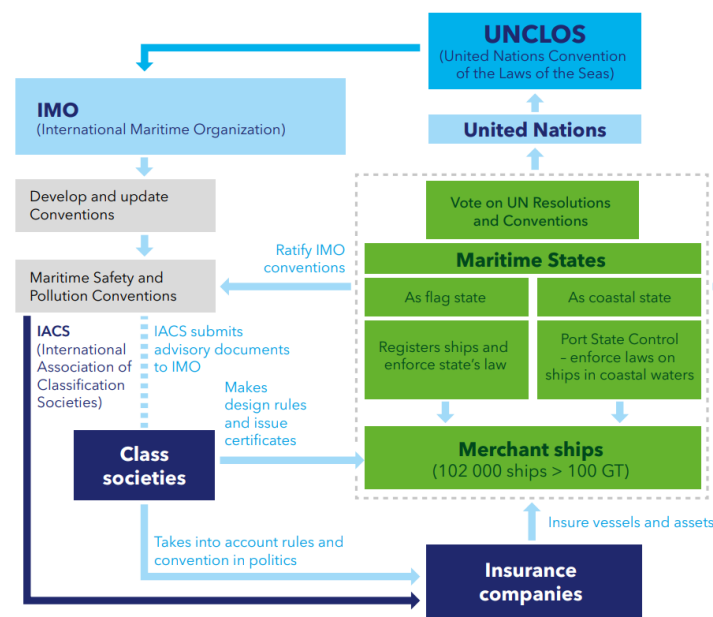


Figure 7 Overview of maritime international, regional and private sector governance
[Source: (Pretlove & Blasiak, 2018)]

IMO's expertise in creating universally enforceable shipping regulations guarantees the sustainable utilization of oceans by shipping, with over 50 treaties that are binding worldwide.

The International Maritime Organization (IMO) has implemented three distinct types of measures to protect sea areas that require specific safeguards due to the environmental risks posed by shipping activities (Ringbom & Henriksen, 2017).

MARPOL 73/78 identifies certain sea areas as "Special Areas" where, due to technical reasons such as sea conditions, ecological significance, and maritime traffic, stricter enforcement measures are necessary to prevent marine pollution from ships (International Maritime Organisation (IMO), n.d.). All four annexes of MARPOL include discharge standards that allow for more stringent controls in regions with specific oceanographic and ecological characteristics, as well as high traffic density, for the discharge of oil, hazardous substances,

sewage, and garbage from ships. Similarly, Emission Control Areas (ECA) under Annex VI impose restrictions on Sulphur and Nitrogen Oxide emissions in designated areas. These areas are usually large regional sea areas defined geographically rather than by maritime zones under UNCLOS, and some include portions of the high seas, meaning that stricter limits also apply in areas beyond national jurisdiction (ABNJ). Currently, the Antarctic is the only MARPOL special area that specifically includes ABNJ. (Ringbom & Henriksen, 2017)

Additionally, SOLAS Chapter V introduces 'ships routing' measures aimed primarily at directing maritime traffic. Over time, more measures have been added to manage traffic, such as designating 'areas to be avoided' where certain types of ships are completely prohibited. These measures can be implemented solely for environmental reasons. Routing measures and ship reporting systems are established by IMO under the rules of SOLAS Chapter V. (Ringbom & Henriksen, 2017)

Moreover, the IMO has developed the concept of Particularly Sensitive Sea Areas (PSSA), defined as areas needing special protection through IMO action due to their recognized ecological, socio-economic, or scientific importance, which may be vulnerable to damage from international shipping activities (International Maritime Organization (IMO), n.d.). According to IMO Resolution A.982 (24), the IMO can designate PSSA beyond the territorial sea to adopt international protective measures against pollution and other damage caused by ships, provided at least one of the criteria is met throughout the entire proposed area. These criteria fall into three categories: ecological; social, cultural, and economic; and scientific and educational. In some cases, a PSSA may overlap with a Special Area, and vice versa. It's important to note that the criteria for identifying PSSA and designating Special Areas are not mutually exclusive (IMO, 2006). PSSA are not grounded in any specific treaty but serve as a framework for evaluating potential protective measures available through existing IMO instruments or within the IMO's authority to adopt (Gjerde, et al., 2008).

Furthermore the IMO has introduced several notable IMO Conventions (International Maritime Organization (IMO), n.d.) related to our subject matter which are presented below along with their relevance and importance to biodiversity protection in ABNJ:

The Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC)

It's known that ships take on ballast water in one part of the world and release it in another, to maintain stability, balance, and safe navigation during a voyage. The weight of the ballast water helps the ship stay level, compensates for changes in cargo load, and ensures safe handling under different sea conditions. This ballast water can contain a wide range of organisms, such as bacteria, microbes, small invertebrates, eggs, larvae, and other species, which can become invasive in new environments. The Convention for the Control and Management of Ships' Ballast Water and Sediments (BWMC) requires ships to manage their ballast water and sediments to prevent the unintentional transfer of aquatic organisms from one region to another. This is critical for areas such as the high seas and the Area which are home to unique and vulnerable ecosystems, such as hydrothermal vents, seamounts, and coral reefs. These ecosystems support a high level of endemic species and biodiversity therefore the introduction of invasive species can severely impact to their wellbeing.

Nairobi Convention on the removal of wrecks

The Convention provides the legal basis for states to remove, or have removed, shipwrecks that may have the potential to affect adversely the safety of lives, goods and property at sea, as well as the marine environment. While the convention primarily focuses on the removal of wrecks that are hazardous to navigation or the environment, its provisions also play a significant role in preserving marine biodiversity, especially in ABNJ where environmental governance is more complex. For example, shipwrecks can contain hazardous substances (i.e. fuel, chemicals) or carry dangerous cargo that can leak into the marine environment over time. In ABNJ, where regulatory oversight is limited and ecosystems are highly sensitive, such pollution can have severe impacts on biodiversity. By facilitating the removal of wrecks, the convention helps to prevent pollution that could otherwise harm marine life and habitats in ABNJ.

The International Convention on the Control of Harmful Anti-fouling Systems on Ships (commonly known as the Anti-Fouling Convention or AFS Convention)

The AFS Convention plays a significant role in protecting marine biodiversity at seas including the Areas Beyond National Jurisdiction (ABNJ) by regulating the use of harmful substances in ship coatings, which can have detrimental effects on marine life and ecosystems. The convention specifically addresses the negative impacts of anti-fouling systems—coatings or paints applied to ships' hulls to prevent marine organisms from attaching to them. While these coatings help improve a ship's efficiency, many of them historically contained toxic chemicals,

such as tributyltin (TBT), that were found to leach into the water and cause widespread environmental damage.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (also known as HKC)

The Hong Kong Convention) contributes to biodiversity protection in Areas Beyond National Jurisdiction (ABNJ) by regulating the environmental and safety aspects of ship recycling. The convention addresses the disposal of hazardous materials from ships, which can significantly impact marine biodiversity if not managed properly. While its primary focus is on ship recycling, its indirect benefits extend to the protection of marine ecosystems, including those in ABNJ.

International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, (INTERVENTION) 1969

The Convention affirms the right of a coastal State direct action and measures to prevent, mitigate, or eliminate oil pollution from maritime incidents in the high seas. The 1973 London Conference on Marine Pollution therefore adopted the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil. This is critical for biodiversity protection because oil spills can have catastrophic impacts on marine life and ecosystems, including those in ABNJ.

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 also known as the "London Convention" & The London Protocol

Also known as the "London Convention" for short, is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. The Protocol prohibits all dumping, except for possibly acceptable wastes on a so-called "reverse list" which is found in an annex to the Protocol. In addition, the dumping of wastes included on the "reverse list" is subject to a waste prevention audit with a methodology to assist Parties to implement a waste prevention path. The London Convention represents a universally recognized landmark regime for marine pollution and waste prevention. (UN Environmental Program (UNEP), 2018) (International Maritime Organization (IMO), n.d.) In 1996, the "London Protocol" was agreed to further modernize the Convention and, eventually, replace it.

Under the Protocol all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". Later amendments were introduced in 2010 and 2013 to regulate climate change mitigation technologies: marine geoengineering and carbon capture and storage. (International Maritime Organisation (IMO), n.d.)

The IMO's conventions, codes and guidelines play a crucial role in protecting marine biodiversity in general (including areas beyond national jurisdiction) by adopted numerous protective measures in Conventions, Codes and Guidelines established, which all ships must adhere with the aim to:

- a) Preventing pollution,
- b) Applying strict rules on operational discharges as well as areas to be avoided and other ship routing systems, (including those aimed at keeping shipping away from whales' breeding grounds controlling invasive species),
- c) Regulating harmful substances,
- d) Ensuring the safe operation of ships, and conserving marine species.

Through these conventions, the IMO addresses various threats to marine ecosystems and promotes sustainable maritime practices that help preserve marine biodiversity.

It's worth mentioning here IMO is no law enforcer. This is the obligation of:

- Flag state for ships flying its flag.
- Port states and port state control responsibility is to ensure that international, national and domestic law is enforced and vessel is in compliance with this law.
- Classification Societies such as American Bureau of Shipping (ABS), Bureau Veritas, DNV GL or Lloyd's Register who purpose is to develop and maintain technical rules and standards for ships. These societies work together through the International Association of Classification Societies (IACS). IACS works with all sectors of the industry and maritime regulators to ensure that the legislative framework is underpinned and enhanced by classification rules that allow for its practical implementation.

2.2.3 FOOD AND AGRICULTURE ORGANIZATION (FAO)

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger with a goal to achieve food security for all and

make sure that people have regular access to enough high-quality food to live healthy lives. (Food and Agriculture Organization of the United Nations, 2024)

With 195 members - 194 countries and the European Union, FAO works in over 130 countries worldwide. The FAO Fisheries and Aquaculture Department administers and supports 44 Regional Fisheries Management Organizations (RFMOs) therefore has a critical responsibility to achieve sustainable fisheries, particularly where international cooperation is required. For this purpose a number of important FAO agreements have been adopted such as:

FAO Code of Conduct for Responsible Fisheries

The 1995 FAO Code of Conduct for Responsible Fisheries was adopted in Resolution 4/95 by the FAO Conference on 31 October 1995 by 170 governments. The FAO Code of Conduct is a ground-breaking, unique and voluntary global fisheries instrument establishing principles and international standards of behaviour to ensure the effective conservation, management and development of living aquatic resources, with respect to ecosystem and biodiversity conservation. Despite its voluntary nature, its provisions have been used to develop national policy or legislation. (Food and Agriculture Organization of the United Nations (FAO), 2015)

The FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (The Compliance Agreement)

The FAO 1993 Compliance Agreement aims to enhance the role of Flag States and ensure that a State strengthens its control over its vessels to ensure compliance with international conservation and management measures. It sets special responsibility to Flag States to take effective action to prevent illegal, unreported, and unregulated (IUU) fishing and to deter the reflagging of vessels by their nationals as a means of avoiding compliance with applicable conservation and management rules for fishing activities on the high seas. (Food and Agriculture Organization of the United Nations (FAO), n.d.)

FAO Agreement on Port State Measures (PSMA)

PSMA is the initial international agreement that focuses on combating IUU fishing. It is a significant international development in global efforts to stop illegal fishing and to strengthen fisheries management and governance. It entered into force in 2016.

The goal is to stop and discourage illegal, unreported, and unregulated (IUU) fishing by prohibiting vessels involved in such activities from docking or unloading their catches. This

will lead to their discouragement by reducing their incentives to keep fishing illegally and also prevents IUU fishery products from being sold in national and international markets.

The provisions of the PSMA apply to fishing vessels seeking entry into a designated port of a State which is different to their flag State. The 'Port State' designates which of its ports can be used by foreign vessels and follows a set of standardised procedures to decide whether to allow the vessel to enter, to inspect the vessel and to report and share the results of the inspection with other port states.

The FAO's scope in relation to biodiversity in ABNJ encompasses sustainable fisheries management, support for Marine Protected Areas (MPAs), marine scientific research, international collaboration, and combating Illegal, Unreported, and Unregulated (IUU) Fishing. By developing guidelines, supporting regional organizations, conducting research, and promoting international cooperation, the FAO contributes significantly to the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction

2.2.4 REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS (RMFOS)

Regional Fisheries Management Organizations (RFMOs) are intergovernmental fisheries organizations having the authority to establish fisheries conservation and management measures on the high seas. Their primary mission is to ensure that fishing activities does not cause significant adverse impact on biodiversity and marine ecosystems. (Food and Agriculture Organization of the United Nations (FAO), 2020).

Regional fisheries management organizations (RFMOs) are created by nations with shared practical and/or financial interests in the conservation and management of fish stocks in specific regions, including coastal States with waters containing a portion of a designated fish stock, as well as "distant water fishing nations" (DWFN) whose ships fish in areas where the stock is located. (The Pew Charitable Trusts (Pew), 2012)

RFMOs have the power to adopt generally every year, rules and measures for the conservation and management for the stocks under the mandate of those RFMOs.

Regional fisheries management organizations (RFMOs) have mandates to adopt legally binding conservation and management measures based on the best scientific evidence as provided by their respective scientific bodies. RFMOs are also regularly review member compliance. (Løbach, et al., 2020)

There are basically two types of RFMOs:

- **Generic or also known as General RFMOs** (i.e. responsible for conservation and management of living marine resources or fishery resources in general in their area of competence). These organizations have a mandate to manage deep-sea fisheries in the Marine Areas Beyond National Jurisdiction (ABNJ) cover most of the fished high seas areas of the world and
- **Species-specific RFMOs** (i.e. dedicated for the conservation and sustainable management of a particular stock or species). Within this group, a notable subgroup is tuna RFMOs (i.e. responsible for conservation and management of tuna and tuna-like species). Tuna RFMOs as seen in below map, already cover the areas of the high seas where the management of tuna fisheries is relevant. The rest fall under the non-tuna RFMOs address a diverse range of fish stock beyond just tuna and tuna-like species. (Løbach, et al., 2020)

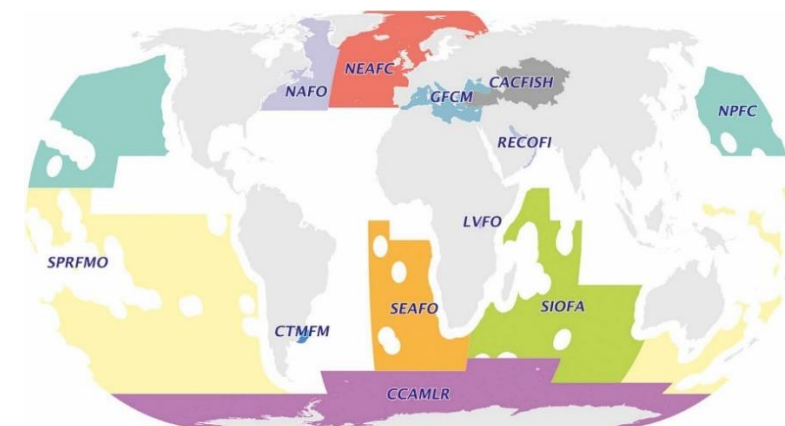
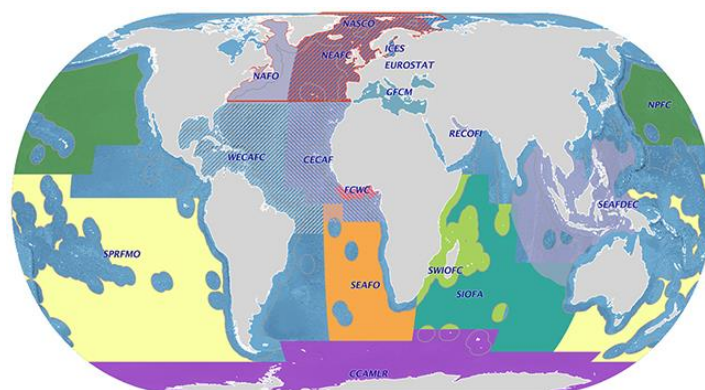


