Strengthening regional cooperation to support the implementation of Area-Based Management Tools including Marine Protected Areas for the conservation and sustainable use of marine biological diversity in the Southeast Asia region and the adjacent Areas Beyond National Jurisdiction

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Abstract

Over the course of the last 16 years, States have been negotiating an international legally binding instrument for the conservation and sustainable use of biological diversity in marine Areas Beyond National Jurisdiction (ABNJ). For the purposes of this thesis, this international legally binding instrument will be referred to as the 'BBNJ Agreement.' One of the central questions faced by negotiators of the BBNJ Agreement is how to foster and strengthen cooperation in respect to the implementation of Area-Based Management Tools (ABMTs) including Marine Protected Areas (MPAs) in ABNJ. This research aims to strengthen regional cooperation to support the implementation of ABMTs including MPAs for the conservation of marine biodiversity in the Southeast Asia (SEA) region and the adjacent ABNJ.

Marine areas in the SEA region and adjacent ABNJ (i.e. the Indian Ocean and Western Central Pacific Ocean) contain a rich array of biodiversity which provide essential ecosystem services for local communities. These areas are ecologically connected, interdependent and facing increasing anthropogenic threats from activities including, but not limited to, overfishing, marine plastic waste and pollution, and deep-seabed mining. In an effort to address such threats, SEA States have designated 229,534 km^2 of their territorial waters as MPAs and consistently participate in the work of global, sectoral, and regional organisations.

However, this thesis argues that regional organisations in the SEA region will encounter a number of challenges when it comes to the implementation of ABMTs including MPA measures under the BBNJ agreement. These challenges include a lack of mandate over certain activities, no competence in ABNJ and no overarching coordination mechanism between regional organisations. The inadequate technical and funding capacities of SEA States will also inevitably hinder implementation of ABMTs and MPA measures in ABNJ.

This thesis proposes a number of mechanisms to strengthen regional cooperation in the SEA region that would assist in the implementation of ABMTs including MPAs under the BBNJ agreement. These mechanisms include expanding the mandate of regional organisations and strengthening flag State responsibilities, advocating for BBNJ issues in other fora, establishing intra and inter regional coordination mechanisms, fostering cooperation with civil societies and intergovernmental bodies to build capacities, and building upon existing modalities to design a comprehensive network of MPAs and ABMTs within the SEA region and adjacent ABNJ.

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List of Acronyms

ABMT	Area-based Management Tools
ABNJ	Area Beyond National Jurisdiction
ACB	ASEAN Centre for Biodiversity
ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area
AEC	ASEAN Economic Community
AIS	Automatic Identification System
ALDFG	Abandoned, Lost or otherwise Discarded Fishing Gear
APEI	Area of Particular Environmental Interest
APSC	ASEAN Political-Security Community
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of South East Asian Nation
ATSEA	Arafura and Timor Sea Program Phase 2 Project
AWGCME	ASEAN Working Group on Coastal and Marine Environment
AWNJ	Marine Areas Within National Jurisdiction
BBNJ	Marine Biodiversity in Areas Beyond National Jurisdiction
BWM	International Convention for the Control and Management of Ships' Ballast Water and Sediments
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CBD	Convention on Biological Diversity
CBTMT	Capacity Building and the Transfer of Marine Technology
CCRF	Code of Conduct for Responsible Fisheries
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CCZ	Clarion-Clipperton Zone
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CHM	Clearing-House Mechanism
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COBSEA	Coordinating Body of East Asian Seas
COFI	Committee of Fisheries
COP	Conference of the Parties
COVID-19	Corona Virus Disease
CTMPAS	Coral Triangle Marine Protected Area System
DOALOS	Division for Ocean Affairs and the Law of the Sea
EBFM	Ecosystem-Based Fisheries Management
EBSA	Ecologically and Biologically Significant Marine Area
ECS	Extended Continental Shelf

EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessments
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organisation
FFA	The Pacific Islands Forum Fisheries Agency
G77	Group of 77
GFCM	General Fisheries Commission for the Mediterranean
GIS	Geographic Information System
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IFS	Introduction From the Sea
IGC	Intergovernmental Conference
ILBI	International Legally Binding Instrument
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
ISA	International Seabed Authority
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported and Unregulated
IWC	International Whaling Commission
MARPOL	International Convention for the Prevention of Pollution from Ships
MoU	Memorandum of Understanding
MPA	Marine Protected Area
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
NGO	Non-Governmental Organisation
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
PSSA	Particularly Sensitive Sea Areas
REMP	Regional Environmental Assessment and Management Plan
RFMO	Regional Fisheries Management Organisation
RPOA	Regional Plan of Action
RSP	Regional Seas Program
SEA	Southeast Asia
SEAFDEC	Southeast Asia Fisheries Development Centre
SEAFO	South East Atlantic Fisheries Organization
SIOFA	South Indian Ocean Fisheries Agreement

SPA	Specially Protected Area
SPAMI	Specially Protected Areas and Biological Diversity
STB	Scientific and Technical Body
TIHPA	Turtle Island Heritage Protected Area
UNCLOS	1982 United Nations Convention on the Law of the Sea
UNEP	United Environment Programme
UNFSA	1995 United Nations Fish Stocks Agreement
UNGA	United Nations General Assembly
UNICPOLOS	United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea
VME	Vulnerable Marine Ecosystems
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fisheries Commission

Table of Contents

List of Figures

List of Tables

Introduction

Background

The area beyond national jurisdiction and the threats

Marine areas beyond national jurisdiction (ABNJ)[1] cover about 60% of the world's ocean area.[2] These areas hold rich marine biodiversity that vary depending on depth, latitude, and oceanographic conditions[3] and they support human life on Earth by providing significant ecosystem services.[4] The water column of ABNJ to a depth of 200m is the habitat for significant ecosystems such as coral reefs and seaweeds, migratory species, as well as commercially important fish species.[5] The deep seabed environment with its unique and extreme conditions is estimated to host more species diversity than the water column.[6] These marine environments provide marine genetic resources which hold the potential to be useful for natural product applications such as pharmaceutical and health, cosmetic, sustainable energy, food, and bioremediation.[7]

Despite its importance, ABNJ face increasing threats caused by an intensification to exploit resources and new areas in order to sustain human needs which has been accelerated by the

[1] United Nations, *The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: The Technical Abstract of the First Global Integrated Marine Assessment* (2017) <https://www.un.org/depts/los/global_reporting/8th_adhoc_2017/Technical_Abstract_on_the_Conservation_and_Sustainable_Use_of_marine_Biological_Diversity_of_Areas_Beyond_National_Jurisdiction.pdf>. Under UNCLOS, ABNJ comprise the High Seas (see UNCLOS art 86) and the deep seabed Area (see UNCLOS art 1(1)).

[2] Kristina M Gjerde et al, 'Protecting Earth's Last Conservation Frontier: Scientific, Management and Legal Priorities for MPAs beyond National Boundaries' (2016) 26 *Aquatic Conservation: Marine and Freshwater Ecosystems* 45; United Nations, 'The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: The Technical Abstract of the First Global Integrated Marine Assessment' (n 1); Blue Marine Foundation, *A Blue Vision for the High Seas* (2020) <https://www.bluemarinefoundation.com/wp-content/uploads/2020/01/Blue-Marine_High-Seas-Brochure_Low-Res.pdf>.

[3] United Nations, 'The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: The Technical Abstract of the First Global Integrated Marine Assessment' (n 1).

[4] AD Rogers et al, *The High Seas and Us Understanding the Value of High-Seas Ecosystems* (2016) <www.globaloceancommission.org>.

[5] United Nations, *The First Global Integrated Marine Assessment. World Ocean Assessment I by the Group of Experts of the Regular Process* (2016).

[6] United Nations, 'The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: The Technical Abstract of the First Global Integrated Marine Assessment' (n 1).

[7] Paul Py Oldham et al, *Valuing the Deep: Marine Genetic Resources in Areas Beyond National Jurisdiction* (2014) <https://www.researchgate.net/publication/273139809_Valuing_the_Deep_Marine_Genetic_Resources_in_Areas_Beyond_National_Jurisdiction>; Danielle Skropeta and Liangqian Wei, 'Recent Advances in Deep-Sea Natural Products' (2014) 31(8) *Natural Product Reports* 999; Ana Martins et al, 'Marketed Marine Natural Products in the Pharmaceutical and Cosmeceutical Industries: Tips for Success' (2014) 12(2) *Marine Drugs* 1066.

advancement of new technology. Among the growing threats is high seas fishing which shows an increasing trend in spatial efforts and can often lead to overfishing.[8] In 2022, the Food and Agriculture Organisation of the United Nations (FAO) reported that 64.6% of stocks in global marine fisheries were being fished within biologically sustainable levels, and this situation would be critical for high seas fishery stocks. The FAO called for more effective management measures for high seas fisheries.[9] Other threats from fishing activities include deep sea fishing and bottom trawling. These fishing methods have proven to be unsustainable and perturbed fragile and vulnerable deep-sea species and ecosystems such as deep-sea corals, seamounts, and hydrothermal vents.[10] Other anthropogenic activities such as shipping, leakage of waste and plastic debris, pollution, deep-seabed mineral mining, along with the compounding effects of climate change, will put more pressure on marine biodiversity in ABNJ.[11]

Current governance in the area beyond national jurisdiction

The 1982 United Nations Convention on the Law of the Sea (hereafter referred to as UNCLOS or the Convention) is the legal umbrella that provides an overarching framework that governs human activities on the ocean. UNCLOS recognized various maritime zones, each one having a dedicated regime of rights and obligations for States relating to the conservation and management of the marine environment, as illustrated in Figure 1. Among the maritime zones are the high seas and the Area which constitute ABNJ.[12] The water column of ABNJ applies the freedom of high seas principle which entails the freedom to fish, navigate, overflight, lay submarine cables and pipelines, install infrastructure and artificial islands, as well as conduct marine scientific research.[13] While the Area is designated as the common heritage of mankind. Pursuant to this

[8] Bethan C O'Leary et al, 'Options for Managing Human Threats to High Seas Biodiversity' (2020) 187 *Ocean & Coastal Management* 105110; Enric Sala et al, 'The Economics of Fishing the High Seas' <www.seaaroundus.org/data/#/global>.

[9] FAO, *The State of World Fisheries and Aquaculture 2022* (FAO, 2022) <http://www.fao.org/documents/card/en/c/cc0461en>.

[10] F Althaus et al, 'Impacts of Bottom Trawling on Deep-Coral Ecosystems of Seamounts Are Long-Lasting' (2009) 397 *Marine Ecology Progress Series* 279; Elliott A Norse et al, 'Sustainability of Deep-Sea Fisheries' (2012) 36(2) *Marine Policy* 307.

[11] United Nations, 'The Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction: The Technical Abstract of the First Global Integrated Marine Assessment' (n 1).

[12] Article 86 of UNCLOS. High Seas is part of the sea that are not included in the EEZ, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State. Article 1 of UNCLOS. Area means the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction

[13] *United Nations Convention on the Law of the Sea 1982*. Article 87 of UNCLOS. Freedom of the high seas

principle, all economic and non-economic benefits derived from activities in the Area should be shared for the benefit of humankind.[14]

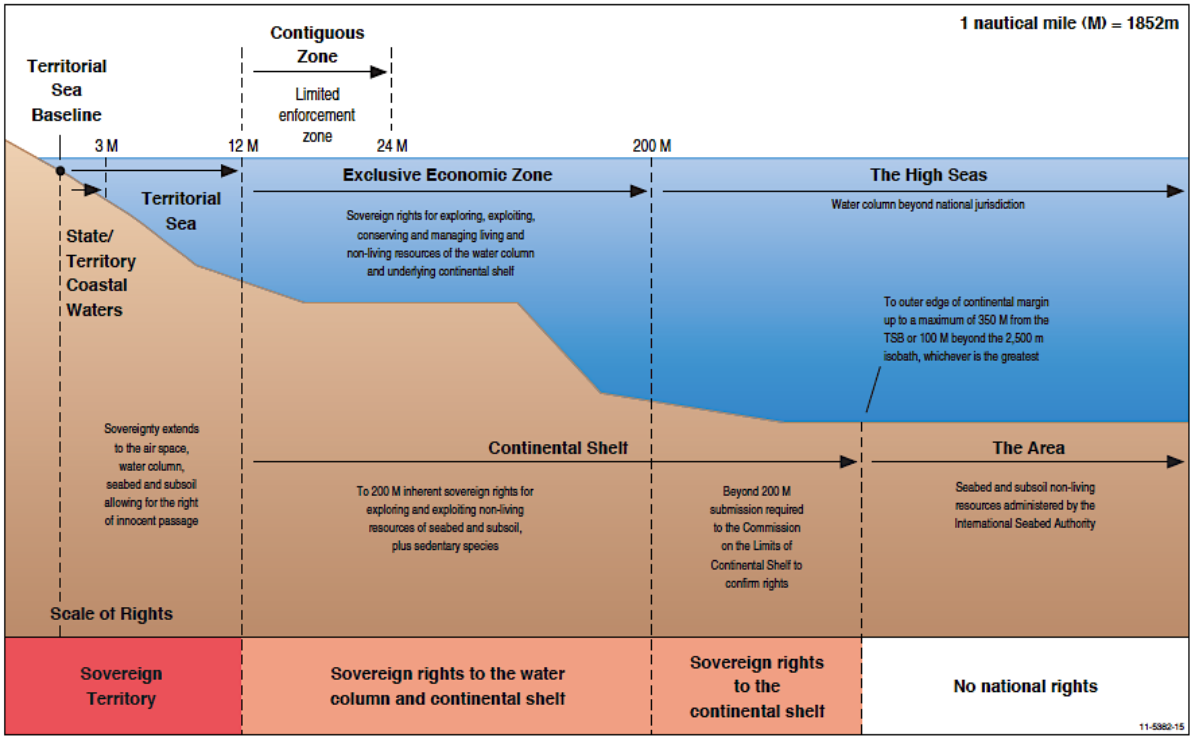

Figure 1. Maritime zones under UNCLOS [15].

A State's right to conduct activities in both the high seas and the Area comes with obligations to conserve and manage marine living resources and to protect and preserve the marine environment.[16] These obligations include a duty to cooperate on an international or regional level through competent organizations.[17] Currently, there are several binding and non-binding instruments as well as global, regional, and sectoral organizations that have a mandate to conserve and sustainably use marine biodiversity in ABNJ.[18] A body of literature argues that the current sectoral and regional mechanisms to manage ABNJ have created gaps in governance and failed to achieve comprehensive protection of marine biodiversity largely due to a lack of cross-sectoral

[14] Ibid. Article 136 of UNCLOS. Common heritage of mankind, and Article 140 of UNCLOS. Benefit of mankind

[15] Geoscience Australia, 'Australia's Maritime Jurisdiction: Teacher Notes and Student Activities' (2011).

[16] *United Nations Convention on the Law of the Sea* (n 13). Article 119 and 192.

[17] Ibid. Article 118 and 197 of UNCLOS.

[18] UN Secretary General, *Oceans and Law of the Sea: Report of the Secretary-General Addendum. A/60/63/Add.1* (2005) <https://digitallibrary.un.org/record/559435?ln=en>. See page 45

coordination and cooperation, existing gaps in mandates, lack of enforcement, the absence of an overarching framework and general principles to conserve and sustainably use marine biodiversity.[19] As the current governance mechanism does not provide comprehensive protection for marine biodiversity in ABNJ, it is necessary to develop new regulations for the conservation and sustainable use of marine biodiversity that are consistent with the Convention.[20]

Journey to conserve and sustainably use marine biodiversity in ABNJ

The formal discussions on the protection of marine biodiversity in ABNJ under the United Nations (UN) process started in 2004. The General Assembly (GA) through its resolution A/RES/59/24 decided to establish an Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity in ABNJ.[21] In 2015, States reached a consensus through UNGA Resolution 69/252 which mandated the development of an international legally binding instrument under UNCLOS for the conservation and sustainable use of marine biological diversity of ABNJ.[22] This resolution also established a Preparatory Committee to discuss substantive elements of the draft text of the international legally binding instrument; and further provided that the negotiations shall address the topics of the package agreed upon during the working group meeting in 2011, namely marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected

[19] Mathias Pecot, *The Conservation of Marine Biological Diversity in Areas beyond National Jurisdiction* (2005) <http://171.66.122.53/sciencexpress/recent.shtml>; Kristina M Gjerde et al, *Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction* (2008) <https://portals.iucn.org/library/efiles/documents/eplp-ms-1.pdf>; David Freestone et al, 'Can Existing Institutions Protect Biodiversity in Areas beyond National Jurisdiction? Experiences from Two on-Going Processes' (2014) 49 *Marine Policy* 167; Klaus Töpfer et al, 'Charting Pragmatic Courses for Global Ocean Governance' (2014) 49 *Marine Policy* 85.

[20] UN Secretary General (n 18).

[21] UN General Assembly, 'A/RES/59/24. Resolution Adopted by the General Assembly on 17 November 2004. 59/24. Oceans and the Law of the Sea' (2005) <https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_59_24.pdf>.

[22] UN General Assembly, *A/RES/69/292. Development of an International Legally Binding instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Diversity of Areas beyond National Jurisdiction* (2015) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/187/55/PDF/N1518755.pdf?OpenElement>. The working group worked for nine years and sessions from 2006-2015 to deliberate such outcome.

areas, environmental impact assessments, and capacity-building and the transfer of marine technology.[23]

The process then continued in 2017, when the GA adopted resolution 72/249 that decided to convene an Intergovernmental Conference to elaborate the text of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of ABNJ, hereafter referred to as the BBNJ Agreement.[24] Following the 2017 GA resolution, five intergovernmental conferences were convened from 2018-2022. Unfortunately, a BBNJ Agreement is yet to be adopted.[25]

Area-based management tools and marine protected areas as a measure to conserve and sustainably use marine biodiversity in ABNJ

Area-based management tools (ABMTs) including marine protected areas (MPAs) are measures that are globally recognized to conserve marine biodiversity and manage fisheries resources. The application of ABMTs including MPAs to protect the marine environment has been encouraged by global and regional agreements.[26] Specifically for MPAs, in 2010 the global community agreed on the mandate to protect 10% of the world's coastal and marine areas by establishing effectively managed and ecologically connected MPAs.[27] This target was further emphasized in the United Nations 2030 Agenda for Sustainable Development Goals especially Target Goal 14.5.[28] For the

[23] UN General Assembly, 'A/RES/69/292. Development of an International Legally Binding instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Diversity of Areas beyond National Jurisdiction' (n 21).

[24] UN General Assembly, *A/RES/72/249. International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction* (2017) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N17/468/77/PDF/N1746877.pdf?OpenElement>.

[25] The first session was convened from 4 to 17 September 2018, the second session from 25 March to 5 April 2019, and the third session from 19 to 30 August 2019. The fourth session was delayed due to the COVID-19 pandemic and was eventually convened from 7 to 18 March 2022. While the fifth session held from 15-26 August 2022 did not succeed to finalise the BBNJ Agreement. To this end, the fifth session was suspended and is to be continued at a later date (potentially February 2023).

[26] FAO, *The State of World Fisheries and Aquaculture 2022* (n 9).

[27] The United Nations Convention on Biological Diversity (UNCBD), 'Decision X/2. Decision Adopted by The Conference of The Parties to The Convention on Biological Diversity at Its Tenth Meeting. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets ' (United Nations Convention on Biological Diversity, 2010) <https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf>. See Target 11.