Figure 8 Generic regional fisheries management organizations (RFMOs)
Source: ©FAO/Statistics and Information Branch, FIAS

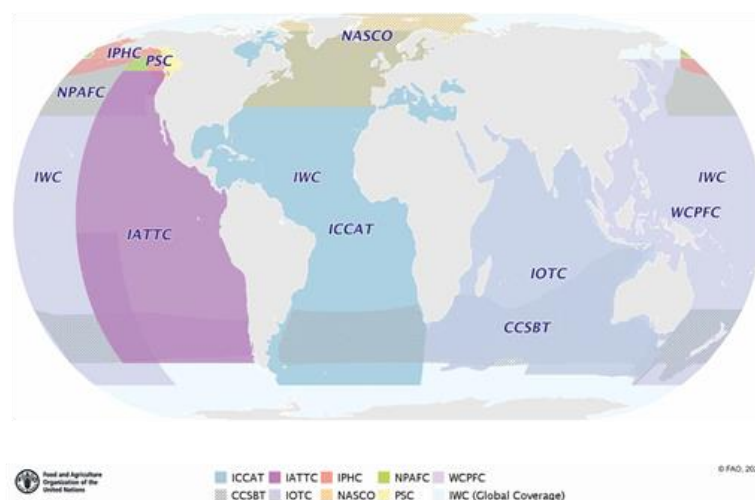


Figure 9 Species-specific RFMOs
Source: ©FAO/Statistics and Information Branch, FIAS

Table 2 *Regional fisheries management organizations (RFMOs) – Type and Area of Competence*

Acronym	Acronym	RFMO type	Area of competence
CACFish	Central Asian and Caucasus Regional Fisheries and Aquaculture Commission	Generic (including aquaculture)	Inland waters
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources ⁴	Generic	Areas beyond national jurisdiction (ABNJ), exclusive economic zone (EEZ) ⁵
CCSBT	Commission for the Conservation of Bluefin Tuna	Tuna	ABNJ, EEZ Southern
CTMFM	Commission for the Argentina / Maritime Front	Generic	EEZ Uruguay
GFCM	General Fisheries Commission for the Mediterranean	Generic (including aquaculture)	ABNJ, EEZ, territorial waters
IATTC	Inter-American Tropical Tuna Commission	Tuna	ABNJ, EEZ, territorial waters

⁴ CCAMLR is a conservation organization with some attributes of an RFMO (CCAMLR-XXI, Paragraph 15.2).

⁵ Subject to the Chairman's Statement, 1982, available at: www.ccamlr.org/en/organisation/camlr-convention-text#Chair

ICCAT	International Commission for the Atlantic Tunas	Tuna	ABNJ, EEZ
IOTC	Indian Ocean Tuna Commission	Tuna	ABNJ, EEZ, territorial waters
IPHC	International Pacific Halibut Commission	Specific	EEZ, coastal waters
IWC	International Whaling Commission	Specific	ABNJ, EEZ, territorial waters
LVFO	Lake Victoria Fisheries Organization	Generic (including aquaculture)	Inland waters
NAFO	Northwest Atlantic Fisheries Organization	Generic	ABNJ, EEZ ⁶
NASCO	North Atlantic Salmon Conservation Organization	Specific	ABNJ, EEZ
NEAFC	North-East Atlantic Fisheries Commission	Generic	ABNJ, EEZ
NPAFC	North Pacific Anadromous Fish Commission	Specific	ABNJ
NPFC	North Pacific Fisheries Commission	Generic	ABNJ
PSC	Pacific Salmon Commission	Specific	Coastal waters, inland waters
RECOFI	Regional Commission for Fisheries	Generic (including aquaculture)	EEZ
SEAFO	South East Atlantic Fisheries Organization	Generic	ABNJ
SIOFA	South Indian Ocean Fisheries Agreement	Generic	ABNJ
SPRFMO	South Pacific Regional Fisheries Management Organization	Generic	ABNJ
WCPFC	Western and Central Pacific Fisheries Commission	Tuna	ABNJ, EEZ

Source: (Food and Agriculture Organisation of UN (FAO), 2020)

RFMOs and fishery management are supported by a number of notable agreements and guidelines such as:

⁶ The NAFO and NEAFC convention areas include ABNJ and EEZ, but their regulatory areas only cover ABNJ. With the permission of coastal States involved, these RFMOs also implement regulations within the Exclusive Economic Zone of those States.

- The 1995 UN Fish Stocks Agreement (UNFSA) outlines principles and details for collaboration, openness, caution, ecosystem-focused management, and RFMO performance.
- FAO Code of Conduct for Responsible Fisheries (1995)
- The Port State Measures Agreement (PSMA).
- The 2009 International Guidelines for Deep-sea Fisheries Management on the High Seas provide criteria and recommendations for managing deep-sea bottom fisheries to safeguard "vulnerable marine ecosystems" (VMEs) from their impacts.

2.2.5 THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

The UNEP Regional Seas Programme is the leading global authority on the environment and the “most important regional mechanism for conservation of the marine and coastal environment” since its establishment in 1974. (United Nations Environmental Programme (UNEP), n.d.)

Addressing marine pollution and degradation of oceans and coastal areas among countries sharing common bodies of water with a demonstrated value of a regional approach to environmental action. The Regional Seas Programme is an action-oriented Programme that implements region-specific activities, bringing together stakeholders including governments, scientific communities, civil societies, local communities and indigenous peoples with a mission to s to improve their quality of life without compromising that of future generations. (United Nations Environment Programme (UNEP), n.d.)

UNEP administers, or provides secretariat functions for numerous Multilateral Environmental Agreements (MEAs) such as:

The Convention on Migratory Species (CMS)

The Convention on Migratory Species (CMS), also known as the Bonn Convention, is an environmental treaty of the United Nations that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats. (Convention of the Concervation of Migratory Species of Wild Animals (CMS), n.d.)

Convention on International Trade of Endangered Species (CITES)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has been at the forefront of efforts to protect threatened and endangered marine species, regulating trade in – amongst others – whales, sea turtles, dolphins, corals, sharks and rays. CITES is legally binding on Parties but does not supersede national law. Parties must adopt national legislation – including penalties for noncompliance – to implement CITES decisions. In practice, not all States follow through, and penalties have not always been sufficient to deter illegal trade.

CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (The World Conservation Union) and entered into force on 1 July 1975.

For many years CITES has been among the conservation agreements with the largest membership, with now 184 Parties. (CITES, n.d.)

The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) is an international treaty that aims to promote the conservation of biodiversity, sustainable use of biological resources, and the fair and equitable sharing of benefits arising from the use of genetic resources. The CBD was adopted during the Earth Summit in Rio de Janeiro in 1992 and entered into force on December 29, 1993. (Convention of Biological Diversity, n.d.)

The Convention (CBD)

- Defines biodiversity and strives to encourage the conservation of biodiversity, the sustainable utilization of its elements, and the just and equitable distribution of benefits generated from genetic resources.
- Contains notions and techniques for the preservation and responsible utilization of marine diversity.
- Advocates for the creation of a network of protected areas and additional strategies to protect biodiversity and ecosystems.

The Convention has already accomplished a great deal on the road to sustainable development by transforming the international community's approach to biodiversity. This progress has been driven by the Convention's inherent strengths of unilateral acceptance by 196 States, a comprehensive and science-driven mandate, international financial support for national projects, and world-class scientific and technological advice. It has brought together, for the

first time, people with very different interests with an ultimate goal to foster cooperation along a wide range of interested parties such governments, economic interests, environmentalists, local communities and concerned citizen.

One of the strongest elements of the CBD is national biodiversity strategies and action plans and in particular:

“(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned

(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.”

(Convention on Biological Diversity (CBD), 2023)

Under the Convention on Biological Diversity (CBD), adopted voluntary guidelines for the consideration of biodiversity in environmental impact assessments and strategic environmental assessments are mainly for scientific guidance, leaving governance and policy issues unresolved. The development of the obligation to conduct EIAs has also arisen in some sectors (deep-sea bottom fisheries, seabed mining in the Area, dumping of waste and ocean fertilisation) and in a very small number of regional frameworks, with notable differences in the extent of requirements and in their implementation.

Regional Seas Conventions

Five Regional Seas Conventions currently includes Areas Beyond National Jurisdiction (ABNJ) within their geographical coverages:

1. The Convention for the Protection of the Marine Environment of the North-East Atlantic (**OSPAR Convention**);
2. The Convention on the Conservation of Antarctic Marine Living Resources (**CAMLR Convention**);
3. The Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (**Barcelona Convention**);
4. The Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (**Noumea Convention**); and

5. The Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (**Lima Convention**)⁷.

Under two other Regional Seas programmes namely the

1. Abidjan Convention for Cooperation in the Protection, Management and Development of Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region (**Abidjan Convention**) and
2. the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean (**Nairobi Convention**),

Member States started examining the issues related to marine biodiversity in Areas Beyond National Jurisdictions⁸. (United Nations Environment Programme (UNEP), 2017)

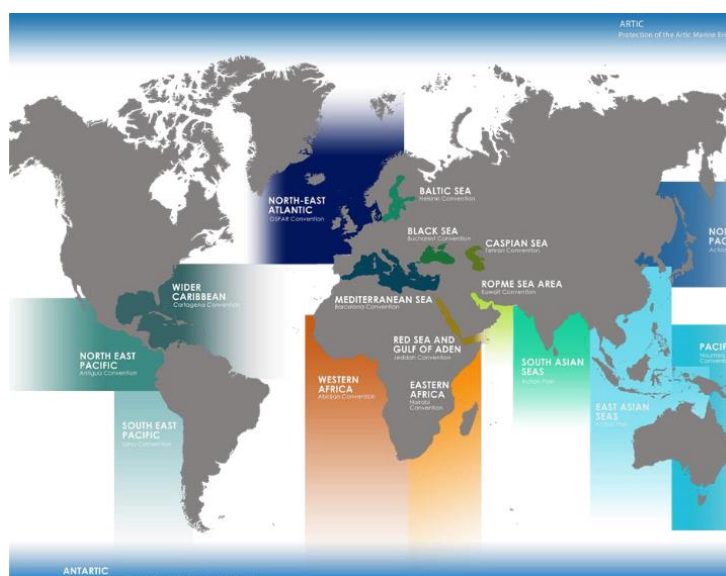


Figure 10 Map of Regional Seas
[Source: UNEP]

Seven of them are administered by UN Environment Programme (Caribbean, East Asian Seas, Eastern Africa, Mediterranean, North-West Pacific, Western Africa, and Caspian Sea) and another seven are not administered by the UN Environment Programme (Black Sea, North-East Pacific, Red Sea and Gulf of Aden, ROPME Sea Area, South Asian Seas, South-East Pacific, Pacific). Another four have independent programmes (Arctic, Antarctic, Baltic Sea, and North-East Atlantic).

⁷ Lima Convention Article 1 defines the inclusion of the High Seas “up to a distance within which pollution of the high seas may affect that area” within its geographical coverage

⁸ For further details, See: the Written Submission by the United Nations Environment Programme (UNEP), Available at: http://www.un.org/depts/los/biodiversity/prepcom_files/UNEP_and_BBNJ_PrepCom2.pdf

Regional conventions play also a significant role in establishing Marine Protected Areas (MPA) and serve as essential platforms for coordinating MPA efforts, fostering cooperation among nations, and safeguarding marine ecosystems. Each convention tailors its approach to the specific needs of its region, emphasizing the importance of collaborative conservation efforts. For example:

- **OSPAR Convention:** As mentioned earlier, OSPAR actively promotes the creation of an ecologically coherent network of MPAs in the North-East Atlantic. It sets guidelines for identifying, selecting, and managing these areas.
- **Barcelona Convention:** The Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean aims to protect the Mediterranean Sea. It includes provisions for MPAs and sustainable management of marine resources.

UNEP work on Ocean, Seas and Coasts is carried out through public-private partnerships, often involving partners, collaborating centers and networks. This collaboration has introduced a number of reports and products to inform governments and stakeholders and to raise awareness of the need to conserve and sustainably manage and use marine biodiversity in areas beyond national jurisdiction.

Notably only a few regional seas programmes have included ABNJ in their geographic scope. As of today, the instruments concerned include: OSPAR Convention; the Barcelona Convention, and the SPREP Convention. (Druel, Elisabeth, 2013)

2.2.6 INTERNATIONAL WHALING COMMISSION (IWC)

Created in 1949, the International Whaling Commission (IWC) is a specialised regional fishery management organisation, established under the terms of the 1946 International Convention for the Regulation of Whaling (ICRW) to *"provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry"* (The International Whaling Commission, 1946) . The IWC has adopted a moratorium on commercial whaling, effective since 1986. However, whaling by indigenous people, as well as catches for scientific purposes are not covered by the moratorium. In recent years, through its Conservation Committee, the IWC has expanded its mandate beyond the regulation of whaling, covering issues concerning the conservation of whales, such as the promotion of sustainable whale

watching, the prevention of collisions from ships, underwater noise, and the impact of pollution on whale populations. (The International Whaling Commission (IWC), n.d.)

While the IWC operates at a global level, it supports regional conservation efforts by providing scientific advice, technical assistance, and capacity-building support to member countries and regional organizations. Furthermore the IWC has established Memoranda of Understanding with several regional conventions and organizations to facilitate cooperation and coordination on ocean conservation and management.

Examples of regional conventions and organizations the IWC interacts with include:

- Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- North Atlantic Marine Mammal Commission (NAMMCO)
- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS)

The IWC often collaborates with regional fisheries management organizations (RFMOs) and other regional bodies to address issues such as bycatch, ship strikes, and habitat protection. This collaboration helps align efforts and share best practices.

For a more comprehensive impact, the IWC's efforts need to be part of broader, integrated conservation strategies that involve various stakeholders, including governments, NGOs, the private sector, and local communities as currently the organization suffers enforcement and compliance challenges evident by continued whaling activities by some countries under scientific or other exemptions, is of a limited scope and operates in a complex political landscape where economic interests and cultural practices related to whaling can influence decision-making and conservation outcome.

2.2.7 UNESCO INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

Intergovernmental Oceanographic Commission was established in 1960 as a body with functional autonomy within UNESCO. According to the IOC Statutes, Article 2.1, *the purpose of the Commission is to promote international cooperation and to coordinate programmes in research, services and capacity-building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of*

management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States. (Ringbom & Henriksen, 2017)

Especially in Areas Beyond National Jurisdiction (ABNJ), the IOC supports research focused on ABNJ to improve understanding of these areas, which are less studied and understood compared to coastal regions. This includes initiatives like the Global Ocean Biodiversity Initiative (GOBI) and collaborations with the Deep Ocean Stewardship Initiative (DOSI). Moreover the IOC promotes the collection and sharing of data on marine biodiversity in ABNJ through global observing systems and data exchange networks. This information is crucial for informed decision-making and conservation planning.

The IOC is actively contributing to the development and implementation of international legislative and policy frameworks for the conservation of biodiversity in ABNJ, such as the ongoing negotiations for a new international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of ABNJ (BBNJ Agreement). (IOC & UNESCO, 2017)

The UNESCO Intergovernmental Oceanographic Commission (IOC) is a key player in marine biodiversity conservation, providing vital scientific coordination, capacity building, and policy support. However, its effectiveness is limited by factors such as funding constraints, dependence on member state cooperation, and lack of enforcement authority. Successful biodiversity conservation, especially in ABNJ, requires collaborative efforts involving multiple international organizations, adequate funding, and strong governance frameworks.