[28] United Nations General Assembly, 'Resolution Adopted by the General Assembly on 25 September 2015 . A/RES/70/1. Transforming Our World: The 2030 Agenda for Sustainable Development ' (2015) <https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf>.

last decade (2010-2020) there has been exponential growth in the establishment of MPAs, but mostly within national jurisdiction, and this has failed to achieve the intended global targets or objective to protect biodiversity, mainly due to different levels of protection.[29]

Moreover, regional initiatives have established MPAs in ABNJ including in the Mediterranean (Barcelona Convention), the Southern Ocean (the Convention on the Conservation of Antarctic Marine Living Resources/CAMLR convention), the North-East Atlantic (the Convention for the Protection of the Marine Environment of the North-East Atlantic/OSPAR Convention), and the Sargasso Sea.[30] When it comes to ABMTs, these spatial management tools are currently established by sectoral and regional organizations in ABNJ, which focus only on particular objectives such as the protection from shipping impacts (International Maritime Organization (IMO)), protection of specific areas from deep seabed mining (International Seabed Authority (ISA)), and fishing closures to protect certain fish species or types of fishing gears by Regional Fisheries Management Organizations (RFMOs).[31] It is noteworthy that these ABMTs and MPAs are established through specific mandates and only regulate certain activities and generally achieve sectoral objectives. However, these initiatives face some challenges in giving comprehensive protection to marine biodiversity, namely the non-existence of global standards, limitations of mandates and geographic coverage, lack of cross-sectoral cooperation, missing ecological connectivity, as well as a lack of political will at the regional level to achieve intended objectives.[32]

Regional significance of the Southeast Asia region and adjacent ABNJ

The Southeast Asia (SEA) region is located between the Indian Ocean and the western part of the Pacific Ocean. The ocean within the SEA region and adjacent ABNJ hold significant value for communities that reside in the region. Within this region is where the Coral Triangle is located and

[29] Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 5* (2020) <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>. See Aichi Target 11: Protected area; Enric Sala et al, 'Assessing Real Progress towards Effective Ocean Protection' (2018) 91 *Marine Policy* 11; UNEP-WCMC and IUCN, *Protected Planet Report 2020* (2021) <https://livereport.protectedplanet.net/>. See Chapter 1 Executive Summary.
[30] Glen Wright, Julien Rochette and Elisabeth Druel, 'Marine Protected Areas in Areas Beyond National Jurisdiction' in *Research Handbook on International Marine Environmental Law* (Edward Elgar Publishing, Rosemary Rayfuse, 2015).
[31] Ibid. See page 276
[32] Ibid. See page 284

this is known as one of the hotspots for marine biodiversity.[33] Fisheries have become a vital resource for the SEA region. In 2017, the consumption of fish per capita in this region was 39.4 kg/person/year which is almost double the world's fish consumption per capita at 20 kg/year.[34] Further, SEA States like Indonesia, the Philippines, Malaysia, Thailand, Myanmar, and Vietnam were among the world's top 25 producers of marine capture fisheries in 2020.[35] Besides fisheries, the deep-seabed of ABNJ surrounding the SEA region also holds rich biodiversity from the deep sea species associated with hydrothermal vent and seamount ecosystems located on the seabed of the Indian Ocean and Western Pacific Ocean.[36]

Coastal States are connected with adjacent ABNJ through oceanography, species migration, and cultural connectivity.[37] Studies suggest that the SEA region and adjacent ABNJ are interlinked by ecological connectivity and migratory species.[38] Similar to other marine regions in other parts of the world, marine biodiversity in the SEA region and adjacent ABNJ are also facing threats in the form of habitat change, IUU fishing, ineffective governance, marine pollution, climate change, shipping, and deep sea mineral mining.[39] Due to the strong connectivity between ABNJ and adjacent coastal States, unsustainable activities in ABNJ will affect the ecosystem and socio-

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[33] JE. Veron et al, 'Delineating the Coral Triangle' (2009) 11 *Journal of Coral Reef Studies* 91; GR Allen, 'Conservation Hotspots of Biodiversity and Endemism for Indon-Pacific Coral Reef Fishes' (2008) 18(5) *Aquatic Conservation: Marine and Freshwater Ecosystems* 541; Lauretta Burke et al, *Reefs at Risk Revisited in the Coral Triangle* (2012).

[34] The Southeast Asian Fisheries Development Center (SEAFDEC), *The Southeast Asian State of Fisheries and Aquaculture 2022 (SEA-SOFIA)* (2022).

[35] FAO, *The State of World Fisheries and Aquaculture 2022* (n 9).

[36] Hiromi Watanabe and Girish Beedessee, 'Vent Fauna on the Central Indian Ridge' in *Subseafloor Biosphere Linked to Hydrothermal Systems* (Springer Japan, 2015) 205; Qianhui Zeng et al, 'Deep-Sea Metazoan Meiofauna from a Polymetallic Nodule Area in the Central Indian Ocean Basin' (2018) 48(1) *Marine Biodiversity* 395; Kentaro Nakamura and Ken Takai, 'Indian Ocean Hydrothermal Systems: Seafloor Hydrothermal Activities, Physical and Chemical Characteristics of Hydrothermal Fluids, and Vent-Associated Biological Communities' in *Subseafloor Biosphere Linked to Hydrothermal Systems* (Springer Japan, 2015) 147.

[37] Ekaterina Popova et al, 'Ecological Connectivity between the Areas beyond National Jurisdiction and Coastal Waters: Safeguarding Interests of Coastal Communities in Developing Countries' (2019) 104(March) *Marine Policy* 90 <https://doi.org/10.1016/j.marpol.2019.02.050>.

[38] Alain Fonteneau and Jean-Pierre Hallier, 'Fifty Years of Dart Tag Recoveries for Tropical Tuna: A Global Comparison of Results for the Western Pacific, Eastern Pacific, Atlantic, and Indian Oceans' (2015) 163 *Fisheries Research* 7; Derek P Tittensor et al, 'Global Patterns and Predictors of Marine Biodiversity across Taxa' (2010) 466(7310) *Nature* 1098.

[39] The ASEAN Centre for Biodiversity (ACB), *ASEAN Biodiversity Outlook 2* (2017); David Michel et al, 'Natural Resources in the Indian Ocean: Fisheries and Minerals' in David Michel and Russell Sticklor (eds), *Indian Ocean Rising: Maritime Security and Policy Challenges* (Stimson , 2012) <https://www.stimson.org/wp-content/files/file-attachments/IOR_chapter7_1.pdf>; Samantha D Reynolds et al, 'Regional Variation in Anthropogenic Threats to Indian Ocean Whale Sharks' (2022) 33 *Global Ecology and Conservation* e01961.

economics in the coastal area.[40] A few studies have suggested that ABNJ in the Indian Ocean and Western Pacific Ocean should be among the marine regions to be prioritized for protection under the BBNJ Agreement.[41] Threats to the marine environment emphasize the urgency to ensure the conservation and sustainable use of marine biodiversity in SEA and adjacent ABNJ.

Current efforts of SEA States to conserve and sustainably manage marine biodiversity in the region and adjacent ABNJ largely consist of establishing MPAs. Regarding MPAs, countries in SEA from 1990 to 2014 have tripled their MPAs which now cover 229,534 km^2, but this only covers less than 2% of the total territorial marine area of these States.[42] With regards to cooperation, States in the SEA are actively participating in international and/or regional initiatives that support governance in ocean areas either within or beyond national jurisdiction.[43] Although there are no treaties or agreements that exist to establish ABMTs including MPAs in the adjacent ABNJ of the SEA region, there are some indications that SEA States have an interest in supporting the implementation of a BBNJ Agreement through existing regional organizations.[44]

Regional cooperation roles in implementing the BBNJ agreement on area-based management tools including marine protected area

The intention behind the development of the BBNJ Agreement is not to undermine exising global and regional organizations, but instead to improve coordination and cooperation between them.[45] Enhancing coordination and cooperation in the BBNJ Agreement is relevant for measures such as

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[40] Popova et al (n 37); Daniel C Dunn, Guillermo Ortuño Crespo and Patrick N Halpin, 'Incorporating the Dynamic and Connected Nature of the Open Ocean into Governance of Marine Biodiversity beyond National Jurisdiction' in *Predicting Future Oceans* (Elsevier, 2019) 425.

[41] Callum Roberts et al, *30X30 A Blueprint for Ocean Protecton: How Can We Protect 30% of out Oceans by 2030* (2019) <https://storage.googleapis.com/planet4-international-stateless/2019/04/4475b2c2-updatedgreenpeace_30x30_blueprint_report_web.pdf>; Morgan E Visalli et al, 'Data-Driven Approach for Highlighting Priority Areas for Protection in Marine Areas beyond National Jurisdiction' (2020) 122 *Marine Policy* 103927.

[42] The ASEAN Centre for Biodiversity (ACB), 'ASEAN Biodiversity Outlook 2' (n 39).

[43] Sandya Nishanthi Gunasekara and Md Saiful Karim, 'The Role of ASEAN and Its Members in Promoting the Norm of Responsible Governance of Marine Biodiversity of Areas beyond National Jurisdiction' (2021) 30(1) *Review of European, Comparative and International Environmental Law* 128.

[44] Ibid.

[45] Ted L McDorman, 'A Few Words on the "Cross-Cutting Issue"—The Relationship between a Bbnj Convention and Existing, Relevant Instruments and Frameworks and Relevant Global, Regional and Sectoral Bodies' in Myron H Nordquist and Ronan Long (eds), *Marine Biodiversity of Areas beyond National Jurisdiction* (2021); Kristina M Gjerde, Nichola A Clark and Harriet R Harden-Davies, *Building a Platform for the Future: The Relationship of the Expected New Agreement for Marine Biodiversity in Areas beyond National Jurisdiction and the UN Convention on the Law of the Sea* (2019) <https://portals.iucn.org/library/sites/>.

ABMTs including MPAs as one of the elements of the package deal, since establishing and implementing MPAs in ABNJ requires cooperation and coordination between States, as well as among regional/sectoral organizations to adopt measures based on their competencies and functions.[46] Thus, a critical issue is how to strengthen regional organizations when it comes to implementing ABMTs including MPAs through the new agreement. Recently, several studies have tried to address the issue of strengthening regional organizations in implementing ABMTs including MPAs in some parts of the world's oceans such as the Western Indian Ocean [47] and South East Pacific [48], the North-East Atlantic and the Southern Ocean region [49], South West Pacific [50], and South Atlantic [51]. However, only one study has examined regional cooperation in the SEA region, and this study only assessed cooperation and coordination among regional organizations in the region of East Asia, but it did not specifically examine the regional organizations' support n respect to the implementation of the BBNJ Agreement.[52] Therefore, it is imperative to study how regional cooperation can be strengthened to support the implementation of ABMTs including MPAs for the conservation and sustainable use of marine biological diversity in the SEA region and the adjacent ABNJ.