2.3 MARINE PROTECTED AREAS

Marine protected areas (MPAs) are an instrument for marine biodiversity conservation and sustainable use that have the potential to address several of the pressures on marine ecosystems.

Table 3 Key pressures on marine ecosystems

Overfishing and exploitation	In 2013, 31% of fish stocks were estimated as fished at biologically unsustainable levels (i.e., over-fished), compared to 10% in 1974. Of the total number of stocks assessed in 2013, fully fished stocks accounted for 58% and under-fished stocks 11% (FAO, 2016). Illegal, unreported and unregulated (IUU) fishing also continues to present challenges. About 11-26 million tonnes of fish is lost to IUU annually representing a mean loss of 18% across all fisheries (Agnew et al., 2009).
Pollution	Marine pollution occurs when harmful, or potentially harmful, effects result from the entry into the ocean of chemicals, particles, industrial, agricultural and residential waste, noise, or the spread of invasive organisms. Most sources of marine pollution (80%) are land based often from nonpoint sources such as agricultural runoff (GOC, 2014).
Habitat destruction	Habitat destruction along the coast and in the ocean results from harmful fishing practices such as trawling or dynamite fishing; poor land use practices in agriculture, coastal development and forestry sectors; and other human activities such as mining, dredging and anchoring, as well as tourism and coastal encroachment.
Climate change	Climate change is rapidly impacting species and ecosystems that are already under stress from other pressures. Climate change impacts to marine ecosystems have already resulted in either loss or degradation of 50% of salt marshes, 35% of mangroves, 30% of coral reefs and 20% of seagrass worldwide (Doney et al., 2012).
Invasive alien species	These foreign organisms are responsible for severe environmental impacts such as altering native ecosystems by disrupting native habitats, extinction of some marine flora and fauna, decreased water quality, increasing competition and predation among species, and spread of disease.

Source: (OECD, 2017)

Although there is no universally established definition of MPAs, the Convention on Biological Diversity (CBD) has a specific definition for marine and coastal protected areas (MCPAs) as *"an area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna, and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings"*. This definition is in accordance with the IUCN protected area definition, however it makes particular mention to both "marine and coastal areas". (Biodiversity A-Z, 2020). Furthermore the Biodiversity Committee of OSPAR Convention has defined an MPA as *"An area within the maritime area for which protective, conservation, restoration or precautionary measures, consistent with international law have been instituted for the purpose of protecting and conserving species,*

habitats, ecosystems or ecological processes of the marine environment". (OSPAR Commission, n.d.)

MPA-related concepts can be divided into two principal categories. (Tanaka, 2012)

Category 1 includes marine protected areas that are designed to safeguard the marine environment, as follows:

- 'Clearly defined area' in Article 211(6) of the UNCLOS,
- 'Ice-covered areas' in Article 234 of the UNCLOS,
- 'Special areas' under MARPOL 73/78,
- 'Particularly sensitive sea areas' (PSSA) in IMO Guidelines, and
- 'Specially protected areas' in the 1985 Montreal Guidelines

While above do not directly related to preserving marine biological diversity, they indirectly contribute to maintain diversity by safeguarding the marine ecosystem.

Category 2 is focused on marine protected areas directly related to conserving marine biological diversity. (Tanaka, 2012) These are divided into two sub-categories:

- Category 2-1 (species-specific MPA) seeking to protect specific marine life, such as marine mammals, in a particular region.
- Category 2-2 encompasses MPAs designated to safeguard unique and delicate environments and living space of at risk or threatened species and other marine life in a specific area.

Mainly National governments establish MPAs, however regional conventions and other authorities, depending on the jurisdiction and governance structure of a particular region can also establish MPAs.

Here is an outline of the key entities that may be involved or have vested interests in the establishment of Marine Protected Areas:

National Governments

National governments have the authority to establish MPAs within their territorial waters. Governments may designate certain areas as protected to conserve biodiversity, preserve ecosystems, and manage fisheries sustainably. The process for MPA establishment often involves laws, regulations, policies or executive actions to be established.

National Environmental Agencies

Within national governments, specific Environmental or Conservation Agencies are often responsible for proposing, planning, and managing Marine Protected Areas. These agencies may conduct scientific assessments, stakeholder consultations, and environmental impact studies before designating an area as protected.

International Organizations

Some MPAs may be established through the collaboration of multiple countries or under the auspices of international organizations. For example, regional seas conventions, such as OSPAR in the North-East Atlantic or the Barcelona Convention in the Mediterranean, may facilitate the establishment of transboundary MPAs.

Local Authorities and Communities

In certain cases, local or regional authorities may have the power to establish MPAs within their jurisdiction. This is particularly common in decentralized governance structures.

In areas where indigenous or local communities reside have recognized rights and responsibilities over marine resources, they may play a key role in establishing and managing MPAs. Collaborative approaches that involve these communities often lead to more effective conservation outcomes.

NGOs and Conservation Organizations

Non-governmental organizations (NGOs) and conservation groups can contribute to the establishment of MPAs through advocacy, research, and direct collaboration with governments. Some MPAs are the result of partnerships between governments and environmental organizations i.e. WWF, National Geographic Society etc.

<u>Scientific Institutions and Research Organization</u>	Scientific institutions and researchers often provide the scientific basis for MPA designation. Their expertise is crucial for identifying areas with high biodiversity, ecological importance, or vulnerability, helping guide the decision-making process.
<u>Fishery Management Authorities</u>	Fishery Management Authorities may be involved in cases where MPAs are established to manage and conserve fishery resources. MPAs can serve as tools for fisheries management, allowing for the recovery of fish stocks and the protection of critical habitats.
<u>Regional Conventions Agreements</u>	As indicated in para 2.2.4 many regional conventions and agreements focus on marine conservation, including the establishment of MPAs. These conventions are often specific to certain geographical regions and aim to address environmental challenges unique to those areas.

MPAs can be more easily created by governments in national waters where there are dedicated legal systems in place. In ABNJ it is more difficult to create MPAs due to the complex legal framework in place. As such, the percentage of MPAs created within national waters is much higher than that for ABNJ. National waters represent 39% of the global ocean and at present, 18.76% of these waters are designated as protected areas. In contrast, only 1.44% of ABNJ, which makes up the remaining 61% of the global ocean, has been established as protected areas. At present, international discussions are underway to establish ways of simplifying the process to create MPAs in ABNJ. (Protected Planet, n.d.)

According to the MPA Guide governments or other authorities follow a 4-stages process in establishing an MPA and classify it.



Figure 11 4-stages in establishing an MPA

Source: (Oregon State University, UCN World Commission on Protected Areas - Marine, Marine Conservation Institute, National Geographic Pristine Seas, and UN Environment Programme World Conservation Monitoring Centre, 2023)

It is worth mentioning here that the official count of protected areas currently includes MPAs at all stages, ranging from those that have recently been announced, to those which offer

protection and active management in the water. However, the benefits to biodiversity and communities can only be visible when an MPA is at “Implemented” stage and above.

The Level of Protection clarifies how well an MPA is protected from seven main types of extractive or destructive activities that an MPA or MPA zone could manage. (Protected Planet, n.d.)

There are four Levels of Protection according to the MPA Guide:

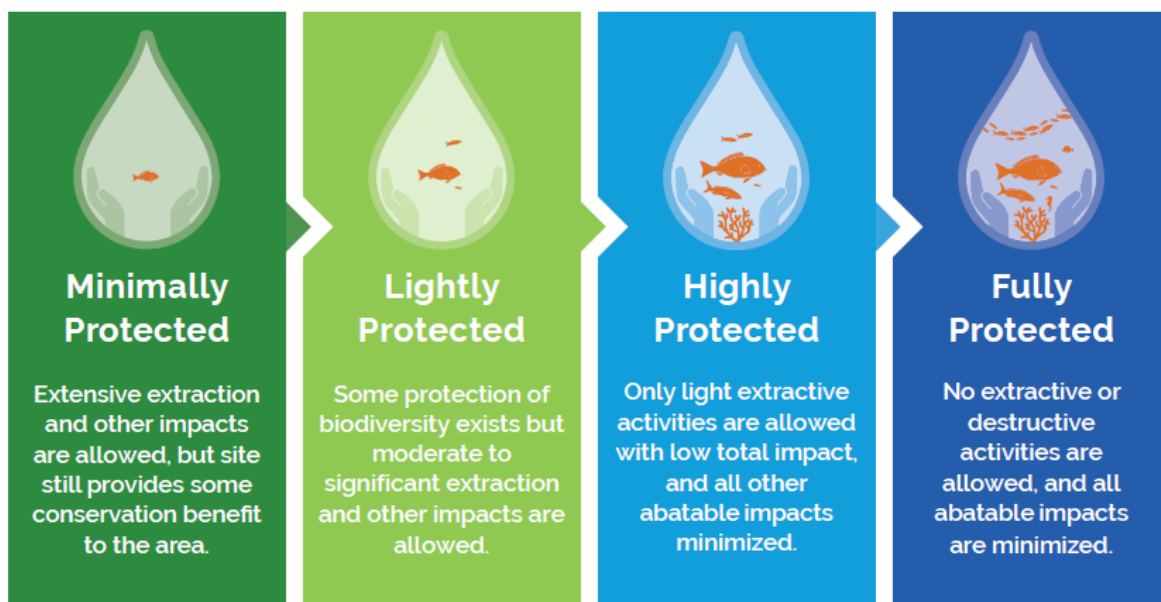


Figure 12 Four Levels of Protection for an MPA

Source: (Oregon State University, UCN World Commission on Protected Areas - Marine, Marine Conservation Institute, National Geographic Pristine Seas, and UN Environment Programme World Conservation Monitoring Centre, 2023)

MPAs can also vary in terms of how long the area will be protected and can be:

- **Permanent:** These MPAs are protected indefinitely unless future legislation ends the protection.
- **Conditional:** These MPAs have the potential to continue into the future, but is reviewed periodically to see if it is meeting its objectives.
- **Temporary:** These MPAs are designed to meet short-term conservation goals. This might include closing a fishery so that a particular species could recover.
- The level of protection that an MPA may have could also vary throughout the year.
- **Year-Round:** MPAs that are in effect throughout the year. This would include all marine sanctuaries, national parks, refuges, and monuments.
- **Seasonal:** MPAs that offer protection during specific time periods when sensitive ecological processes are taking place such as spawning, breeding or feeding.

- **Rotating:** MPAs that move between particular geographic areas to achieve short term conservation goals.

Many MPAs are divided up into different zones. In some zones, fishing is allowed, while in other zones, people might not be permitted entry at all. For example, Australia's Great Barrier Reef Marine Park. (National Geographic, n.d.) However, some areas allow activities that have an impact so large that it is incompatible with the conservation of biodiversity, as defined by the IUCN.

There seems to be a consensus that MPAs play an important role in preserving marine biodiversity. Nevertheless, to improve the effectiveness and legality of MPAs, the following factors should be taken into account in a specific area.

- a) Enhance the interlinkage between MPAs to truly achieve an overarching the protection of the marine environment, prevention of climate change and regulation of fisheries.
- b) Although it's possible to establish MPAs on the high seas, the legality of the creation of MPAs on the high seas in a strict sense needs careful consideration with regard to the legitimacy of procedures for selecting the location and compatibility with the freedom of the seas. Furthermore national governments establish an MPA that crosses borders and covers parts of sea that is in each nation own territories as well as international waters and are cause of disputes. (Tanaka, 2012)

2.4 LACK OF COMPREHENSIVE INTERNATIONAL LEGAL FRAMEWORK ON OCEAN GOVERNANCE AND ABNJ

In the preceding paragraphs, we examined the Ocean governance context. Now, we will assess the absence of a legal framework for Ocean Governance and Areas Beyond National Jurisdiction (ABNJ).

2.4.1 UNCLOS

UNCLOS serves as the primary legal structure for operations in areas beyond national jurisdiction (ABNJ). Currently, UNCLOS does not explicitly cover:

- Detailed requirements for conservation and sustainable use of the “components” of marine biodiversity, or of living resources (other than fish) of the Area; (Gjerde, et al., 2008)

- Mandate or detailed requirements for the protection of ‘vulnerable marine ecosystems’⁹; (Gjerde, et al., 2008)
- Uniform set of minimum standards and requirements for Environmental Impact Assessments (EIA) or monitoring of intensifying or emerging uses of the seas and especially in the ABNJ; (Druel, Elisabeth;, 2013)
- Modern conservation principles and tools such as the ecosystem approach, the precautionary approach, SEAs, representative networks of MPAs, or modern governance norms such as transparency, accountability and inclusiveness . (Gjerde, et al., 2008)

UNCLOS defines that high seas are open to all nations, provided that no State may validly purport to subject any part of them to its sovereignty. Freedom of the high seas is exercised under the conditions laid down by the relevant Convention articles and by the other rules of international law for navigation, overflight, to lay submarine cables and pipelines, and fishing, but these are conditional and must be exercised with regard to other states. (United Nations (UN), n.d.) The UNCLOS Article 92(1) provides Flag States sole authority over ships on the high seas while Port States are assuming a primary role for ensuring that ocean-going vessels comply with international regulations, IMO conventions, and regional port state control mandates.

UNCLOS establishes a heavily segmented system in which states' authority is limited to specific maritime zones and activities. Consequently, the responsibilities and duties of Flag State, Coastal and Port States vary based on activities such as navigation, fishing, dumping, marine scientific research, etc., with limited communication and coordination among sectors due to each sector prioritizing its own concerns, goals, and interests.. (Global Environmental Facility (GEF), 2016)

2.4.2 THE STATES

States play a fundamental role in both the creation and in setting limitation of a comprehensive international legal framework for ocean governance and ABNJ. Their actions and priorities significantly influence the development, implementation, and effectiveness of international maritime laws and regulations. There in the apparent lack of a comprehensive international

⁹ UNGA res. 61/105 calls upon flag States and RFMOs to take action to prevent significant adverse impacts to vulnerable marine ecosystems, but there are no comparable provisions regarding the protection from other activities.

legal framework on ocean governance and especially in Areas Beyond National Jurisdiction (ABNJ) is multifaceted and complex.

- States prioritize their sovereign interests, especially in Exclusive Economic Zones (EEZs) extending 200 nautical miles from their coastlines. Within these zones, states have exclusive rights to exploit marine resources. This focus on national jurisdiction often limits the willingness of states to engage in broader, binding international agreements that might restrict their activities or impose additional obligations.
- The existing international legal framework for ocean governance is fragmented, comprising various conventions and agreements that address specific issues but lack coherence and comprehensive coverage. For example, the United Nations Convention on the Law of the Sea (UNCLOS) provides a broad legal framework but does not cover all aspects of marine environmental protection or the sustainable use of marine resources in ABNJ comprehensively as expressed earlier in this chapter. States' reluctance to harmonize these various agreements into a single, comprehensive framework is partly due to differing national priorities and interests.
- Reaching a consensus on ocean governance, particularly for ABNJ, requires significant political will and cooperation among states. However, there is often a lack of consensus due to differing economic interests, levels of development, and strategic priorities. Developed and developing countries, for instance, may have conflicting interests regarding resource exploitation and environmental protection, making it difficult to agree on comprehensive governance mechanisms. (United Nations, 1998)
- States with significant economic interests in maritime industries, such as fishing, mining, and shipping, may resist comprehensive regulations that could restrict their economic activities. This resistance can hinder the development of robust international frameworks that might impose stringent conservation measures or limit resource exploitation in ABNJ. . (United Nations, 1998). A good example is the UN Registration Convention which was adopted in 1986, under the auspices of the United Nations Conference on Trade and Development (UNCTAD), with a view to tightening a genuine link between the flag State and the ships flying its flag. However, this Convention has not entered into force. Furthermore, it appears to be questionable whether the flag of convenience¹⁰ States will ratify this Convention. (Tanaka, 2012)

¹⁰ The terms 'flag of convenience' or 'open registry' refer to states that allow foreign shipowners with minimal or no real connection to register their ships under their flags. (Tanaka, 2012)

- Geopolitical tensions and rivalries also play a role. States with strategic interests in certain maritime regions may be reluctant to cede control or agree to international regulations that could be perceived as limiting their influence or security.