[46] Inês Aguiar Branco, 'Solving the Potential Conflict: High Seas Marine Protected Areas and Sovereign Rights Over the Continental Shelf Beyond 200 Nautical Miles' in *Global Challenges and the Law of the Sea* (Springer International Publishing, 2020) 423.

[47] Glen Wright and Julien Rochette, 'Regional Management of Areas beyond National Jurisdiction in the Western Indian Ocean: State of Play and Possible Ways Forward' (2017) 32(4) *The International Journal of Marine and Coastal Law* 765.

[48] Katharina Rogalla Von Bieberstein et al, *Governance of Areas beyond National Jurisdiction for Biodiversity Conservation and Sustainable Use Institutional Arrangements and Cross-Sectoral Cooperation in the Western Indian Ocean and South East Pacific* (2017).

[49] Danielle Smith and Julia Jabour, 'MPAs in ABNJ: Lessons from Two High Seas Regimes' (2018) 75(1) *ICES Journal of Marine Science* 417.

[50] Genevieve C Quirk and Harriet R Harden-Davies, 'Cooperation, Competence and Coherence: The Role of Regional Ocean Governance in the South West Pacific for the Conservation and Sustainable Use of Biodiversity beyond National Jurisdiction' (2017) 32(4) *The International Journal of Marine and Coastal Law* 672.

[51] Marta Chantal Ribeiro, 'South Atlantic Perspectives on the Future International Legally Binding Instrument under the Losc on Conservation and Sustainable Use of Bbnj' (2017) 32(4) *The International Journal of Marine and Coastal Law* 733.

[52] UNEP, *Regional Oceans Governance : Making Regional Seas Programmes, Regional Fishery Bodies and Large Marine Ecosystem Mechanisms Work Better Together* (2016).

Research aim and objectives

This thesis aims to provide recommendations on ways forward to strengthen the existing regional cooperation to implement ABMTs including MPAs in the adjacent ABNJ of the SEA region. Towards this end, this research will address the following objectives:

1. To examine current practices carried out by global, regional, and sectoral organizations to conserve and sustainably use marine biodiversity in ABNJ;
2. To analyze the draft text of the BBNJ Agreement in respect to ABMTs including MPAs, and identify the relationship between the BBNJ Agreement and existing relevant international, regional, and sectoral bodies in implementing MPAs in ABNJ;
3. To assess the significance of marine biodiversity in the SEA region and adjacent ABNJ and examine existing efforts to conserve and sustainably use marine biodiversity within this region;
4. To analyze the limitations of regional organizations within the SEA region and adjacent ABNJ when it comes to supporting the implementation of ABMTs including MPAs under the BBNJ agreement;
5. To identify lessons learned from other regional bodies in implementing MPAs in ABNJ; and
6. To provide recommendations on how regional cooperation can be strengthened to support the implementation of ABMTs including MPAs in the SEA region and adjacent ABNJ.

Thesis structure

This thesis will be structured into four parts. This Part (Introduction) has presented a brief background and introduction to this research. Part 1 will provide an examination of current practices and challenges in international and regional cooperation in respect to the conservation of marine biodiversity in ABNJ, and provide a discussion on the BBNJ Agreement with a particular focus on its provisions relating to ABMTs including MPAs. This is then followed by Part 2 which forms the core of this research project and focuses on regional efforts and gaps in existing regional cooperation for the conservation and management of marine biodiversity in the SEA region and adjacent ABNJ. Lastly, this thesis will provide recommendations on how to strengthen regional cooperation in the SEA region and adjacent ABNJ to support the implementation of measures on ABMTs including MPAs.

Part. 1. Conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

The objective of Part 1 of this thesis is to provide discussion on conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. It will first examining international cooperation on conservation of marine biodiversity as well as ABMT and MPA implementation in ABNJ. This will be followed by discussion on development of the BBNJ agreement with an emphasize on measures on ABMT including MPA.

Chapter 1. Current governance in conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

This chapter will discuss the current setting in conservation and sustainable us of marine biological diversity in ABNJ. The following section discusses international cooperation roles and challenges in conservation and sustainable use of marine biodiversity at ABNJ. It will be followed by review on ABMTs and MPAs implementation in ABNJ.

Section A. Existing international cooperation to conserve and sustainably use marine living resources and biological diversity

Roles of existing international and regional cooperation in conservation and sustainable use of marine biological diversity

International cooperation underpins ocean governance in UNCLOS. The convention recognizes international cooperation as one of its principles in its preamble and substantive provisions. In its preambular considerations, State parties recognized that the ocean is interrelated and acknowledged that one of the main objectives of UNCLOS was to strengthen cooperation which also accords with the Charter of the United Nations.[53] Turning to its substantive provisions, the Convention formulates a duty for State to cooperate in several parts namely Part VII in respect to high seas fisheries, Part XI on the Area, and Part XII on protection and preservation of the marine environment.[54] Moreover, UNCLOS as the framework for ocean governance divides the ocean

[53] *United Nations Convention on the Law of the Sea* (n 13). Preamble of UNCLOS; Nilufer Oral, 'Implementing the Duty to Cooperate under the 1982 UNCLOS for the Conservation and Sustainable Use of Biodiversity in Areas beyond National Jurisdiction under a New BBNJ Agreement' (2022) 9(2) *The Korean Journal of International and Comparative Law* 174.

[54] *United Nations Convention on the Law of the Sea* (n 13). Part VII, XI, and XII of UNCLOS

into several maritime zones where States have different rights and obligations in carrying out their activities within each maritime zone (see Figure 1). In the territorial sea, coastal state has full sovereignty extends to the water column, air space, as well as seabed and subsoil up to a 12 nautical miles (NM), while allowing for the right of innocent passage of other states.[55] Accordingly, coastal states have full sovereignty to exploit marine living resources in the territorial seas subject to national regulation and general obligation to protect and preserve the marine environment as provisioned in Part XII of UNCLOS.[56] Moving on to the exclusive economic zone (EEZ), coastal state enjoy sovereign rights to exploring and exploiting, conserving and managing living and non-living resources of the water column.[57] This sovereign rights are bounded by obligation to ensure that there are conservation and management measures to maintain the living resources.[58] While on the seabed and subsoil i.e. continental shelf of EEZ, coastal state rights to exploring and exploiting living and non-living resources shall be exercised in accordance with Part VI in particular article 77.[59] Further, such rights are exclusive meaning that although coastal state does not exercise its rights in exploiting natural resources, no other states can undertake such exploitation without coastal state consent.[60] Coastal state rights over the continental shelf also do not depend on occupation, effective or notional, or on any express proclamation.[61] Beyond the EEZ lies the high sea and the Area which constitute ABNJ.

The high seas are governed by the principle of the freedom of the high seas and the exclusive jurisdiction of the flag state.[62] Tanaka argues that freedom of the high seas means that high seas are free from national jurisdiction as provisioned in article 89 of UNCLOS. And States have freedom to conduct activities related to *inter alia* navigation, overflight, submarine cables and pipelines laying, artificial islands construction, fishing, and marine research as stipulated in UNCLOS article 87.[63] States freedom to fish in high seas is subject to duty to adopt or cooperate

[55] Ibid. Article 2 and 17 of UNCLOS.

[56] Matz-Lück Nele and Johannes Fuchs, 'Marine Living Resources' in Donald Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (2015) 997.

[57] *United Nations Convention on the Law of the Sea* (n 13). Article 56.

[58] Ibid. Article 61 Conservation of the living resources. Nele and Fuchs (n 56).

[59] *United Nations Convention on the Law of the Sea* (n 13). Article 56 para 3.

[60] Ibid. Article 77 on the Rights of the coastal state over the continental shelf, para 2.

[61] Ibid. Article 77 para 3.

[62] Ibid. Article 87 Freedom of the high seas, and article 92 on Status of Ships.

[63] Yoshifumi Tanaka, *The International Law of the Sea* (Cambridge University Press, 2nd ed, 2015). Page 158

with other states to take measures for the conservation of marine living resources.[64] To this end, UNCLOS obliges States to cooperate with other states, and to cooperate to establish sub regional or regional fisheries organisations for States whose nationals exploit same species or different species in the same area.[65] The duty to cooperate was further detailed in the 1995 United Nations Fish Stocks Agreement (UNFSA 1995).[66] Moreover, the flag state exclusive jurisdiction principle is applied in high seas to ensure that there is legal order in high seas.[67] Accordingly, States shall grant nationality to ships and have duties to exercise jurisdiction and control over ships that flying its flag.[68] Related to fisheries, duties of the flag state is to ensure that vessel flying its flag comply with conservation and management measures of regional and sub-regional fisheries organisation, and do not engage in activity that undermine such measures.[69] While the sea bed of ABNJ or the Area, states are obligated to cooperate through the International Seabed Authority which includes cooperation in marine scientific research in the Area [70].

With regard to the protection of the marine environment, Part XII of UNCLOS requires State parties to work together on a global or regional basis, either directly or through competent international organizations, to establish rules, standards, and international norms to protect the marine environment.[71] In doing so, State parties are to take into account regional characteristics. This provision means that due to the transboundary characteristics of marine pollution, protection of the marine environment only can be achieved through cooperation between states and may be realized in the regional level.[72]

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[64] *United Nations Convention on the Law of the Sea* (n 13). Article 117.

[65] Ibid. Article 118.

[66] *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA 1995) 1995*. Article 7,8, and 9 lays out the mechanism of cooperation for the conservation of straddling and migratory fish stocks in the high seas through the establishment of regional and sub-regional fisheries management organizations.

[67] Tanaka (n 63).

[68] *United Nations Convention on the Law of the Sea* (n 13). Article 91 and 94

[69] *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA 1995)* (n 66). Article 18.

[70] *United Nations Convention on the Law of the Sea* (n 13). Article 143.

[71] Ibid. Article 197 of UNCLOS

[72] Tanaka (n 63). Page 275.

In practice, international and regional cooperation relevant to the conservation and management of marine resources and biodiversity is conducted through a maze of legal agreements and instruments, each with its own organization and mandate. Following section will review mandate and roles of existing international and regional instruments/organisations in conservation and sustainable use of marine biodiversity in ABNJ.

The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) is a multilateral agreement that addresses global challenges on growing pressures on species and ecosystems that threaten the value of biodiversity as a global asset to sustain humanity's economic and social development.[73] The CBD's text was first agreed upon and adopted by 157 states on 5 June 1992 during the United Nations Conference on Environment and Development (the Rio "Earth Summit"), and currently, the CBD have 196 parties.[74] The CBD's objectives encompass the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The CBD defines "biodiversity" as the variability of living organisms that encompasses diversity within, between species, and of ecosystems as part of a larger ecological system [75]. It is noteworthy that the CBD provisions also apply to marine biodiversity, as the 1995 Jakarta Ministerial Statement further reaffirmed that the CBD to address the conservation and sustainable use of marine and coastal biodiversity [76].

The CBD was not designed to cover marine biodiversity conservation in ABNJ, as its main focus is on States' rights to conserve and sustainably use components of biodiversity within national jurisdiction.[77] Further, the CBD provisions parties to control activities under their jurisdiction do not harm environment in area beyond national jurisdiction, and to cooperate to conserve biodiversity in area beyond national jurisdiction.[78] Thus it is argued that CBD parties do not have

[73] Secretariat of the Convention on Biological Diversity, 'History of the Convention' <https://www.cbd.int/history/>.

[74] Ibid.

[75] *Convention on Biological Diversity 1992*. Article 2.

[76] Tanaka (n 63). Page 341

[77] *Convention on Biological Diversity* (n 75). Article 3.

[78] Ibid. Article 3, 4, and 5 of Convention on Biological Diversity

an explicit obligation to conserve and sustainably use marine biodiversity in ABNJ.[79] Although the CBD's jurisdictional scope is limited to within national jurisdiction, some of the CBD Conference of the Parties (COP) decisions support the conservation of marine biodiversity in ABNJ. These decision concern a Marine Protected Area (MPA) coverage target and ecologically or biologically significant marine areas (EBSA).

At its tenth meeting of the COP (COP 10) in 2010, the CBD adopted a Strategic Plan for Biodiversity that include the 20 Aichi Biodiversity Targets for the 2011-2020 period.[80] Among the 20 Aichi Targets, Target 11, is particularly relevant to MPAs as it requires at least 10% of coastal and marine areas to be conserved through ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures by 2020.[81] Despite the significant progress of global MPA coverage since adoption of Aichi Target.[82], only 1.2% of ABNJ currently covered by MPA.[83]

The EBSA process started in 2006 during the eighth meeting of the COP (COP 8) where CBD parties adopted decision VIII/24 that recognized the CBD's role in supporting the United Nations General Assembly's work on MPAs in ABNJ through providing scientific and technical advice in the conservation of marine biodiversity.[84] Further, in COP 9 in 2008, CBD adopted scientific criteria for identifying EBSAs in need of protection in open-ocean waters and deep-sea habitats. This was then followed up with a series of regional workshops from 2011-2018 that have identified more than 300 EBSAs both within and beyond national jurisdiction. These EBSAs were formally adopted in COP 11-15 decisions.[85] However, in several COP decisions (COP 10-Decision X/29

[79] Jeff A Ardron and Robin Warner, 'International Marine Governance and Protection of Biodiversity' in Hance D Smith, Juan Luis Suárez de Vivero and Tundi S Agardy (eds), *Routledge Handbook of Ocean Reseources and Management* (2015).

[80] Secretariat of the Convention on Biological Diversity, 'Marine and Coastal COP Decisions' (17 February 2022) <https://www.cbd.int/marine/decisions.shtml>.

[81] COP CBD, 'Decision X/2 Adopted by the Conference of the Parties of the Convention on Biological Diversity at Its Tenth Meeting. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets' (2010). Target 11.

[82] Patrick Gannon et al, 'Editorial Essay: An Update on Progress towards Aichi Biodiversity Target 11' [2019] (25.2) *PARKS* 7.

[83] UNEP-WCMC and IUCN (n 29).

[84] Secretariat of the Convention on Biological Diversity, *Marine and Coastal COP Decisions* (n 80).

[85] Secretariat of the Convention on Biological Diversity, *Special Places in the Ocean: A Decade of Describing Ecologically or Biologically Significant Marine Areas* (2021) <www.cbd.int>.

and COP 11-Decision XI/17), CBD parties stressed that EBSA identification in ABNJ is a scientific process that did not entail any obligation to designate it as an MPA.[86] Thus, this condition emphasized that the CBD cannot be the forum for establishing MPAs in ABNJ as it depends on the state and international organizations to further select and adopt conservation and management measures as a follow-up for EBSA identification.[87]

The Convention on the Conservation of Migratory Species of Wild Animals (CMS)

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is a multilateral environmental treaty under the United Nations for the conservation and sustainable use of species that migrate across marine areas both within and beyond national jurisdictions.[88] The CMS, otherwise known as Bonn Convention, entered into force in 1983 and currently has 130 parties.[89] The CMS is a framework convention that encourages international cooperation between states for research and taking measures to protect, and restore habitats of endangered migratory species listed in Appendix I and II of the Convention.[90] The specific instruments for the protection of both Appendix I and II species can be in the form of binding or non-binding agreements such as memoranda of understanding (MoU) which can be implemented on a global or regional basis. For example on marine species, currently, there are agreements for the conservation of cetaceans in the Black Sea and the Mediterranean Sea, as well as MoU for the conservation of marine turtles in the Indian Ocean and South East Asia.[91] Despite encouraging international cooperation, the CMS is deemed ineffective to protect marine biodiversity in ABNJ due to several factors including the CMS implementation focus is only on areas within national jurisdiction, not all-important

[86] Daniel C Dunn et al, 'The Convention on Biological Diversity's Ecologically or Biologically Significant Areas: Origins, Development, and Current Status' (2014) 49 *Marine Policy* 137.

[87] Ibid; Ardron and Warner (n 79).

[88] Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals, 'CMS Introduction' <https://www.cms.int/en/legalinstrument/cms>.

[89] Ibid.

[90] *Convention on the Conservation of Migratory Species of Wild Animals 1979*. Article III, IV, and V.

[91] Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals, 'CMS Instruments' <https://www.cms.int/en/cms-instruments/agreements>.

Range States are parties, and there is a lack of regulatory competence to apply binding conservation measures in ABNJ.[92]

The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)

CITES is an international agreement with 184 parties that aims to ensure international trade of wild flora and fauna does not threaten their existence in the wild .[93] The CITES approach to marine biodiversity conservation is through strict trade regulation on marine species. It categorizes wild species into three appendices (Appendix I, II, and III) based on the level of protection required, and sets up mechanisms and controls to ensure that all import, export, and introduction from the sea of such species are authorized by national entities through a licensing system.[94] With relates to marine, since COP 18 in 2019, 2382 marine species were listed in CITES appendix which most of them listed in Appendix II that predominantly sharks and rays, mollusk, and echinoderm species.[95] In relation to ABNJ, CITES recognized Appendix I or II species that were obtained in ABNJ as Introduction From the Sea (IFS), thus its transportation into a state shall follow CITES regulation.[96] However, parties have found IFS implementation is challenging as only 147 records of IFS from nine parties in the period of 2013-2018 have been produced, despite the guidance on IFS that was already provided by CITES through Resolution Conf. 14.6 (Rev. CoP16).[97]

International Maritime Organization (IMO)

[92] Jeff A Ardron et al, 'The Sustainable Use and Conservation of Biodiversity in ABNJ: What Can Be Achieved Using Existing International Agreements?' (2014) 49 *Marine Policy* 98; Ardron and Warner (n 79); Ina Tessnow-von Wysocki and Alice BM Vadrot, 'The Voice of Science on Marine Biodiversity Negotiations: A Systematic Literature Review' (2020) 7 *Frontiers in Marine Science*.

[93] Secretariat of CITES, 'What Is CITES?' <https://cites.org/eng/disc/what.php>.

[94] *Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973*. Appendix I species is prohibited to trade, while trade for Appendix II species is subject to CITES regulation, and Appendix III trade shall follow national regulation. See article II for species appendices. Article III, IV, and V for trade regulation for Appendix I, II, and III, respectively.

[95] Alyson Pavitt et al, *CITES and the Sea: Trade in Commercially Exploited CITES-Listed Marine Species* (No 666, 2021) <https://www.researchgate.net/publication/348966617>.

[96] *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (n 94). See article I for IFS definition. See article III and IV for trade regulation on IFS species included as Appendix I, and II, respectively.

[97] Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, *SC70 Doc.34 Seventieth Meeting of the Standing Committee. Report of the Secretariat: Introduction from the Sea* (2018) <https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-34.pdf>.

The Convention on the International Maritime Organization (IMO) was adopted in 1948 and entered into force in 1958. It aims to provide cooperation among governments in regulating all practices related to international shipping through the adoption of the highest standards on maritime safety, the efficiency of navigation, and prevention and control of marine pollution from ships.[98] IMO contributions to protect marine biodiversity include setting up instruments and measures to prevent pollution from ships, restricting the dumping of waste and ballast water at sea, and designating specific areas that restrict or prohibit certain navigational freedoms.

Pollution prevention from ships is regulated through the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The objective of MARPOL 73/78 is to eliminate intentional discharge and minimize the accidental discharge of pollution to the marine environment through regulating the design, construction, and equipment of ships as well as restricting the dumping of waste (including plastics) into the sea which is detailed in all its six annexes.[99] MARPOL applies to all ships carrying its member flags and in both marine areas within and beyond national jurisdiction.[100] In addition, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) and its Protocol aim to prevent pollution by regulating the dumping of waste and other hazardous materials that are harmful to human and marine life.[101] Further, MARPOL 73/78 recognizes Special Areas (SA)[102] and Particularly Sensitive Sea Areas (PSSA)[103]

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[98] *Convention on the International Maritime Organization 1948*. Article 1

[99] *International Convention for the Prevention of Pollution from Ships (MARPOL) 1973*. MARPOL convention include six technical annexes namely: Annex I Regulations for the Prevention of Pollution by Oil (entered into force 2 October 1983), Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983), Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992), Annex IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003), Annex V Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988), Annex VI Prevention of Air Pollution from Ships (entered into force 19 May 2005).