Despite these challenges, states play a crucial role in negotiations for new international agreements aimed at improving ocean governance. During the United Nations Conference on Sustainable Development the heads of States committed “*to address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, including by taking a decision on the development of an international instrument under the United Nations Convention on the Law of the Sea*”. (United Nations General Assembly, 2012) Their commitment to change will be clear with the adoption of the new High Seas treaty, demonstrating their key role in influencing future ocean governance structures.

2.4.3 INSTRUMENTS AND INSTITUTIONS THAT ARE INVOLVED IN REGULATING OCEANS WITHIN AND BEYOND AREAS OF NATIONAL JURISDICTION

Similar to what happens at the national level, where almost all ministries of a government have some function or authority related to ocean management and regulatory oversight, in the UN system there is a sizeable, fragmented governance structure of institutions, regional or sectoral bodies as detailed earlier in this chapter, for some of which ocean conservation is not the primary concern.

Table 4 Instruments and institutions that are involved in regulating oceans within and beyond areas of national jurisdiction

	Shipping	Fisheries	Sea-bed mining	Dumping	Environment/ Biodiversity	Research (MSR)	Land-based
Global rules -jurisdiction	UNCLOS, several parts	UNCLOS/ FSA	UNCLOS Part XI / 1994 IA	UNCLOS Part XII	UNCLOS Part XII	UNCLOS Part XIII	UNCLOS Part XII
Global rules - technical	IMO Conventions	FAO instr.	UNCLOS Part XI / 1994 IA	LDC/LP	CBD, ICRW conservation agreements etc.	-	-
Global body	IMO	FAO	ISA	IMO	UNEP, IWC and others	UNESCO/ IOC	UNEP
Regional bodies/rules	-	RFMOS, CCAMLR	-	OSPAR/ UNEP	Regional seas, NAMMCO etc.		Regional seas

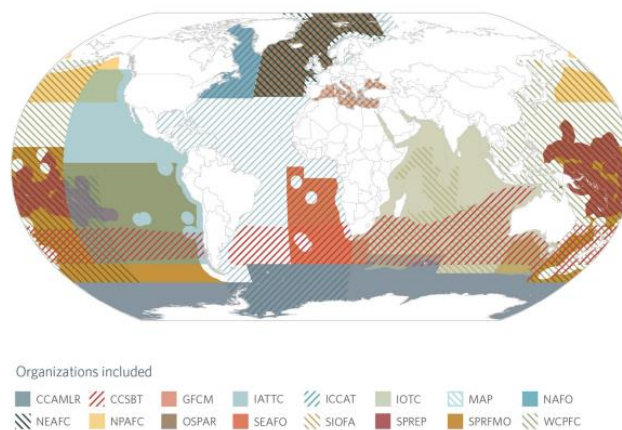
Source: GEF Summary table of key instruments and institutions at different levels
Source GEF/STAP/C.51/Inf.02 (2016)

The map on the right side illustrates all international governance bodies with a high seas mandate¹¹ which collectively cover all high seas areas and, in some regions, have overlapping coverage however few mechanisms exist to facilitate communication or coordinate activities among them. (The Pew Charitable Trusts (PEW), 2016)

Overlapping of international governance organizations with high seas mandates

Map 1

International Governance on the High Seas



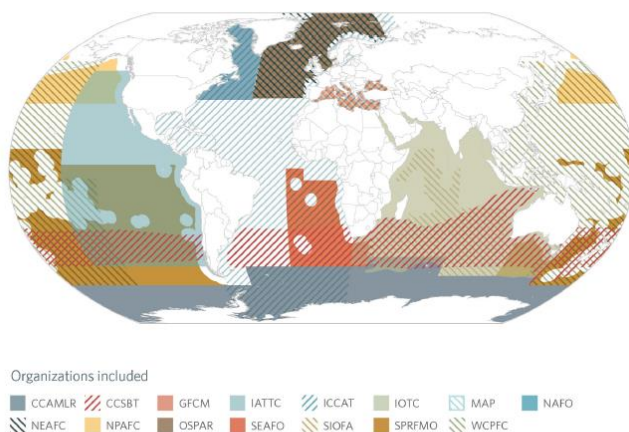
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Figure 13 Overlapping of international governance organizations with high seas mandate

Organizations with regulatory authority

Map 2

Regulatory Authority on the High Seas



The map on the left side illustrates all organisations with regulatory authority¹² on High Seas areas. Most of these organizations are limited to fisheries management. (The Pew Charitable Trusts (PEW), 2016).

Figure 14 Organisations with regulatory authority on the high seas

¹¹ Except those with global coverage—i.e., the International Whaling Commission (IWC), International Maritime Organization (IMO), and International Seabed Authority (ISA)

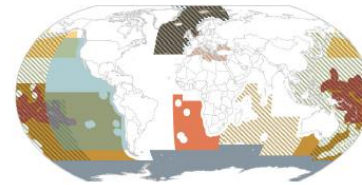
¹² IWC, IMO, and ISA have not been mapped because they have global coverage

High seas governance organizations differ greatly with respect to the emphasis their mandates place on conservation. Organizations shown in the map of the right side, despite their primary role are also technically able to take the broader ecosystem into account when creating management measures; however very few engaged in the protection of biodiversity as a whole. Only the organizations shown in Map 3B have a mandate that focuses primarily on conserving the marine environment. From above maps the IWC is excluded as it does focus primarily on conservation on a global scale. (The Pew Charitable Trusts (PEW), 2016).

Conservation mandate

Map 3A

High Seas Organizations With Partial Conservation Mandate



Map 3B

High Seas Organizations With Primary Conservation Mandate



Organizations included



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Figure 15 High Seas organisations with conservation mandate

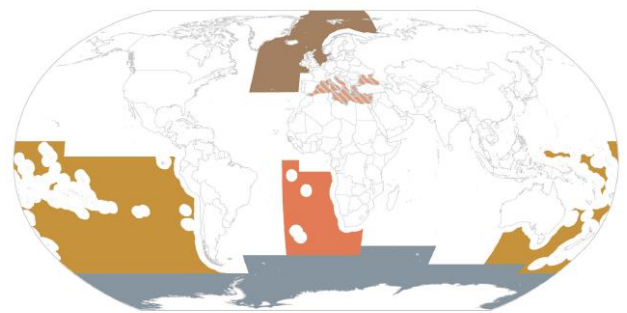
Most high seas governance organizations operate under mandates that consider only one sector, such as fisheries, shipping, or mining. A handful of those single sector organizations are empowered to create legally binding measures that broadly address the ecosystem, as presented above, giving them an advantage over other single-sector organizations. (The Pew Charitable Trusts (PEW), 2016).

Finally, none of the high seas governance organizations has a comprehensive cross-sectoral mandate with regulatory authority and a focus on conservation in areas beyond national jurisdiction.

Ecosystem management

Map 4

High Seas Organizations Able to Create Legally Binding Measures for Ecosystem Management



Organizations included



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Figure 16 High Seas Organisations able to create legally binding measures for ecosystem management

There is a definite lack of an overarching international instrument or competent authority that

- a) Will have the potential to monitor the implementation, by States and international organisations of their duty to carry out EIAs for human activities that are likely to have significant adverse impacts on marine biodiversity in ABNJ.
- b) set general objectives or principles against which the outcome of the EIA will be reviewed and the final decision on whether to authorise the proposed activity will be taken in the ABNJ. (Druel, Elisabeth;, 2013)

In this fragmented governance picture you should add all the Non-Governmental Organizations (NGOs), the private sector, financial institution, industry specific institutions that have expressed their interest and involvement in global ocean governance. (The Pew Charitable Trusts (PEW), 2016).

2.4.4 GAPS RELATED TO OCEAN GOVERNANCE IN ABNJ

As previously mentioned, close to two-thirds of the world's oceans are classified as Areas Beyond National Jurisdiction (ABNJ), currently less than 1% of the global ocean is formally protected through establishment of marine protected areas (MPAs), with almost all of these occurring under areas of national jurisdiction.

The biodiversity and ecosystem in these areas is at risk as it's threatened by the ever-growing pressure from human activities in these locations many of which were inaccessible in the past as well as the growing impacts of climate change and ocean acidification. (UNU EHS, 2023)

In 2004, a BBNJ Working Group was established by the United Nations General Assembly (UNGA) to engage to examine current international framework gaps and whether these necessitate the adoption of a new legal binding instrument (Druel, Elisabeth;, 2013) to govern conservation and sustainable use of marine biodiversity in ABNJ.

To ensure accuracy of the existing regulatory and governance gaps in global and regional levels the following papers have been consulted as published by the International Union for Conservation of Nature (IUCN):

- “Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction. IUCN, Gland, Switzerland.” (Gjerde, et al., 2008).
- “Paper X, Existing Regulatory, Institutional and General Governance Gaps” (Greiber, n.d.)

- Governance Challenges, Gaps and Management Opportunities in Areas Beyond National Jurisdiction, 51st GEF Council Meeting October 25 – 27, 2016 (Global Environmental Facility (GEF), 2016)

as well as “Sustaining marine life beyond boundaries: Options for an implementing agreement for marine biodiversity beyond national jurisdiction under the United Nations Convention on the Law of the Sea” as published Marine Policy (Druel & Gjerde, 2013)

Gaps presented are segregated in:

- **‘Regulatory’** gaps which are substantive and/or geographical gaps in the international legal framework, i.e. issues which are currently unregulated or insufficiently regulated at a global, regional or sub regional level or
- **‘Governance’** gaps in the international institutional framework or absence of institutions or mechanisms at global, regional level including inconsistent mandates of existing organizations or mechanisms. (Gjerde, et al., 2008)

And are also grouped in Global and Regional level. On some occasions a number of gaps are across levels and may appear in both lists.

Table 5 Regulatory Gaps at the Global & Regional Level

Global Regulatory Gaps
○ The lack of specific global regulations and norms to apply modern conservation principles to 'vulnerable marine ecosystems' for current activities such as marine scientific research (MSR), bioprospecting, laying of cables and pipelines, and construction of different types of installations; as well as unregulated fisheries (e.g. certain distinct high seas fish stocks, sharks). When mentioning "Modern conservation principles," these encompass the ecosystem approach, the precautionary approach, user/polluter pays principle, stakeholder consultation, and use of best available scientific information, implementation of best practices and best available technologies, and integrated and adaptive management. ○ There is also no mechanism yet in place to control the implementation of potentially new emerging activities in ABNJ (such as ocean fertilization, climate engineering, marine tourism and potential construction and operation of floating energy and aquaculture facilities).

- Regulations are insufficient to address the growing effects of traditional maritime activities like shipping and military operations (such as underwater noise and weapon testing) in accordance with contemporary conservation principles.
- Although the international community has committed to establish a network of MPAs covering a significant percentage of the oceans, including in ABNJ yet there is currently no global mechanism to make this possible.
- Absence of regulations or a mechanism to manage the control of interactions between activities in the water column of the high seas and on the extended continental shelf of coastal states or in the Area. This gap is attributed due to the
 - a) Different rules for various maritime zones
 - b) Absence of a global instrument or mechanism to ensure that modern conservation principles such as ecosystem-based management and the precautionary principle are incorporated and applied by existing global and regional bodies
 - c) Lack of an overarching legal mandate / framework of an ecosystems-based management & biodiversity conservation as well as cooperation coordination of the sectoral bodies in ABNJ.
- Lack for monitoring compliance and enforcement mechanism of conservation global and regional level instruments in ABNJ i.e. The main responsibility of Flag States is to enforce international rules and regulations and have sole jurisdiction over vessels registered under their flag.. Such an enforcement may be deem ineffective as the interests of the state may conflict those of sustainable conservation goals, lack of political will or face limited resources to manage such actions. (Tanaka, 2012) There are also some expressed arguments by some states on UNCLOS and subsequent conventions evident absence of jurisdiction and rights for states to take action in relation to ABNJ.
- Lack of effective compliance and enforcement mechanisms at global and regional levels for all human activities and measures.
- Limited capacity building and technology transfer. Article 268 of UNCLOS outlines the criteria that States must meet for the advancement and sharing of marine technology, along with specific guidelines for reaching these goals, primarily through global collaboration and the formation of local and regional marine scientific and technological hubs. However, the enforcement of these regulations is still constrained.

Regional Regulatory Gaps

- In numerous ocean areas, ABNJ are not included in agreements for regional seas, RFMOs, or environmental protection conventions, leaving significant portions of the oceans without coverage for specific activities or species. Moreover, the lack of regional regulation in ABNJ means that not all activities are covered by existing regional seas agreements
 - In the Arctic region of the Atlantic Ocean, excluding the Northeast Atlantic sector, and small regions of high seas in the Caribbean, there is no enforceable agreement for managing fisheries or preserving biodiversity
 - There is no legally binding agreement for biodiversity conservation and fisheries management in the Indian Ocean, except for tuna or tuna-like species in the Northern Indian Ocean which is not covered by SIOFA
 - There is no legally binding agreement for biodiversity conservation in the Pacific (except for small areas covered by the Noumea Convention) and no legally binding agreement for fisheries management:
 - Central and North Eastern Pacific (except IATTC Convention for tuna);
 - Western Central Pacific for non-highly migratory fish stocks.

Source: "Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction. IUCN, Gland, Switzerland." (Gjerde, et al., 2008) , "Paper X, Existing Regulatory, Institutional and General Governance Gaps" (Greiber, n.d.), Governance Challenges, Gaps and Management Opportunities in Areas Beyond National Jurisdiction, 51st GEF Council Meeting October 25 – 27, 2016 (Global Environmental Facility (GEF), 2016)

Table 6 Summary of Regulatory and Governance Gaps at the Regional Level

Regional Regulatory Gaps

- There is no institution or process in place to monitor and support implement modern conservation principles and management tools for human activities (as necessary) in ABNJ. Such modern conservation principles and management tools have not been consolidated into a single legally binding document, resulting in their uneven and scattered implementation.
- There is a lack of coordination and cooperation among sectors, states, and institutions.

- Absence of a governing body or institution responsible for ensuring the consistent implementation of contemporary environmental governance principles, such as: regular assessment of a treaty's effectiveness; transparency in decision-making processes and information accessibility; institutions and States accountability; resolution of grievances from civil society or affected communities; stakeholder participation; and fair use of resources.
- The absence of a responsible body / institution to conduct assessments of consistency of existing and emerging uses of the oceans with modern environmental governance principles and norms.
- Failure to acknowledge the status of States and international organizations, regardless of whether they are representing themselves or the global community, hinders their ability to bring forth claims in international courts and other mechanisms aimed at protecting marine biodiversity and the environment in areas beyond national jurisdiction (ABNJ).
- Lack of institutions or mechanisms to ensure successful compliance and implementation, such as a legal structure for enforcement beyond national jurisdictions on a worldwide and regional scale for all actions and strategies to preserve marine biodiversity and the environment in Areas Beyond National Jurisdiction (ABNJ).
- Uncertainty regarding the relevant regulations concerning bio-prospecting and fair utilization of Marine Genetic Resources (MGR) in areas beyond national jurisdiction (ABNJ).

Regional Governance gaps

- In Areas Beyond National Jurisdiction (ABNJ), fisheries management is mainly based on two kinds of organizations: the flag State, for ships flying its flag and permitted to fish in the high sea, and RFMOs, through which States cooperate for manage fisheries resources and implement conservation measures. Nonetheless, several flags of convenience are facilitating illegal, unreported, and unregulated (IUU) activities.
- Many RFMOs face challenges to effectively manage the fisheries under their jurisdictions mainly because of limited capacity, resources, or political will.
- In many ocean regions, ABNJ have:
 - Absence of regulatory bodies or institutions for comprehensive oceans management, biodiversity preservation and/or regulation of fisheries;
 - Organisations with conflicting objectives;
 - Lack of coordination and inadequate sharing of data/information.

In particular:

- Arctic Council has no regulatory competence.
- There is currently no RFMO or agreement (excluding tuna/tuna-like fisheries) in the East Central, West Central, and South-West Atlantic.
- There is no regulatory body for preserving biodiversity in the North-West Atlantic, Central Atlantic, and South Atlantic regions.
- There is no regulatory body in the Indian Ocean specifically for biodiversity conservation.
- There is no RFMO or agreement in the northern Indian Ocean for species other than tuna or tuna-like species.
- There is no regional regulatory body dedicated to protecting biodiversity, except for some small areas in the high seas regulated by the Noumea Convention.
- There is no RFMO or agreement for non-highly migratory fish stocks in the Central and Northeastern Pacific (except for tuna under IATTC) or the Western Central Pacific.

Source: "Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction. IUCN, Gland, Switzerland." (Gjerde, et al., 2008) , "Paper X, Existing Regulatory, Institutional and General Governance Gaps" (Greiber, n.d.), Governance Challenges, Gaps and Management Opportunities in Areas Beyond National Jurisdiction, 51st GEF Council Meeting October 25 – 27, 2016 (Global Environmental Facility (GEF), 2016)

2.4.5 CONCLUDING REMARKS

Within the framework of UNCLOS, management and protection of biodiversity in areas beyond national jurisdiction are achieved through a combination of legal measures both binding and non-binding. Nowadays high seas governance is about more than just a "States" issue, more and more are getting involved such as the industry associated with the sea, science and civil society organizations. Cooperation among all interested parties is still weak to non-existent in some cases, and will need to be increased significantly if integrated management reflecting an ecosystem approach is to be achieved. (Ardron & Warner, 2015)

Recognizing this at last, following almost twenty years of preparation, on 4 March 2023, during an inter-governmental meeting at the United Nations' main office in New York, representatives approved a legal document under the United Nations Convention on the Law of Sea

(“UNCLOS”) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (the “BBNJ Agreement” or “High Seas Treaty”).

The need for such a new legal binding instrument derived from:

- The apparent serious gaps and shortcomings in the current legal framework and governance in accessing and implementing conservation measures that reflected the evolving understanding of the ecosystem and adaptation of precautionary measures;
- The apparent need for better coordination and cooperation between current legal instruments applicable to areas beyond National Jurisdiction; (Hart, S. (IUCN);, 2008)

3 ANALYSIS & ASSESSMENT OF THE HIGH SEAS TREATY (BBNJ)

Having explained of the legislative landscape development over the years and examined the organizations and structures that uphold this legal setting and their contribution and efforts in relation to biodiversity preservation in ABNJ in this Chapter a detailed analysis and assessment of the main principles, objectives and key elements the High Seas Treaty (BBNJ) introduces.

According to United Nations “*the Agreement addresses a package of issues under the overall objective of ensuring the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction for the present and in the long term, through effective implementation of the relevant provisions of the United Nations Convention on the Law of the Sea and further international cooperation and coordination*”.

The four elements that the Treaty, addresses as main issues to this “package deal” are:

- [1] Marine genetic resources, including questions on the sharing of benefits,
- [2] Measures such as area-based management tools, including marine protected areas,
- [3] Environmental impact assessments and
- [4] Capacity-building and the transfer of marine technology. (United Nations, n.d.)

3.1 THE JOURNEY TOWARDS THE HIGH SEAS TREATY

As early as 2000, civil society organizations such as the International Union for Conservation of Nature urged the international community to take action in protecting life in the ocean. (Payne, 2023) In 2004, the UN General Assembly established an Ad Hoc Open-ended Informal Working Group with the mandate to address issues related to the conservation and sustainable use of marine biological diversity beyond national jurisdiction. (Kachelriess, 2023)

During its fourth session in 2011, the working group identified a set of critical themes that formed the foundation for subsequent intergovernmental negotiations, culminating in the BBNJ Agreement. These themes focus on the conservation and sustainable management of marine biodiversity in areas beyond national jurisdiction, promoting a comprehensive and collaborative approach.

The 2011 package effectively balanced the interests of various States, with delegations dedicated to progressing uniformly across all parts of the Agreement to maintain this balance. At UN Headquarters, States negotiated in major groups. (Kachelriess, 2023) The 2012 UN Conference on Sustainable Development advocated for a new implementing agreement under UNCLOS, initiating a gradual process towards negotiating a treaty. Following additional meetings of the working group (2004-2015) and the Preparatory Committee (2016-2017), the UN General Assembly initiated negotiations in 2017 for a third internationally legally binding instrument under UNCLOS. The resolution outlined four negotiation sessions (Intergovernmental Conferences: IGCs) from 2018 to 2020, permitting voting if consensus on substantive issues could not be reached. Recognizing the roles of existing regional and sectoral bodies, the resolution emphasized that the future BBNJ Agreement should not undermine relevant legal instruments and organizations.

IGC1 (which was held from 4-17 September 2018) established informal working groups on the 2011 package's four elements, a practice continued in subsequent IGCs. The IGC President composed treaty language for IGC2 (25 March – 5 April 2019) to move towards a zero draft, and by IGC3 (19-30 August 2019), States were working on texts aligned with the later adopted layout of the BBNJ Agreement. IGC4, initially set for early 2020, was postponed due to Covid-19 and held from 7 to 18 March 2022 with limited participation. During the intersessional period, delegations continued their work virtually, though no updated draft text emerged. Informal dialogues by Belgium, Costa Rica, and Monaco, alongside the International Center for Dialogue and Peacebuilding, kept the momentum. Integrating intersessional progress was a challenge for IGC4, and ongoing disagreements led to scheduling IGC5 for 15 to 26 August 2022.

IGC5.1 made significant progress, particularly towards the end, with a breakthrough in the MGR negotiations that improved flexibility in other areas. Due to time limitations, the session was suspended to be resumed later. During IGC5.2, from 20 February to 3 March 2023, the English text of the BBNJ Agreement was finalized after an intense 36-hour negotiation. The agreed text was greeted with relief by the exhausted delegates, as declared by the President of the intergovernmental conference, Ambassador Rena Lee, who announced that “*the ship has reached the shore*” (Payne, 2023). Following minor technical edits and translation into all UN languages, the Agreement was adopted by consensus on 19 June 2023 at IGC5.3. The High Seas Biodiversity Treaty will be opened for signature at the United Nations on September 20,

2023, and will remain open for two years. It is important to clarify that although the BBNJ Agreement derives from UNCLOS, the parties that have signed UNCLOS are not automatically bound by the Agreement. Instead, to enter into force, the treaty requires acceptance, approval, or ratification by 60 states. Supporters are urging states to sign and ratify the treaty so that it can come into effect by 2025.

This landmark event marked the most significant advance in international ocean law since UNCLOS and a major achievement in multilateralism and climate action since the Paris Agreement. Amidst the ongoing struggle between nationalism and multilateralism, the treaty signifies a commitment to collaboratively address global issues. It involved participation from most states parties to UNCLOS as well as several states that have not ratified UNCLOS. The adoption of the treaty text by consensus demonstrated their collective enthusiasm. (Payne, 2023)

3.2 THE HIGH SEAS TREATY'S MAIN PRINCIPLES

The BBNJ Treaty governs the regions of the oceans located beyond the boundaries of any nation's exclusive economic zone (EEZ), which extend 200 nautical miles (approximately 370 kilometers) from the coast.

The Treaty is based on two fundamentals, and potentially conflicting, principles:

- Firstly, the principle of the freedom of the seas, a long-established tenet embedded in UNCLOS (Article 87), allows vessels of any nationality to freely navigate the oceans, engage in fishing, exploration, scientific research, and other peaceful endeavors.
- Secondly, the principle of the common heritage of humankind asserts that states have a legal obligation to act in the collective interests of all humanity. This involves protecting and preserving biodiversity beyond their national jurisdictions, rather than pursuing individual national or economic gains.

The primary goal of the BBNJ Treaty is to guarantee the conservation and sustainable utilization of marine biological diversity in regions beyond national jurisdiction, both for the present and future generations. This objective is to be achieved through the effective implementation of relevant provisions outlined in UNCLOS, alongside enhanced international cooperation and coordination. Additionally, the BBNJ Treaty serves as a crucial nexus between climate change law and the law of the sea, reinforcing the interconnected nature of global environmental governance and the protection of marine ecosystems in the face of climate change.

The Treaty is also underpinned by several other key principles:

- a) **Polluter Pays Principle:** This principle assigns the responsibility to polluters to manage and cover the costs associated with their pollution, ensuring accountability and incentivizing pollution reduction. (United Nations General Assembly (UNGA), 2000) (Wagenaar, 2022) (United Nations, 2023)
- b) **Fair and Equitable Benefit-Sharing:** This principle mandates the fair and equitable sharing of benefits derived from marine genetic resources and digital sequence information, promoting equity and inclusiveness in marine resource utilization. (Wagenaar, 2022)
- c) **Precautionary Principle:** According to this principle, states are encouraged to take proactive measures to prevent serious or irreversible damage to the high seas, even in the absence of complete scientific certainty. This ensures a risk-averse approach to ocean management.
- d) **Ecosystem and Integrated Approach:** This principle advocates for a holistic approach to ocean management that considers the interconnectivity of marine ecosystems. It emphasizes the importance of building resilience, maintaining, and restoring the integrity of these ecosystems to ensure their health and sustainability. (Wagenaar, 2022)
- e) **Incorporation of Indigenous and Local Knowledge:** This principle recognizes the value of traditional knowledge from indigenous peoples and local communities in marine conservation efforts. It also underscores the importance of protecting their rights and integrating their knowledge systems into the management and preservation of marine biodiversity. (Wagenaar, 2022)

These principles collectively aim to promote a comprehensive and inclusive framework for the governance of marine biodiversity in areas beyond national jurisdiction, ensuring that conservation efforts are equitable, scientifically informed, and respectful of traditional knowledge and rights. (GARD P&I, 2023)

3.3 THE HIGH SEAS TREATY'S OBJECTIVES

3.3.1 MARINE GENETIC RESOURCES, INCLUDING THE FAIR AND EQUITABLE SHARING OF BENEFITS

Is the ocean beyond national jurisdiction a good belonging to all humanity? After intense negotiations, it was agreed to include “the principle of the common heritage of humankind as

set out in the Convention.” In the final hours, this wording was accepted alongside references to “the freedom of marine scientific research, together with other freedoms of the high seas.” The modification of "common heritage of mankind" to "common heritage of humankind" brought significant gender equity, a revision warmly welcomed by delegates. Additionally, "the principle of equity and the fair and equitable sharing of benefits," included in the principles section, serves as a corollary to the common heritage concept. (Payne, 2023)

The primary aim of this section is to foster a fair and equitable distribution of benefits arising from activities related to marine genetic resources and digital sequence information on marine genetic resources in areas beyond national jurisdiction. (United Nations, 2023) This objective is integral to the broader goal of conserving and sustainably utilizing the rich marine biological diversity found in these expansive regions. By ensuring an equitable sharing of benefits, the international community endeavors to establish a foundation for the conservation and sustainable use of the invaluable marine resources beyond national borders.

In a concerted effort to address capacity imbalances among Parties, there is a dedicated focus on building and enhancing the capabilities of nations, with a particular emphasis on developing States Parties. This emphasis extends to include the least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States, archipelagic States, and developing middle-income countries. (United Nations, 2023) The overarching goal is to empower these nations, equipping them with the capacity to engage effectively in activities concerning marine genetic resources and digital sequence information in areas beyond national jurisdiction.

An essential aspect of these objectives lies in the pursuit of knowledge, scientific understanding, and technological innovation. (United Nations, 2023) This involves promoting the development and conduct of marine scientific research, which is considered a fundamental contribution to the successful implementation of the Agreement. By promoting advancements in knowledge and technology, the international community seeks to strengthen its collective ability to address challenges and opportunities related to marine genetic resources in a comprehensive and informed manner.

In line with the provisions articulated in this Agreement, there is an effort to facilitate the development and transfer of marine technology. This involves a commitment to aligning technological advancements with the principles and guidelines set forth in the Agreement. Through this approach, the international community aims to promote responsible and

sustainable practices in the use and transfer of marine technology, ensuring its harmonious integration with the broader objectives outlined in the Agreement.

Application

The stipulations of this Agreement are applicable to actions connected to marine genetic resources and digital sequence information on marine genetic resources in areas beyond national jurisdiction. These actions must be conducted after the Agreement comes into effect for the respective Party. Furthermore, the application of the Agreement extends to the utilization of marine genetic resources and digital sequence information on marine genetic resources in areas beyond national jurisdiction, even if such resources were collected or generated prior to the Agreement's entry into force. However, a Party may choose to make a written exception under Article 63 during the processes of signing, ratifying, approving, accepting, or acceding to this Agreement. (United Nations, 2023) (European Commission, 2023)

The regulations outlined in this section do not encompass: (a) Fishing activities governed by relevant international laws and activities related to fishing; or (b) Fish or other living marine resources confirmed to have been acquired through fishing and fishing-related activities in areas beyond national jurisdiction. This exclusion is subject to the condition that such fish or other living marine resources are not specifically regulated as utilization under this section. Additionally, the obligations specified in this section do not apply to a Party's military activities, including those carried out by government vessels and aircraft engaged in non-commercial service. However, the obligations within this section, related to the utilization of marine genetic resources and digital sequence information on marine genetic resources in areas beyond national jurisdiction, are applicable to a Party's non-military activities. (United Nations, 2023)

3.3.2 MEASURES SUCH AS AREA-BASED MANAGEMENT TOOLS, INCLUDING MARINE PROTECTED AREAS

The primary objectives outlined in this section are dedicated to advancing the cause of marine conservation and sustainable use through a nuanced and comprehensive approach. The foremost goal is the preservation and sustainable utilization of areas warranting protection. Achieving this involves the establishment of a robust system of area-based management tools. This system envisions ecologically representative and well-connected networks of marine protected areas, ensuring a holistic and effective strategy for the conservation and sustainable management of these crucial marine environments. (United Nations, 2023)

An essential objective revolves around the reinforcement of cooperation and coordination in the application of area-based management tools, with a specific focus on marine protected areas. This entails fostering collaborative efforts among States, relevant legal instruments, frameworks, and global, regional, sub-regional, and sectoral bodies. By enhancing coordination, the international community seeks to optimize the impact of area-based management tools and strengthen collective endeavors towards the effective protection of marine areas.

The goals include ensuring the complete safeguarding, conservation, recovery, and upkeep of biodiversity and ecosystems. The focus is on improving productivity and health while also developing resilience to stressors like climate change, ocean acidification, and marine pollution. This holistic approach acknowledges the interconnected nature of marine ecosystems and underscores the need for proactive measures to ensure their long-term vitality.

Beyond ecological considerations, these objectives also address the imperative of supporting food security and other socioeconomic goals, including the safeguarding of cultural values. Recognizing the intricate relationship between marine ecosystems and human well-being, this multifaceted approach seeks to balance conservation efforts with the fulfillment of broader societal needs and the preservation of cultural heritage.