[100] Ibid.

[101] *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters 1972*. The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) adopted in 1972", in 1996 the London Protocol was agreed to update the said convention and later entered into force in 2006.

[102] IMO, 'Special Areas under MARPOL' (2019) <https://www.imo.org/en/OurWork/Environment/Pages/Special-Areas-Marpol.aspx>. Special Area is area that has particular oceanography, ecological, and traffic conditions where the discharge of oil and other materials is prohibited.

[103] IMO, 'Particularly Sensitive Sea Areas' <https://www.imo.org/en/OurWork/Environment/Pages/PSSAs.aspx>. PSSA was adopted in 2001 through IMO resolution A.927(22) for the Identification and Designation of Particularly Sensitive Sea Areas, and further updated in 2005 through resolution A.982(24) Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs).

as area-based measures to prevent pollution and mitigate shipping impacts to marine environment. Currently, the Mediterranean and the Southern Ocean are the only MARPOL Special Areas (SA) designated in ABNJ [104], while no PSSAs have been designated in ABNJ.[105]

Another IMO instrument that relates to marine biodiversity protection is the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). This instrument seeks to minimize the transfer of harmful aquatic organisms and pathogens to the marine environment by establishing standards and procedures for ballast water and sediment management.[106] Further, the IMO also endorsed two guidelines to support protection for cetaceans that traverse marine areas within and beyond national jurisdiction, these are Guidance for Minimizing the Risk of Ship Strikes with Cetaceans [107] and Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life.[108]

Despite IMO's notable instruments and guidelines, a number of experts have pointed to gaps and shortcomings in the current mechanisms when it comes to protecting marine biodiversity in ABNJ. First, the IMO is not an enforcement body and monitoring the compliance of its regulations depends on flag states and port states.[109] Second, the IMO lacks the regulatory mechanism to monitor implementation as well as to ensure accountability of non-compliance with its instruments

[104] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

[105] IMO (n 103). Although a PSSA can be designated in marine areas within or beyond national jurisdiction.

[106] *International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) 2004*. BWM was adopted on 13 February 2004; and entered into force: 8 September 2017. As in Regulation B-4 of BWM, ships are required to conduct ballast exchanges in an area beyond 200 nautical miles from the nearest land, and in waters at least 200 meters in depth or, if this is not possible, at least 50 nautical miles from the coast and in waters of at least 200 meters in depth.

[107] IMO Marine Environment Protection Committee, 'Guidance for Minimizing the Risk of Ship Strikes with Cetaceans' (2009) <https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/674.pdf>.

[108] IMO Marine Environment Protection Committee, 'Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life' (2014).

[109] Christina KA Geijer and Peter JS Jones, 'A Network Approach to Migratory Whale Conservation: Are MPAs the Way Forward or Do All Roads Lead to the IMO?' (2015) 51 *Marine Policy* 1; Gregory K Silber et al, 'The Role of the International Maritime Organization in Reducing Vessel Threat to Whales: Process, Options, Action and Effectiveness' (2012) 36(6) *Marine Policy* 1221.

in ABNJ.[110] Moreover, the IMO does not have legally binding regulations for noise control and invasive alien species, nor specific regulations to designate ballast water control areas in ABNJ.[111]

The International Seabed Authority (ISA)

The International Seabed Authority (ISA) is an international institution established under Part XI of UNCLOS and the 1994 Part XI Implementation Agreement.[112] The ISA is mandated to organize, control and manage all activities in the Area for the benefit of mankind.[113] It is tasked with adopting regulations, rules, and procedures regarding the prospecting, exploration, and exploitation of mineral recourses in the Area. This body of regulations, rules and procedures is known as the Mining Code and it seeks to ensure that activities in the Area are not harmful to the marine environment.[114] To date, the ISA has adopted Exploration Regulations on prospecting and exploration of polymetallic nodules, polymetallic sulfides, and cobalt-rich ferromanganese crusts.[115] While drafts on Exploitation Regulations, Standards, and Guidelines, including equitable sharing of financial and other economic benefits derived from activities in the Area are still in the process of consulting with parties and the public.[116]

The work of the ISA that is specifically related to the protection of marine biodiversity in ABNJ is the Regional Environmental Assessment and Management Plans (REMP). The ISA through the 24th meeting of its Assembly in 2018 decided to develop and review REMP in the Area where exploration and exploitation will take place as one of the strategic directions for 2019-2023.[117] The

[110] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19); Ardron et al (n 92).

[111] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

[112] *Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 1994* (UN General Assembly).

[113] *United Nations Convention on the Law of the Sea* (n 13). Article 156. on marine environment protection , Article 156 establishment of the Authority, on the Authority and relating to the implementation of Part XI of the UNCLOS

[114] Ibid. Article 140, and 145 of UNCLOS

[115] The International Seabed Authority (ISA), 'The Mining Code: Exploration Regulations' <https://www.isa.org.jm/mining-code/exploration-regulations>. See documents 2013 ISBA/19/C/17, 2013 ISBA/19/A/9, 2010 ISBA/16/A/12 Rev. 1, 2012 ISBA/18/A/11 on prospecting, exploration, and exploitation of mineral recourses in the Area.

[116] Ibid.

[117] The Assembly of the International Seabed Authority, 'ISBA/24/A/10. Decision of the Assembly of the International Seabed Authority Relating to the Strategic Plan of the Authority for the Period 2019−2023' (2018) <https://isa.org.jm/files/files/documents/isba24_a10-en.pdf>. See Strategic Direction 3.

REMP aims to support the ISA organs, contractors, and their sponsoring Parties with decision-making processes that balance resource development with conservation through application measures such as area-based and other management tools.[118] The ISA Council adopted a REMP for the Clarion-Clipperton Zone (CCZ) in 2012 which includes ABNJ. This REMP designates a network of nine Areas of Particular Environmental Interest (APEI) that are forbidden for future mining activities in order to protect biodiversity and the integrity of the ecosystem functions of the CCZ region.[119]

Food and Agriculture Organisation (FAO)

The Food and Agriculture Organisation (FAO) is one of the United Nations' specialized agencies that aims to achieve food security. Through its Committee of Fisheries (COFI), the FAO has formulated several formal agreements and non-binding instruments to support the conservation of marine living resources and biodiversity on the high seas. In 1993, FAO members agreed on the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (1993 FAO Compliance Agreement).[120] It provides a set of duties and responsibilities for flag states to ensure that their vessels fishing on the high seas comply with international conservation and management measures such as authorization and recording on fishing vessels fishing on high seas, exchange of information, and international cooperation.[121] The FAO also adopted the Code of Conduct for Responsible Fisheries (CCRF) in 1995 to respond to the unregulated fishing practices involving straddling and highly migratory fish stocks in both areas within and beyond national jurisdiction.[122] Although voluntary, certain parts of the CCRF that address high seas fishing are based on and follow other legal and binding instruments including UNCLOS and the 1993 Compliance Agreement.[123] For example, the CCRF encourages States to cooperate through RFMOs for the conservation and management of straddling, highly

[118] The International Seabed Authority (ISA), 'Environmental Management Plans' <https://www.isa.org.jm/minerals/environmental-management-plan-clarion-clipperton-zone>.

[119] Ibid. See Document ISBA/18/C/22 Decision of the Council relating to an environmental management plan for the Clarion-Clipperton Zone. Available at https://isa.org.jm/files/files/documents/isba-18c-22_0.pdf

[120] *Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 1993.*

[121] Ibid. The 1993 Compliance Agreement Article III, IV, V, and VI on authorization and recording on fishing vessels fishing in high seas, international cooperation and exchange of information, respectively.

[122] FAO, 'Code of Conduct for Responsible Fisheries' (1995) <https://www.fao.org/3/v9878e/v9878e.pdf>.

[123] Ibid. See Article 1 Nature and Scope of the Code of the 1995 CCRF

migratory, and high seas fish stocks.[124] It further encourages States not Party to the FAO 1993 Compliance Agreement to accept and adopt laws and regulations that are consistent with the Compliance Agreement.[125]

Moreover, in response to United Nations General Assembly (UNGA) Resolution 61/105, the FAO adopted International Guidelines for the Management of Deep-Sea Fisheries in the High Seas in 2008.[126] The Guidelines aim to assist States and RFMOs in adopting measures to prevent adverse impacts from deep-sea fisheries on vulnerable marine ecosystems, a groups of species, communities and habitats that maybe vulnerable to fishing activities.[127] The measures include identifying and designating Vulnerable Marine Ecosystems (VME), data collection and reporting, as well as enforcing monitoring, control, and surveillance.[128]

Regional Fisheries Management Organization (RFMO)

UNCLOS and UNFSA 1995 placed the responsibility to conserve marine living resources on the high seas on individual and collective efforts of States through the duty to cooperate by establishing regional and sub-regional fisheries organizations.[129] There are two types of regional fisheries organizations based on their mandate. The first one is regional fisheries bodies (RFBs) which mandate is only to provide not binding advice to its members on managing marine living resources.[130] The second one is Regional Fisheries Management Organizations (RFMOs) which have a management mandate and adopt binding management measures for its members.[131] The duty to cooperate in high seas fisheries is mostly manifested through RFMOs which aim to regulate its members in respect to the exploitation and conservation of marine living resources on the high seas.[132] For this reason, this thesis will discuss RFMOs only.

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[124] Ibid. Article 7.13 of the 1995 CCRF

[125] Ibid. Article 8.26 of the 1995 CCRF

[126] FAO, 'The FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas' (2008) <https://www.fao.org/3/i0816t/I0816T.pdf>. See Preamble

[127] FAO, 'Background | Vulnerable Marine Ecosystems' <https://www.fao.org/in-action/vulnerable-marine-ecosystems/background/en/>.

[128] FAO, 'The FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas' (n 126).

[129] Rosemary Rayfuse, 'Regional Fisheries Management Organizations' in Donald R Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (2015) 997.

[130] FAO, 'What Are Regional Fisheries Bodies?' <https://www.fao.org/fishery/en/topic/16800>.

[131] Ibid.

[132] Rayfuse (n 129). Section 2 on RFMOs and institutionalisation of cooperation.

Moreover, the mandate of RFMOs in ABNJ is complex and varied, and they can be distinguished based on their legal competence in managing fisheries in general, and Tuna and tuna like species over a geographical extent.[133] Currently, there are 7 RFMOs and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) that manage fisheries in general within certain geographical areas as depicted in Figure 2, namely [134]:

1. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) [135]
2. The General Fisheries Commission for the Mediterranean (GFCM)
3. The North East Atlantic Fisheries Commission (NEAFC)
4. The North Pacific Fisheries Commission (NPFC)
5. The Northwest Atlantic Fisheries Organization (NAFO)
6. The South East Atlantic Fisheries Organization (SEAFO)
7. The South Indian Ocean Fisheries Agreement (SIOFA)
8. The South Pacific Regional Fisheries Management Organization (SPRFMO)

Most of these general RFMOs and CCAMLR cover all fish, mollusks, crustaceans, and other marine species within their area of competence except for migratory and anadromous stocks which are already covered by other international agreements, as well as sedentary fish which are subject to national jurisdiction. However, only GFCM covers all marine living resources within its spatial competence.[136]

On the other hand, there are 5 RFMOs that manage tuna in several region of high seas as shown in Figure 3, which include [137]:

1. The Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

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[133] Stefán Ásmundsson, *Regional Fisheries Management Organisations (RFMOs): Who Are They, What Is Their Geographic Coverage on the High Seas and Which Ones Should Be Considered as General RFMOs, Tuna RFMOs and Specialised RFMOs?* (2016) . Available at <https://www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-fao-19-en.pdf>.

[134] Stefán Ásmundsson, *Regional Fisheries Management Organisations (RFMOs): Who Are They, What Is Their Geographic Coverage on the High Seas and Which Ones Should Be Considered as General RFMOs, Tuna RFMOs and Specialised RFMOs?* (2016) . Available at <https://www.cbd.int/doc/meetings/mar/soiom-2016-01/other/soiom-2016-01-fao-19-en.pdf>.

[135] It should be noted that CCAMLR is not a RFMO as it was established under the Antarctic Treaty and has a mandate beyond fisheries management.

[136] FAO, 'Regional Fishery Bodies (RFB) General Fisheries Commission for the Mediterranean (GFCM)' (2022) <https://www.fao.org/fishery/en/organization/rfb/gfcm>.

[137] Ásmundsson (n 133). The WCPCF, IAATC, and ICCAT also cover sharks and rays species in their management.

2. The Indian Ocean Tuna Commission (IOTC)
3. The International Commission for the Conservation of Atlantic Tunas (ICCAT)
4. The Inter-American Tropical Tuna Commission (IATTC)
5. The Western and Central Pacific Fisheries Commission (WCPFC)

Due to overlapping spatial area and commonalities in tuna management challenges, in 2007 these 5 tuna RFMOs decided to cooperate and coordinate through Kobe Process to ensure improvement on all tuna fisheries management by harmonizing data collection and scientific research, compliance and enforcement of measures, as well as tuna RFMOs review performance.[138]

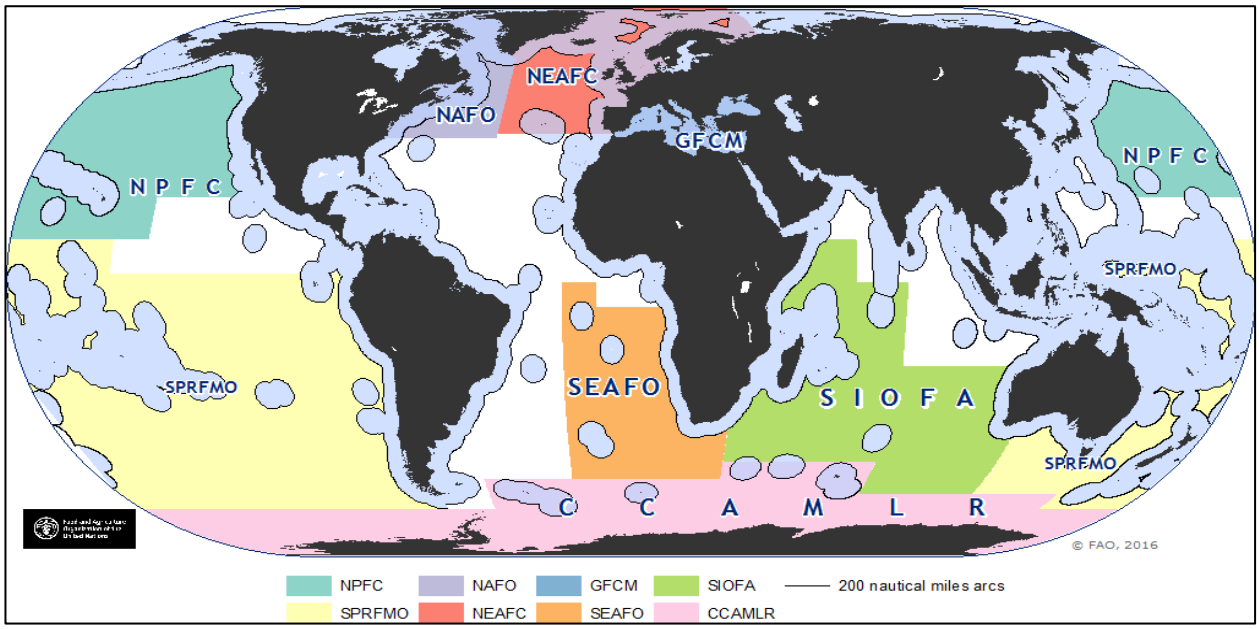

Figure 2. Geographic coverage of General RFMOs (map by FAO in Asmundsson (2016))

[138] Rayfuse (n 155); Joint Meeting of Tuna RFMOs, *Report of the First Joint Meeting of Tuna RFMOs* (2007). See Appendix 14. Available at <https://tuna-org.org/Documents/other/Kobe Report English-Appendices.pdf>.

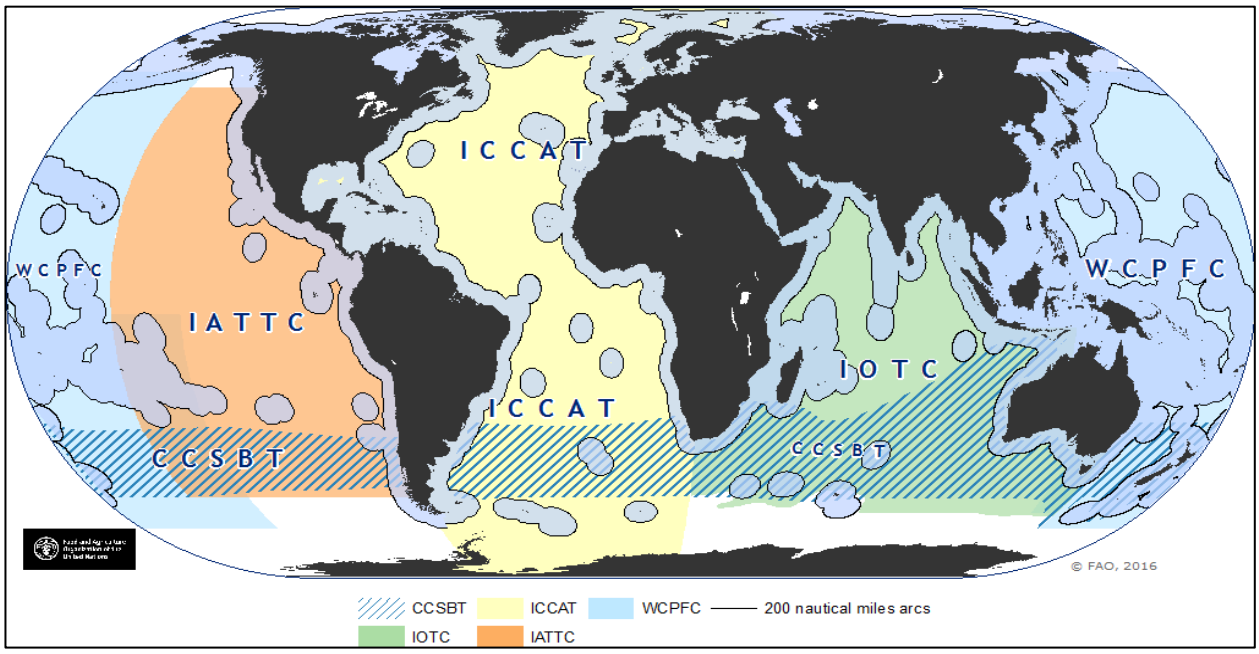

Figure 3. Tuna RFMOs geographic coverage (map by FAO in Asmundsson (2016))

RFMOs are established for the purpose of conservation and management of marine living resources in the high seas. This task is materialized through provisioning its members with conservation and management measures for target species which include fishing stocks assessment, fishing effort management, allocation of fishing opportunities, compliance and enforcement.[139] One of the challenges in applying the conservation and management measures is party compliance which can be caused by a lack of resources and political power to adopt and enforce national laws to their fishing vessels.[140] Furthermore, RFMOs are also required by the 1995 UNFSA to assess the impact of fishing on non-target species which include endangered and protected species and adopt conservation and management measures.[141] This is manifested through measures such as by-catch reduction, catch prohibition, and data collection and reporting on non-target species like sharks, marine turtles, dolphins, and sea birds. For example, the IOTC has adopted resolutions on catch prohibition for whale sharks and cetaceans, as well as promptly

[139] Rayfuse (n 129). Section 4 on RFMOs and the requirements of conservation

[140] Ibid. Section 4.4 compliance and enforcement

[141] *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA 1995)* (n 66). Article 5.