One crucial aspect is offering a tailor-made assistance to developing States Parties, particularly in tackling the distinct hurdles encountered by the least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States, archipelagic States, and developing middle-income countries. Tailor-made assistance involves programs to improve skills and help in the advancement and sharing of marine technology. This strategic support is intended to strengthen the capacity of these countries to efficiently create, enforce, and oversee area-based management tools, such as marine protected areas, considering the unique situations of small island developing States. (Kariuki, 2023)

Areas of Application

The implementation of area-based management tools is explicitly set to exclude any areas falling within national jurisdiction. It is emphasized that the utilization of these tools should not serve as a foundation for affirming or refuting any assertions related to sovereignty, sovereign rights, or jurisdiction, especially in the context of disputes. The Conference of the Parties is

explicitly precluded from deliberating on proposals for the establishment of these management tools. Importantly, such proposals should not be construed in any instance as an acknowledgment or disavowal of claims to sovereignty, sovereign rights, or jurisdiction. This underscores a commitment to maintaining the neutrality of area-based management tools in relation to national jurisdictions and sovereignty disputes. (United Nations, 2023)

A state or group of states may propose a marine protected area or other measures to regulate specific activities. The proposal must identify the area to be protected, outline the threats it faces, and include a draft management plan. During the consultation process, stakeholders can review and comment on the proposal, allowing the proponents to revise it based on the feedback. The Treaty's Scientific and Technical Body will then review and assess the proposal, providing a recommendation to the COP, which will ultimately decide whether to establish the marine protected area. (Payne, 2023)

3.3.3 ENVIRONMENTAL IMPACT ASSESSMENTS

The objectives articulated in this section aim to establish a robust framework for the environmental impact assessment of activities beyond national jurisdiction, addressing key considerations. A fundamental goal is to put into operation the provisions of the Convention on environmental impact assessment for areas beyond national jurisdiction. This involves the establishment of systematic processes, defined thresholds, and other essential requirements to guide Parties in conducting and reporting assessments. By providing a structured approach, this objective seeks to enhance the effectiveness and consistency of environmental impact assessments undertaken by participating nations. (United Nations, 2023)

Ensuring the comprehensive assessment of activities falling under this section is crucial to preventing, mitigating, and managing significant adverse impacts. The primary purpose is to safeguard and preserve the marine environment by implementing measures that minimize and address adverse effects. This objective underscores the commitment to responsible and sustainable conduct of activities in areas beyond national jurisdiction, prioritizing the protection of the delicate marine ecosystems.

Another important facet is the support for the consideration of cumulative impacts and impacts within areas falling under national jurisdiction. Recognizing the interconnected nature of marine environments, this objective emphasizes a holistic approach that accounts for the

cumulative effects of various activities and considers impacts both within and beyond national boundaries.

The provision for strategic environmental assessments is a distinctive feature of this section. This entails a systematic and comprehensive evaluation process that goes beyond individual project assessments, considering broader environmental implications. This strategic approach ensures a more holistic understanding of potential impacts and aids in the development of informed and proactive mitigation strategies.

Furthermore, a key objective is to achieve a coherent environmental impact assessment framework for activities beyond national jurisdiction. This involves streamlining and harmonizing assessment processes to create a consistent and effective framework. The aim is to provide clarity and coherence in the application of environmental impact assessment procedures, facilitating a more cohesive and standardized approach among Parties.

Finally, a lot of emphasis is being put on building and strengthening the capacity of Parties, with a particular focus on developing States Parties. This extends to the least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States, archipelagic States, and developing middle-income countries. The goal is to enhance their capabilities in preparing, conducting, and evaluating environmental impact assessments and strategic environmental assessments. This capacity-building initiative aligns with the broader objectives of the Agreement, ensuring that all participating nations are equipped to fulfill their responsibilities effectively. (Kariuki, 2023)

Obligation to conduct environmental impact assessments

Parties are obligated to conduct thorough assessments of the potential impacts on the marine environment for planned activities under their jurisdiction or control, particularly those occurring in areas beyond national jurisdiction. These assessments, as outlined in this section, must be completed before authorization for the activities is granted. (United Nations, 2023)

In instances where a Party, possessing jurisdiction or control over a planned activity within marine areas falling under national jurisdiction, determines that said activity could result in significant pollution or harmful alterations to the marine environment in areas beyond national jurisdiction, the Party is required to ensure that an environmental impact assessment is conducted. This assessment should adhere to the guidelines set forth in this section or be carried out through the Party's national process. When using the national process, the Party must make

pertinent information accessible through the clearing-house mechanism in a timely manner, monitor the activity in accordance with national requirements, and make environmental impact assessment reports, along with any relevant monitoring reports, available through the clearing-house mechanism as outlined in this Agreement.

Upon receipt of the information, the Scientific and Technical Body is empowered to provide comments to the Party possessing jurisdiction or control over the planned activity. This mechanism ensures a collaborative and informed approach to addressing potential environmental impacts in areas beyond national jurisdiction. (United Nations, 2023)

3.3.4 CAPACITY-BUILDING AND TRANSFER OF MARINE TECHNOLOGY

A central objective of this section is to extend assistance to Parties, with a special emphasis on developing States Parties, in effectively implementing the provisions of the Agreement to achieve its overarching objectives. This assistance involves providing guidance, resources, and support tailored to the unique circumstances and challenges faced by developing nations. The goal is to ensure a meaningful and impactful implementation of the Agreement's provisions. (United Nations, 2023)

Moreover, fostering inclusive, equitable, and effective cooperation and participation in the activities conducted under the Agreement is of the utmost importance. This emphasis on inclusivity ensures that diverse perspectives and contributions are considered, creating a cooperative environment that enhances the overall effectiveness of the Agreement's initiatives. The aim is to promote collaborative efforts that reflect a shared commitment to the conservation and sustainable use of marine biological diversity.

Another crucial goal is the development of marine scientific and technological capacity, particularly in research, among Parties, with a specific focus on developing States Parties. This objective underscores the importance of enhancing capabilities in marine scientific endeavors, facilitating research initiatives that contribute to the conservation and sustainable use of marine biological diversity. It also involves providing access to marine technology for developing States Parties and fostering the transfer of such technology to facilitate their active participation.

This section also centers on the increased dissemination and sharing of knowledge related to the conservation and sustainable use of marine biological diversity beyond national jurisdiction. This involves creating platforms for the exchange of information, research findings, and best practices among Parties. By promoting the collective understanding of marine ecosystems, this

objective contributes to informed decision-making and enhances the overall effectiveness of conservation efforts.

The final objective is a targeted effort to support developing States Parties, including the least developed countries, landlocked developing countries, geographically disadvantaged States, small island developing States, coastal African States, archipelagic States, and developing middle-income countries. This support is specifically directed towards capacity-building and the development and transfer of marine technology under the Agreement. It aims to empower these nations to achieve the objectives outlined in the Agreement, focusing on key areas such as marine genetic resources, area-based management tools, including marine protected areas, and environmental impact assessments. The objective is to address specific challenges faced by these nations and promote their active and meaningful participation in the Agreement's initiatives.

Modalities for capacity-building and the transfer of marine technology

Parties, in accordance with their capabilities, are mandated to facilitate capacity-building for developing States Parties and collaborate in achieving the transfer of marine technology. This emphasis is particularly directed towards developing States Parties that express a need for such assistance, with due consideration to the unique circumstances of small island developing States and least developed countries. These efforts should align with the stipulations of this Agreement. (United Nations, 2023)

Furthermore, they are obligated, within their respective capabilities, to allocate resources supporting capacity-building initiatives and the development and transfer of marine technology. This includes facilitating access to additional sources of support, all while accounting for their national policies, priorities, plans, and programs. (European Commission, 2023)

Capacity-building and the transfer of marine technology are envisioned as processes characterized by being country-driven, transparent, effective, and iterative. They should be participatory, cross-cutting, and gender-responsive, drawing upon existing programs where appropriate, without unnecessary duplication. These efforts are expected to benefit from lessons learned, including insights from similar activities under relevant legal instruments and frameworks, as well as relevant global, regional, subregional, and sectoral bodies. A concerted effort should be made to align with and maximize the efficiency and results of these existing activities.

The foundation for capacity-building and the transfer of marine technology lies in responsiveness to the identified needs and priorities of developing States Parties. This approach should take into account the distinctive circumstances of small island developing States and least developed countries. The identification of these needs and priorities is to be conducted through individual case-by-case, sub-regional, or regional needs assessments. The capacity-building and transfer of marine technology committee and the clearing-house mechanism play instrumental roles in facilitating and overseeing these self-assessments and prioritization processes. (European Commission, 2023)

Additional modalities for the transfer of marine technology

Parties collectively uphold a shared, long-term vision recognizing the paramount importance of fully realizing technology development and transfer. This vision is seen as essential for fostering inclusive, equitable, and effective cooperation and participation in the activities governed by this Agreement, ultimately working towards the complete achievement of its objectives. (United Nations, 2023)

The transfer of marine technology, a pivotal aspect of this Agreement, is committed to occurring on terms that are fair and most favorable. This includes provisions for concessional and preferential terms, all of which must align with mutually agreed terms and conditions and, crucially, the overarching objectives of this Agreement.

Parties are dedicated to promoting and encouraging the creation of economic and legal conditions conducive to the transfer of marine technology to developing States Parties. This commitment involves considerations for the unique circumstances of small island developing States and least developed countries. Incentives to enterprises and institutions play a role in achieving this goal.

In ensuring the transfer of marine technology, Parties commit to a comprehensive approach that respects all rights associated with such technologies. This includes the rights and duties of holders, suppliers, and recipients of marine technology. Particular emphasis is placed on accommodating the interests and needs of developing States, with due regard for the objectives of this Agreement.

Marine technology transferred in accordance with this section is expected to meet specific criteria. It should be appropriate, relevant, and, to the greatest extent possible, reliable, affordable, up-to-date, and environmentally sound. Additionally, it should be made available in

an accessible form for developing States Parties, recognizing the unique circumstances of small island developing States and least developed countries. (European Commission, 2023)

4 EVALUATION OF THE HIGH SEAS TREATY

Historically, the dialogue surrounding an Agreement on conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction has focused on the agreement's environmental and conservation-related impacts. The High Seas Treaty represents a significant step toward protecting marine biodiversity beyond national jurisdictions.

While the High Seas Treaty is designed to address many deficiencies in the existing legal framework for protecting marine biodiversity in Areas Beyond National Jurisdiction (ABNJ), in this chapter we will focus on its benefits as well as possible limitations and deficiencies. Below table presents the key deficiencies in the existing legal framework and an assessment of how well the High Seas Treaty addresses them, as well as areas where it may fall short.

Table 7 Legal framework issues and High Seas Treaty response

Issue	Existing Legal framework	High Seas Treaty Response
Fragmented Governance	The governance of ABNJ is divided among various international organizations and treaties, leading to inconsistent and overlapping regulations	The treaty aims to create a more cohesive framework by coordinating efforts among existing bodies and establishing new institutional mechanisms. <i>However, achieving seamless integration and cooperation between numerous entities remains challenging.</i>
Lack of Comprehensive Management	There is no single comprehensive management system for all activities in ABNJ, such as fishing, shipping, and deep-sea mining.	The treaty introduces measures like Marine Protected Areas (MPAs) and Environmental Impact Assessments (EIAs), which offer a more holistic approach. <i>However, the treaty's effectiveness will depend on how well these measures are implemented and enforced in</i>

practice. (High Seas Alliance, 2023)

Weak Enforcement and Compliance	Enforcement of regulations in ABNJ is difficult due to the vastness of these areas and the lack of a centralized enforcement body	The treaty proposes new compliance mechanisms, <i>but the enforcement will still rely heavily on state cooperation and existing international institutions, which may lack the resources or political will to enforce rules effectively. (Jameel, 2023)</i>
Insufficient Protection of Marine Genetic Resources (MGRs)	Existing frameworks do not adequately regulate access to and benefit-sharing of MGRs	The treaty includes provisions for the equitable sharing of benefits from MGRs. <i>However, the specifics of how this will be operationalized and enforced are still under development, and challenges in ensuring fair and equitable benefit-sharing remain. (Jameel, 2023)</i>
Climate Change and Ocean Acidification	Current legal frameworks do not sufficiently address the impacts of climate change and ocean acidification on marine biodiversity	While the treaty acknowledges these issues, it largely relies on states to implement measures. <i>The treaty's effectiveness in addressing climate change impacts will depend on the global community's broader climate actions, which are outside the treaty's direct control</i>

Scientific and
Technological
Capacity

There is a disparity in the scientific and technological capacity of different countries to study and manage ABNJ.

While the treaty acknowledges these issues, it largely relies on states to implement measures. The treaty promotes capacity-building and technology transfer, especially for developing countries. *However, the extent and effectiveness of these efforts will depend on the availability of resources and the willingness of developed countries to assist. (High Seas Alliance, 2023)*

Special emphasis should be paid in the following areas:

- a. **Complex Dynamics:** Understanding ocean life requires coordinated global monitoring. The Global Ocean Observing System (GOOS) plays a critical role in supporting this endeavor. (Unesco, 2023)
- b. **Funding and Resources:** Adequate funding and resources will be crucial for the treaty's success. There is a risk that insufficient financial and technical support could hinder the establishment of MPAs, the conduct of EIAs, and capacity-building efforts.

However according to a studies, the BBNJ treaty brings multidimensional benefits in diplomatic, economic, and social interests of States, as presented further below. (Santos, et al., 2022)

Diplomatic Benefits

Global Collaboration & Cooperation	Conflict Resolution	Strengthened Multilateral Relations	Legal Framework
• Enhance global governance of the high seas and promotes unity among nations to address common challenges. • Foster International cooperation among nations, promoting a unified approach to marine conservation and resource management beyond national jurisdictions.	• By establishing clear guidelines and principles, the Treaty helps to mitigate disputes over marine resources and activities, fostering peace and stability in international waters.	• The Treaty enhances diplomatic relations through joint efforts in marine conservation, building trust and cooperation among participating countries.	• By complementing the UNCLOS, the treaty strengthens international maritime law, providing clear guidelines for activities in international waters and ensuring that nations adhere to shared principles.

Economic Benefits

Sustainable Resource Management	Capacity Building and Technology Transfer	Innovation and Biotechnology:	Equitable Benefit-Sharing
• The treaty's emphasis on marine protected areas and the sustainable use of marine genetic resources can lead to long-term economic benefits by preserving fish stocks and other marine resources that are vital for food security and livelihoods.	• The treaty includes provisions for capacity building and the transfer of marine technology to developing nations. This is crucial for enhancing the capabilities of these countries to manage their marine resources effectively and sustainably, fostering scientific research and innovation in marine biodiversity	• Regulating access to marine genetic resources can stimulate research and development and can spur innovation in biotechnology, pharmaceuticals, and other industries, driving economic growth from new products and economic opportunities.	• By ensuring fair and equitable sharing of benefits derived from marine genetic resources, the treaty promotes economic equity and reduces the disparity between developed and developing nations which could lead to significant economic gains and support for sustainable development.

Social Benefits

Environmental Protection and Health	Cultural and Traditional Knowledge	Education and Awareness
• The treaty aims to protect at least 30% of the ocean by 2030 through the establishment of Marine Protected Areas (MPAs). This protection is expected to help preserve marine biodiversity and enhance fish stocks, which can contribute to the sustainability of global fisheries, a critical food source for the well-being of millions of people and the global population by ensuring clean water and air.	• The Treaty recognizes and incorporates the knowledge of indigenous peoples and local communities, for a long-term preservation of cultural heritage and sustainable use of marine resources based on traditional practices.	• The Treaty promotes global awareness and education on marine conservation issues, fostering a sense of shared responsibility and stewardship for the oceans among citizens worldwide.

Last but not least BBNJ treaty offers numerous ecological benefits as outlined below:

Establishment of Marine Protected Areas (MPAs)	Protection of Marine Genetic Resources	Environmental Impact Assessments (EIAs)
• The creation of MPAs helps protect diverse marine ecosystems and species from overexploitation, habitat destruction, and other human activities. By safeguarding critical habitats, MPAs promote the recovery of endangered species and the preservation of genetic diversity and contribute to the maintenance and enhancement of ecosystem services such as nutrient cycling, water purification, and carbon sequestration. These services are vital for the health of the planet and human well-being.	• By regulating access to and the use of marine genetic resources, the treaty ensures that genetic diversity is maintained, which is essential for the resilience and adaptability of marine species to environmental changes and stresses. The treaty also promotes the fair and equitable sharing of benefits arising from the use of marine genetic resources. This not only supports conservation efforts but also fosters international cooperation and equity.	• The treaty mandates rigorous environmental impact assessments for activities proposed in the high seas. This helps in identifying and mitigating potential environmental damages from economic activities such as mining, fishing, and bioprospecting thus ensuring that they are conducted sustainably, minimizing their impact on marine ecosystems and thereby preventing biodiversity loss promoting long-term and ecosystem degradation.

Ecosystem-Based Management	Climate Change Mitigation and Adaptation
•The treaty advocates for a holistic ecosystem-based approach to ocean management, which considers the complex interrelationships within marine ecosystems. This approach aims to maintain ecosystem integrity and function, promoting resilience and recovery by integrating various conservation strategies, such as habitat protection, species conservation, and sustainable use of resources, etc.	•Marine ecosystems, particularly coastal and deep-sea environments, play a significant role in carbon sequestration. •Protecting marine biodiversity and ecosystems helps build resilience against the impacts of climate change, ensuring that marine and coastal environments can adapt to changing conditions and continue to provide essential services.

Overall, the High Seas Treaty is seen as a strategic investment in the planet's future, aiming to secure long-term diplomatic, economic, environmental, and social returns through enhanced protection and sustainable management of the high seas. The initial costs associated with implementing the treaty are expected to be outweighed by the substantial benefits accrued from healthier marine ecosystems and more equitable distribution of resources.

4.1 ESTIMATE OF GLOBAL NET BENEFIT FROM IMPLEMENTING SUSTAINABLE, OCEAN-BASED INTERVENTIONS

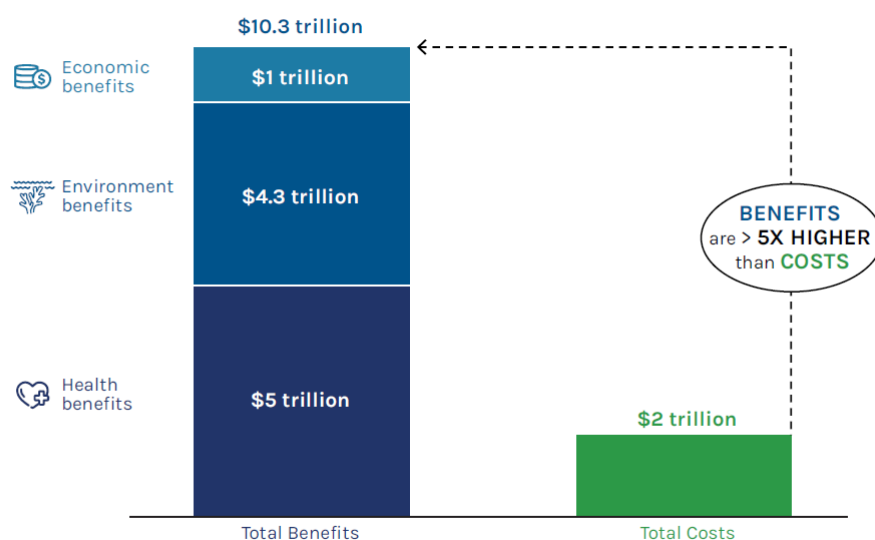
As indicated earlier, taking action to protect these ocean-based ecosystems and ensuring the environmental sustainability of ocean-based activities will produce health, environmental and ecological, and economic and social benefits to people and the planet, the key question for policymakers and funding agencies is what would be in financial terms the expected benefits compared to the cost for implementing them. While specific studies quantifying the benefits of the BBNJ Treaty are limited, some modeling studies have simulated the potential beneficial impacts of implementing sustainable, ocean-based interventions. For example the Secretariat at World Resources Institute was commissioned to develop a benefit-cost analysis to the High Level Panel for a Sustainable Ocean Economy (Ocean Panel)¹³. This analysis is the first-ever

¹³ The Ocean Panel is the only ocean policy body made up of serving world leaders with the authority needed to trigger, amplify and accelerate action worldwide for ocean priorities. It's comprising members are Australia, Canada, Chile, Fiji, Ghana, Indonesia, Jamaica, Japan, Kenya, Mexico, Namibia, Norway, Palau and Portugal and is supported by the UN Secretary-General's Special Envoy for the Ocean. Its co-chaired by Norway and Palau and has been working with governments, business and financial institutions, the science community and the civil society to develop an action agenda for transitioning to sustainable ocean economy. The Ocean Panel gathers

attempt to estimate the global net benefit and the benefit-cost ratio over a 30-year time horizon (2020–50) across one coastal ecosystem, mangroves, and the ocean-based sectors involved with offshore wind energy, international shipping and ocean-based protein from capture fisheries and mariculture. Even though this analysis does not look at the impacts of reducing marine pollution, or of expanding the network of marine protected areas which are interlinked with the High Seas treaty it impressively demonstrates over the published key findings that:

- Over 30 years, investing US\$2.0- US \$3.7 trillion globally across the four areas would generate a net benefit of US\$8.2- US \$22.8 trillion (average \$15.5 trillion), implying a rate of ROI of 400–615%.
- The overall rate of return on investment (ROI) can be very high, with sustainable ocean-based investments yield benefits at least five times greater than the costs as shown in below graph.

Figure ES-2. Sustainable Ocean Investments Yield Benefits at Least 5x Higher than Costs



Note: The total benefits and costs in the figure present the lower-bound present value estimates to demonstrate the minimum scale of quantified net benefits.

Table 8 Sustainable ocean-based investments estimated benefits

4.2 ECONOMIC BENEFITS FROM THE IMPLEMENTATION OF EXTENDED MARINE PROTECTED AREAS (MPAS)

Quantitative studies on economic benefits from the implementation of extended Marine Protected Areas (MPAs) often focus on the increased revenue from tourism, enhanced fisheries, and ecosystem service however they highlight several benefits. For example, in a study related

input for a wide array of stakeholders including an Expert Group and an Advisory Network. The Secretariat based at World Resources Institute, assist with analytical work, communication and stakeholders' engagement.

in investing in community based MPAs (appraisal has been made in 10 MPAs), the conclusion highlights among other that from such an investment:

1. The MPAs have been shown to generate benefits mainly improving the nature tourism attractiveness and maintaining the coastal protection as well as fishery productivity.
2. The observed costs of community based MPA are comprised between \$US 1 500 yr-1.km-2 and \$US 10 200 yr-1.km-2 of protected area. The economic effects of MPAs have been estimated between US\$ 110 000 yr-1.km-2 and \$US 530 000 yr-1.km-2 of protected area.
3. The positive B-C ratios for all the studied MPAs demonstrate that investments in marine reserves, in addition to avoiding the risk of overfishing and participate in the conservation of coral reefs, are an effective means to contribute to local economic development. The ecological effects on fish populations and habitats in the MPA have produced concrete and tangible benefits both for the villages with MPA and the surroundings villages.
4. The level of B-C ratios reflects a significant leverage of relatively reduced levels of investments in MPAs for important impacts on tourism benefits and costal protection values.
5. Based upon our projections, the tourism benefits can represent almost 6 to 60 times the fisheries benefits, reflecting the potential of development for tourism when sustainable. In the projected timeline, the fisheries benefits quickly reach their maximum value whereas the tourism development has a larger potential due to the non-consumptive nature of the ecosystem services benefits. (Pascal & Seidl, 2013)

Summarizing, while detailed ROI analyses specific to MPAs might be less common, broader economic studies indicate that the benefits of well-managed MPAs often outweigh the costs. The implementation of extended MPAs provides significant economic returns through increased tourism revenue, enhanced fishery yields, and valuable ecosystem services, making them a wise investment for both environmental and economic sustainability.

5 CONCLUSION

5.1 RECAP

The biodiversity conservation measures of the Treaty aim to avoid harm to marine life and enhance its ability to withstand damage that cannot be avoided. The enforcement of a comprehensive treaty regulating actions on the high seas is anticipated to provide numerous advantages for both individual nations and the entire world. Benefits can differ based on the treaty's content and provisions, but here are anticipated benefits:

1. The high seas treaty can help promote the **sustainable management and conservation of marine resources**, including fish stocks. This can prevent overfishing and ensure that these resources continue to be available for present and future generations.
2. With many unique and ecologically important species and habitats found on the high seas, enforcing the high seas treaty can help protect and **conserve biodiversity** by establishing marine protected areas and regulating activities that may harm marine ecosystems.
3. The treaty can tackle environmental concerns like marine pollution, such as oil spills and plastic waste. It can establish overarching **environmental protection** standards and regulations furthering the existing pollution prevention focused ones.
4. An enforced high seas treaty shall enable international cooperation in **scientific research** in the high seas, leading to improved comprehension of ocean ecosystems, climate change, and other important environmental concerns.
5. Effective governance of the high seas can contribute to **improved maritime security** by deterring illegal activities such as piracy, illegal fishing, and drug trafficking. It can also provide a framework for cooperation in search and rescue operations.
6. The treaty can provide **legal clarity** and certainty regarding the rights and responsibilities of nations on the high seas, helping to resolve disputes and prevent conflicts.
7. Improved management of high seas resources can lead to **economic benefits** for coastal states and the global fishing industry. Sustainable management can ensure a stable and long-term source of income.
8. The oceans play a vital role in **regulating the Earth's climate**. The treaty can assist in dealing with concerns regarding the safeguarding and maintenance of high seas ecosystems that play a role in storing carbon and controlling ocean temperatures.

9. Collaboration among nations is essential for negotiating and enforcing a high seas treaty, **promoting diplomacy and international cooperation**, which results in improved global governance and peaceful relations..
10. The treaty is versatile in order to **address new challenges**, such as regulating emerging industries like deep-sea mining, to guarantee their environmentally responsible and sustainable operation.

It's important to note that the benefits of a high seas treaty are contingent on its effective enforcement and compliance by the nations involved. The success of such a treaty will depend on the commitment of nations to uphold its provisions and cooperate in its implementation. Therefore bold international support is urgently needed to support the BBNJ agreement through its final stages for ratification.

5.2 CONCLUSIONS

The BBNJ Agreement, also called the High Seas Treaty, once ratified and in force shall “*will be a landmark achievement in the development of the international ocean governance framework and promises to advance implementation of the UNCLOS provisions on the conservation and sustainable use of marine biodiversity beyond national jurisdiction*”. (Gjerde, et al., 2022). The treaty shall lead important institutional changes such as:

1. The establishment of marine protected areas on the high seas with an aim to safeguard critical habitats and ecosystems from harmful activities, helping to preserve biodiversity and allow ecosystems to recover from damage.
2. Mandatory comprehensive environmental impact assessments for activities with the potential of having significantly impact to marine biodiversity ensuring that environmental consequences of such activities are considered and mitigated before they proceed.
3. Equitable sharing of benefits derived from marine genetic resources found in the high seas are shared among all countries. This promotes fair distribution of resources and benefits, fostering global cooperation and investment in marine biodiversity research.
4. Capacity Building and Technology Transfer to support States and especially developing countries in the implementation of the High Seas treaty. This includes training, sharing scientific knowledge, and providing technical assistance, which helps these countries participate more effectively in marine biodiversity conservation efforts.

5. Enhanced international cooperation and governance by creating a framework for countries to work together on the conservation and sustainable use of high seas biodiversity. It establishes a conference of parties (COP) to oversee the implementation and compliance with the treaty, fostering coordinated global efforts.
6. The establishment of mechanisms for monitoring, reporting, and ensuring compliance with the provisions of the treaty. This helps in tracking progress, identifying challenges, and ensuring that countries adhere to their commitments under the treaty.
7. Support and promotion of scientific research on marine biodiversity, encouraging the collection and sharing of data to better understand and manage marine ecosystems. This scientific foundation is crucial for informed decision-making and effective conservation strategies.

While not perfect, the High Seas Treaty when formally implemented as international law is expected to have a substantial impacts on global marine biodiversity conservation and is “*a vital step towards reversing destructive trends facing the ocean and restoring ocean health*”. As the first comprehensive, cross-sectoral ocean treaty in decades has the potential to lead to more integrated, holistic approaches to the management of ocean activities. (United Nations, n.d.)

The new treaty has the potential for widespread and diverse diplomatic, economic, ecological and social benefits for all member nations as expressed in Chapter 5. What is needed now is the bold international support to push through the final stages of BBNJ agreement ratification without due delay so its benefits can be evident and fully appreciated by all ocean life and nations around the globe.

6 BIBLIOGRAPHY

Books

Ardrón, J. A. & Warner, R., 2015. International marine governance and protection of biodiversity. In: H. Smith, J. Suárez de Vivero & T. S. Agardy, eds. *Routledge Handbook of Ocean Resources and Management*. New York: Routledge, pp. 55-57.

Bähr, U., et al., 2017. *Ocean Atlas - Facts and Figures on the Threats to Our Marine Ecosystems*. 1st edition, May ed. Bonifatius GmbH Druck – Buch – Verlag: Paderborn.

Banet, C. (Ed., 2020. The Law of the Seabed: Access, Use and Protection of Seabed Resources. In: C. Banet, ed. Boston: Brill Nijhoff, p. 364.

Hillier, T., 1998. *Sourcebook on Public International Law*. London: Cavendish Publishing Limited.

Kariuki, M., 2023. *Nurturing Our Environment for A Green Tomorrow*. Nairobi, Kenya: Glenwood Publishers Limited.

Project, Law of the Sea and Maritime Boundary Advice, 2011. *Australia's Maritime Jurisdiction: Teacher Notes*. Record 2011/24 ed. Canberra: Geoscience Australia.

Solomon, M. & Marcus, T., 2018. Handbook on Marine Environment Protection: Science, Impacts, and Sustainable Management. In: Cham: Springer, p. 1024.

Tanaka, Y., 2012. *The International Law of the Sea*. Cambridge, UK: Cambridge University Press.

Journal Article & Articles in Periodicals

Beardall, J. & Slobadanka, S., 2006. Microalgae under Global Environmental Change: Implications for Growth and Productivity, Populations and Trophic Flow,. *Science Asia*.

Bopp, L. et al., 2013. Multiple stressors of ocean ecosystems in the 21st century: Projections with CMIP5 models. *Biogeosciences*, 02 10, 10(10), pp. 6225-6245.

Druel, E. & Gjerde, K., 2013. Sustaining marine life beyond boundaries: Options for an implementing agreement for marine biodiversity beyond national jurisdiction under the United Nations Convention of the Law of the Sea. *Marine Policy*, 49(ISSN 0308-597X), pp. 90-97

Gjerde, K., Harden-Davis, H., Reeve, L. & Ardron, J., 2016. Protecting Earth's last conservation frontier: scientific, management and legal priorities for MPAs beyond national boundaries. *Aquatic Conservation Marine and Freshwater Ecosystems*, 09, Volume 26, pp. 45-60.

Gjerde, K. M. et al., 2022. Getting beyond yes: fast-tracking implementation of the United Nations agreement for marine biodiversity beyond national jurisdiction. *npj Ocean Sustain*, 09 11.

Mora, C. et al., 2011. How Many Species Are There on Earth and in the Ocean?. *PLoS Biology*, 23 08.9(8: e1001127).

Payne, C. R., 2023. The New High Seas Biodiversity Treaty offers Conservation, Equity and Regulaory Certainty. *Americal Society of International Law Insights*, 27(6).

Santos, B. S. et al., 2022. The diverse benefits of biodiversity conservation in global ocean areas beyond national jurisdiction. *Frontiers in Marine Science*, Volume 9.

Wagenaar, T., 2022. A principled approach for BBNJ: An idea whose time has come. *The Author. Review of European, Comparative & International Environmental Law published by Wiley Periodicals LLC*, 31(3), pp. 399-410.

Reports

Druel, Elisabeth;, 2013. *Environmental impact assessments in areas beyond national jurisdiction, Studies N°01/13*, Paris, France: Institut du développement durable et des relations internationales (IDDRI), .

Food and Agriculture Organization of the United Nations (FAO), 2020. *Paper 651: Regional fisheries Management organisations and advisory bodies, Activities and Developments 2000-2017*, Rome: FAO.

Food and Agriculture Organisation of UN (FAO), 2020. *Regional Fisheries managemen organisations and advisory bodies, Activities and developments, 2000-2017*, Rome: Food and Agriculture Organisation of UN (FAO).

Gjerde, K. M. et al., 2008. *Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction*. IUCN, Gland, Switzerland. x + 70, Gland, Switzerland: IUCN.

IOC & UNESCO, 2017. *United Nations - Report of the Intergovernmental Oceanographic Commission (IOC) of Unesco to BBNJ PrepCom-4 (29th Session of the IOC Assembly)*, Paris: United Nations.

Kachelriess, D., 2023. *The High Seas Biodiversity Treaty: An Introduction to the 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*, s.l.: IUCN.

Løbach, T., Petersson, M., Haberkon, E. & Mannini, P., 2020. *Regional fisheries management organizations and advisory bodies. Activities and developments, 2000–2017*, *FAO Fisheries and Aquaculture Technical Paper No. 651.*, Rome: FAO.

OECD, 2017. *Marine Protected Areas: Economics, Management and Effective Policy Mixes*, *OECD*, Paris: OECD Publishing.

Pascal, N. & Seidl, A., 2013. *Economic benefits of Marine Protected Areas: case studies in Vanuatu and Fiji, South Pacific*, s.l.: International Union for Conservation of Nature (IUCN) and Agence française de Développement (AFD) Research report, IRCP (EPHE/CNRS) 261 pp.

Ringbom, H. & Henriksen, T., 2017. *Governance Challenges, Gaps and Management Opportunities in Areas Beyond National Jurisdiction*, Washington, D.C.: Global Environment Facility – Scientific and Technical Advisory Panel (STAP).

United Nations General Assembly (UNGA), 2000. *REPORT OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT (Rio de Janeiro 3-14 June 1992)*. Rio de Janeiro, United Nations Department of Economic and Social Affairs (DESA).

Websites & Documents in Websites

Biodiversity A-Z, 2020. *Marine Protected Area (MPA)*. [Online]

Available at: <https://www.biodiversitya-z.org/content/marine-protected-area-mpa>

[Accessed 03 04 2024].

CITES, n.d. *What is CITES?*. [Online]

Available at: <https://cites.org/eng/disc/what.php>

[Accessed 20 03 2024].

Convention of Biological Diversity, n.d. *About the Convention - Introduction*. [Online]

Available at: <https://www.cbd.int/intro>

[Accessed 23 05 2024].

Convention of the Concervation of Migratory Species of Wild Animals (CMS), n.d. *CMS*. [Online]

Available at: <https://www.cms.int/en/legalinstrument/cms>

[Accessed 20 03 2024].

Convention on Biological Diversity (CBD), 2023. *What is an NBSAP? CBD*. [Online]

Available at: <https://www.cbd.int/nbsap/introduction.shtml>

[Accessed 20 02 2024].

European Commission, 2023. *COUNCIL DECISION on the signing, on behalf of the European Union, of the 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*. [Online]

Available at:

https://www.parlament.gv.at/dokument/XXVII/EU/147462/imfname_11267390.pdf

[Accessed 30 05 2024].

Food and Agriculture Organization of the United Nations (FAO), 2015. *Code of Conduct for Responsible Fisheries*. [Online]

Available at: <https://www.fao.org/3/v9878e/V9878E.pdf>

[Accessed 14 02 2024].

Food and Agriculture Organization of the United Nations (FAO), n.d. *Compliance Agreement*. [Online]

Available at: <https://www.fao.org/iuu-fishing/international-framework/fao-compliance->

[agreement/en/](#)

[Accessed 14 02 2023].

Food and Agriculture Organization of the United Nations, 2024. *About FAO*. [Online]

Available at: <https://www.fao.org/about/about-fao/en/>

[Accessed 20 06 2024].

GARD P&I, 2023. *News & Insights: A brief introduction to the High Seas Treaty*. [Online]

Available at: <https://gard.no/articles/brief-introduction-to-high-seas-treaty/>

[Accessed 15 04 2024].

Global Environmental Facility (GEF), 2016. *Governance Challenges, Gaps and Management (GEF/STAP/C.51/Inf.02)*. [Online]

Available at: https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.STAP_C.51.Inf_02_Governance_Report.pdf

[Accessed 03 04 2024].

Greiber, T., n.d. “*Paper X, Existing Regulatory, Institutional and General Governance Gaps*”, *International Union for Conservation of Nature and Natural Resources (IUCN)*. [Online]

Available at: https://iucn.org/sites/default/files/2022-09/paper_x_existing_regulatory_institutional_and_governance_gaps.pdf

[Accessed 10 04 2024].

Hart, S. (IUCN);, 2008. *Elements of a Possible Implementation Agreement to UNCLOS for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction*, IUCN. [Online]

Available at: <https://portals.iucn.org/library/sites/library/files/documents/EPLP-MS-4.pdf>

[Accessed 02 04 2024].

International Maritime Organization (IMO), n.d. *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*. [Online]

Available at: <https://www.imo.org/en/OurWork/Environment/Pages/London-Convention-Protocol.aspx>

[Accessed 07 03 2024].

International Maritime Organization (IMO), n.d. *List of IMO Conventions*. [Online]
Available at: <https://www.imo.org/en/About/Conventions/Pages/ListOfConventions.aspx>
[Accessed 07 03 2024].

International Maritime Organization (IMO), n.d. *Introduction to IMO*. [Online]
Available at: <https://www.imo.org/en/About/Pages/Default.aspx>
[Accessed 24 03 2024].

International Maritime Organisation (IMO), n.d. *Special Areas under MARPOL*. [Online]
Available at: <https://www.imo.org/en/OurWork/Environment/Pages/Special-Areas-Marpol.aspx>
[Accessed 10 10 2024].

International Tribunal for the Law of the sea, n.d. *UNCLOS*. [Online]
Available at: <https://www.itlos.org/en/main/the-tribunal/unclos/>
[Accessed 22 02 2024].

Jameel, F., 2023. *Linkedin*. [Online]
Available at: <https://www.linkedin.com/pulse/adventures-high-seas-193-nation-deal-save-our-oceans-fady-jameel-egcwf/>
[Accessed 19 04 2024].

Lodge, M., 2017. *The International Seabed Authority and Deep Seabed Mining, Nos. 1 & 2 Volume LIV, Our Ocean, Our World*, UN Chronicle. [Online]
Available at: <https://www.un.org/en/chronicle/article/international-seabed-authority-and-deep-seabed-mining>
[Accessed 20 03 2024].

Marine Conservation Institute, 2024. *The Marine Protection Atlas*. [Online]
Available at: <https://mpatlas.org/>
[Accessed 18 04 2024].

Marine Conservation Institute, n.d. *Protecting the High Seas*. [Online]
Available at: <https://marine-conservation.org/high-seas/>
[Accessed 19 04 2024].

National Geographic, n.d. *The Importance of Marine Protected Areas (MPAs)*. [Online]
Available at: <https://education.nationalgeographic.org/resource/importance-marine-protected->

areas/

[Accessed 02 04 2024].

NOAA Ocean Exploration, n.d. *What is the “EEZ”?*. [Online]

Available at: <https://oceanexplorer.noaa.gov/facts/useez.html#>

[Accessed 27 05 2024].

Oregon State University, UCN World Commission on Protected Areas - Marine, Marine Conservation Institute, National Geographic Pristine Seas, and UN Environment Programme World Conservation Monitoring Centre, 2023. *The MPA Guide User Manual, version 1*.

[Online]

Available at: [//mpa-guide.protectedplanet.net/](https://mpa-guide.protectedplanet.net/)

[Accessed 03 04 2024].

OSPAR Commission, n.d. *Marine Protected Areas*. [Online]

Available at: <https://www.ospar.org/work-areas/bdc/marine-protected-areas>

[Accessed 25 06 2024].

Pretlove , B. & Blasiak , R., 2018. *Mapping Ocean Governance and Regulation: Working Paper For Consultation For Un Global Compact Action Platform For Sustainable Ocean Business, DNV-GL*. [Online]

Available at: <https://www.dnv.com/research/ocean-space/mapping-ocean-governance-and-regulation.html>

[Accessed 14 02 2024].

Protected Planet, n.d. *Marine Protected Areas*. [Online]

Available at: <https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas>

[Accessed 20 03 2024].

Protected Planet, n.d. *The MPA Guide*. [Online]

Available at: <https://mpa-guide.protectedplanet.net/explore/outcomes>

[Accessed 20 03 2024].

Santosh, G., 2024. *Ocean Economy on the Brink: Urgent Action Needed to Protect and Sustain*, LinkedIn. [Online]

Available at: <https://www.linkedin.com/pulse/ocean-economy-brink-urgent-action-needed->

[protect-sustain-santosh-g-okhzc/](#)

[Accessed 14 04 2024].

The International Seabed Authority (ISA), n.d. *The Mining Code*. [Online]

Available at: <https://www.isa.org.jm/the-mining-code/>

[Accessed 20 02 2024].

The International Whaling Commission (IWC), n.d. *About the Commission*. [Online]

Available at: <https://iwc.int/en/>

[Accessed 20 02 2024].

The International Whaling Commission, 1946. *IWC Key Documents: International Convention for the regulation of Whaling, 1946*. [Online]

Available at: <https://archive.iwc.int/pages/view.php?ref=3607&k=>

[Accessed 27 05 2024].

The Pew Charitable Trusts (Pew), 2012. *FAQ: What is a Regional Fishery Management Organization?*. [Online]

Available at: <https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2012/02/23/faq-what-is-a-regional-fishery-management-organization>

[Accessed 10 03 2024].

The Pew Charitable Trusts (Pew), 2020. *A Path to Creating the First Generation of High Seas Protected Areas*. [Online]

Available at: <https://www.pewtrusts.org/en/research-and-analysis/reports/2020/03/a-path-to-creating-the-first-generation-of-high-seas-protected-areas>

[Accessed 19 04 2024].

The Pew Charitable Trusts (PEW), 2016. *Mapping Governance Gaps on the High Seas*. [Online]

Available at: https://www.pewtrusts.org/-/media/assets/2017/04/highseas_mapping_governance_gaps_on_the_high_seas.pdf

[Accessed 19 04 2024].

Umwelt Bundesamt, 2023. *Deep-sea mining*. [Online]

Available at: <https://www.umweltbundesamt.de/en/topics/water/seas/deep-sea->

mining#undefined

[Accessed 20 03 2024].

UN Environmental Program (UNEP), 2018. *Joint Regional Vision On Innovative Solutions To Pollution, Annex 1 - Fragmented Ocean Governance: Positioning UN Environment within the Ecosystem of Ocean Management Arrangements. The Ecosystem of Ocean Governance.*

[Online]

Available at: <https://wedocs.unep.org/bitstream/handle/20.500.11822/27112/Annex%201%20-%20ocean%20governance%20and%20comparative%20competencies.pdf?sequence=5&isAllowed=y>

[Accessed 14 02 2024].

Unesco, 2023. *With the “High Seas Treaty” on biodiversity signed, what do we need to do next?*. [Online]

Available at: <https://www.unesco.org/en/articles/high-seas-treaty-biodiversity-signed-what-do-we-need-do-next>

[Accessed 20 05 2024].

United Nations (UN), n.d. *Part VII High Seas*. [Online]

Available at: https://www.un.org/depts/los/convention_agreements/texts/unclos/part7.htm

[Accessed 27 05 2024].

United Nations Environment Programme (UNEP), 2017. *Regional Seas programmes covering Areas Beyond National Jurisdictions*. [Online]

Available at:

https://www.un.org/Depts/los/biodiversityworkinggroup/Regional_seas_programmes_ABNJ.pdf

[Accessed 20 03 2024].

United Nations Environment Programme (UNEP), n.d. *About the United Nations Environment Programme*. [Online]

Available at: <https://www.unep.org/who-we-are/about-us>

[Accessed 20 03 2024].

United Nations Environmental Programme (UNEP), n.d. *UNEP Regional Seas Programme*.

[Online]

Available at: <https://www.unep.org/topics/ocean-seas-and-coasts/regional-seas-programme>
[Accessed 23 05 2024].

United Nations General Assembly, 2012. *United Nations General Assembly, Resolution 66/288 of 27 July 2012*. [Online]

Available at:

https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_66_288.pdf

[Accessed 03 06 2024].

United Nations Oceans & Law of the Sea, 2024. *Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 Overview*. [Online]

Available at:

https://www.un.org/Depts/los/convention_agreements/convention_overview_part_xi.htm

[Accessed 30 06 2024].

United Nations, 1998. *The United Nations Convention on the Law of the Sea (A historical perspective), Originally prepared for the International Year of the Ocean*. [Online]

Available at:

https://www.un.org/depts/los/convention_agreements/convention_historical_perspective.htm

[Accessed 14 02 2024].

United Nations, 2023. *Agreement Under the United Nations Convention of the Law of the Sea on the Conservation and Sustainable use of Marine Biological Diversity of Areas Beyond National Jurisdiction*. [Online]

Available at: <https://www.un.org/depts/los/XXI10CTC%28EN%29.pdf>

[Accessed 15 04 2024].

United Nations, n.d. *Agreement on Marine Biodiversity of Areas beyond National Jurisdiction: About the agreement*. [Online]

Available at: <https://www.un.org/bbnjagreement/en/bbnj-agreement/about-agreement>

[Accessed 07 06 2024].

United Nations, n.d. *UNCLOS - Part XI, Section 2*. [Online]

Available at: https://www.un.org/depts/los/convention_agreements/texts/unclos/part11-2.htm#:~:text=The%20Area%20and%20its%20resources%20are%20the%20common%20heri

[tage%20of%20mankind.&text=1..person%20appropriate%20any%20part%20thereof.](#)

[Accessed 23 04 2024].

UNU EHS, 2023. *Expert Q&A: Unveiling the causes, impacts and solutions of ocean acidification*. [Online]

Available at: <https://unu.edu/ehs/news/expert-qa-unveiling-causes-impacts-and-solutions-ocean-acidification>

[Accessed 17 05 2024].

World Economic Forum, 2024. *Ocean*. [Online]

Available at:

<https://intelligence.weforum.org/topics/a1Gb0000000LGk6EAG?tab=publications>

[Accessed 16 04 2024].

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