release and reporting of incidental catch of oceanic whitetip sharks.[142] However, despite such measures, the assessment of fishery impacts on the majority of shark species as well as seabirds and sea turtles is either unknown or unreliable due to slow progress in the development of fishery impact studies for such species.[143]

RFMOs also play a role in protecting marine biodiversity and the marine environment through the adoption of measures concerning deep-sea fisheries, bottom trawling, as well as designating ABMT or MPA within their areas of competence. For deep-sea fisheries, the NEAFC for example has adopted conservation measures that prohibit fishing of deep-sea sharks, rays, and chimaeras from 2020 to 2023.[144] Similarly, the SIOFA, NEAFC, and the South Pacific Regional Fisheries Management Organisation (SPRFMO) have adopted conservation measures regarding bottom trawling. These conservation measures include the establishment of protected areas or closures to protect VMEs, the designation of bottom trawl management areas, as well as a requirement to cease bottom trawling activities if the fishing vessel encounters a potential VME.[145]

Regional Seas Organizations/Agreements

Regional organizations/agreements are a manifestation of Article 197 of UNCLOS which requires states to cooperate through competent organizations by taking into account regional characteristics. Following the establishment of the United Nations Environment Program (UNEP)

[142] Indian Ocean Tuna Comission, 'Compendium of Active Conservation and Management Measures for the Indian Ocean Tuna Commission' (17 December 2021). See Resolution 13/04, 13/05, 13/06. Available at <https://www.iotc.org/sites/default/files/documents/compliance/cmm/IOTC_-_Compendium_of_ACTIVE_CMMs_17_December_2021.pdf>.

[143] Maria José Juan-Jordá et al, 'Report Card on Ecosystem-Based Fisheries Management in Tuna Regional Fisheries Management Organizations' (2018) 19(2) *Fish and Fisheries* 321 <https://doi.org/10.1111/faf.12256>.

[144] The North-East Atlantic Fisheries Comission (NEAFC), 'Current Conservation and Management Measures' (2022). See Rec 09,10,11 2020 on recommendations on conservation and management measure for Deep Sea Sharks, Rays, and Chimaeras in the NEAFC Regulatory Area from 2020 to 2023. Available at <https://www.neafc.org/managing_fisheries/measures/current>.

[145] the Southern Indian Ocean Fisheries Agreement (SIOFA), 'Conservation and Management Measure for the Interim Management of Bottom Fishing in the Agreement Area (Interim Management of Bottom Fishing)' (2020) <http://www.apsoi.org/sites/default/files/documents/cmm/CMM 2020_01 Interim Bottom Fishing Measures_0.pdf>; The North-East Atlantic Fisheries Comission (NEAFC), 'Recommendation 19:2014 on Area Management Measures for the Protection of Vulnerable Marine Ecosystems in the NEAFC Regulatory Area as Amended by Recommendation 09:2015, Recommendation 10:2018 and Recommendation 10:2021' (2021) <https://www.neafc.org/system/files/Recommendation-19-2014-VME-protection-as-amended-by- Rec-09-2015-Rec-10-2018-Rec-10-2021.pdf>; The South Pacific Regional Fisheries Management Organization (SPRFMO), 'Conservation and Management Measure for the Management of Bottom Fishing in the SPRFMO Convention Area ' (2022) <http://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/2022-CMMs/CMM-03-2022-Bottom-Fishing-7Mar22.pdf>.

in 1972, the Regional Seas Program was initiated in 1974 and aimed to create action-oriented and comprehensive programs to address environmental problems to manage marine and coastal areas.[146] Currently there are 18 Regional Seas Program (RSP) with 143 participating states under UNEP which comprise five RSP which are directly administered by UNEP, seven are managed by other organizations but under UNEP auspices, while the other four are independent organizations but still in coordination with UNEP.[147] Figure 4 shows distribution of RSPs and their coordination with UNEP.

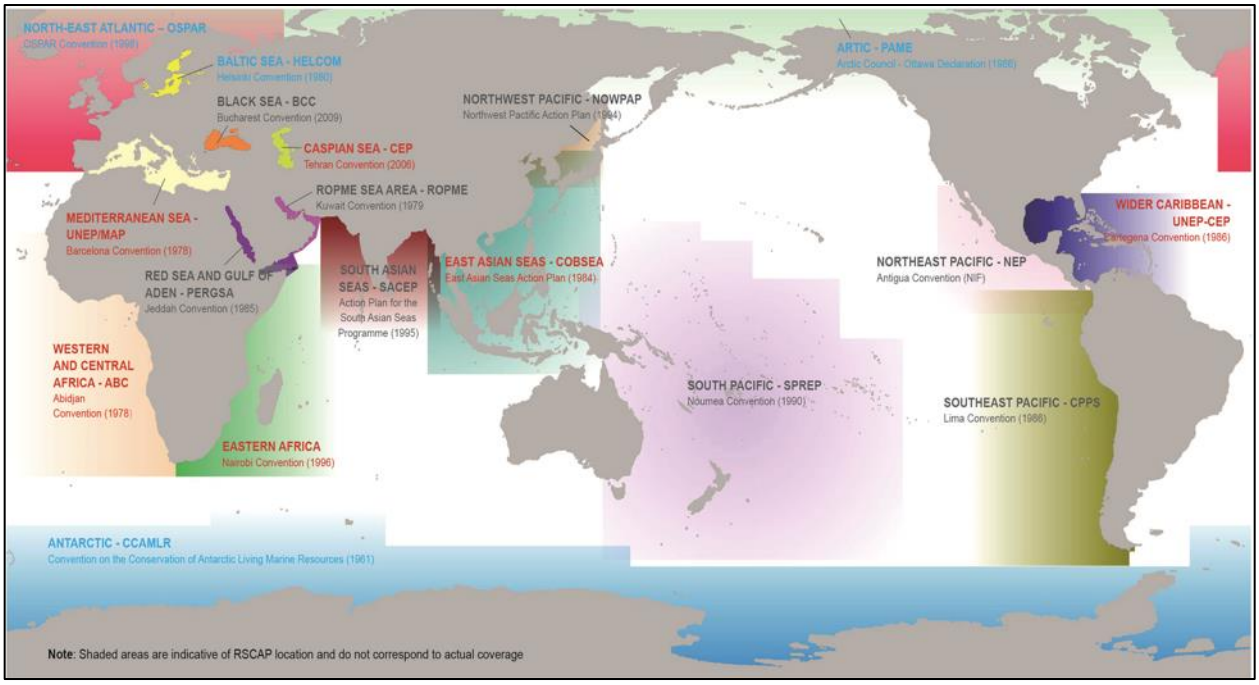

Figure 4. Global coverage of Regional Seas Program [148]. Orange font denotes UNEP administered RSPs, grey denotes non-UNEP RSPs, and blue font denotes independent programmes/partners.

Most of the RSPs were first created with a mandate to address marine pollution in their respective regions, but some have expanded their mandates to cover marine biodiversity conservation.[149] RSPs mandates to implementing cooperation program are either based on regional framework

[146] UNEP (n 52).

[147] Citation Wright and G Rochette, *Regional Ocean Governance of Areas Beyond National Jurisdiction: Lessons Learnt and Ways Forward* (STRONG High Seas Project, 2019) <www.prog-ocean.org/our-work/strong-high-seas/>.

[148] Maria Adelaide Ferreira et al, 'A Role for UNEP's Regional Seas Programme under the Post-2020 Global Biodiversity Framework' (2022) 136 *Marine Policy*.

[149] Ardron and Warner (n 79).

convention and protocol (legally binding) or action plan (non-legally binding).[150] However these mandates are mostly limited to marine areas within national jurisdiction except for five organizations that have mandate in ABNJ, which are the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention); the Convention on the Conservation of Antarctic Marine Living Resources (CAMLR Convention); the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention); the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (Noumea Convention); and the Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (Lima Convention).[151]. Nevertheless, among these five regional conventions only CCAMLR, OSPAR, and the Barcelona Convention that have implemented programs directly related to ABNJ, which include the establishment of high seas MPAs.[152]

Challenges in conservation and sustainable use of marine biological diversity

As discussed in the previous section, a number of global and regional organizations are currently operating in ABNJ and each one follows a specific mandate and framework. As a result, the current legal framework for the conservation and sustainable use of ABNJ is sectoral and fragmented. This sectoral and fragmented approach is troublesome as existing organizations are operating independently of each other and lack an overarching framework to ensure consistency and coherence in their approach.[153] Consequently, the current legal framework has failed to address the complex interplay between marine ecosystems and human activities in ABNJ.[154] Further, it creates gaps in governance and regulation including limitations in respect to mandates and competence, area coverage, and activities regulation which may challenge the conservation and sustainable use of marine biodiversity in ABNJ.[155]

[150] Wright and Rochette (n 147).

[151] Darius Campbell et al, *UN Environment (2017) Regional Seas Programmes Covering Areas Beyond National Jurisdictions* (2017) <www.unep.org/regionalseas>.

[152] Ibid.

[153] Töpfer et al (n 19).

[154] Ibid.

[155] Glen Wright et al, *The Long and Winding Road:Negotiating a Treaty for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction* (IUCN, 2018) <www.iddri.org>.

Gaps in mandate and competence

Moreover, gaps in mandate or competence meaning that there is an absence of competent authority or institution with an express mandate to conserve and sustainably manage marine biodiversity in ABNJ.[156] This is evident in the case of the CBD. As discussed above, the CBD as a prominent international legal instrument to conserve biodiversity did not directly mandate its party to protect marine biodiversity in ABNJ, instead it asks party to cooperate to conserve marine biodiversity in ABNJ.[157] Although the CBD provide avenues like identification of EBSA in ABNJ, it has no regulatory authority and legal competence to adopt binding measures on designating EBSA as MPA in ABNJ, thus it depends on parties willingness to implement its decisions and achieve marine biodiversity conservation objectives.[158] Another example is the ISA which do not have mandate to adopt rules to regulate activities other than sea bed mining which may potentially impact marine biodiversity in the Area such as bioprospecting, marine scientific research, and laying submarine cables.[159]

Area coverage gap

With regards to area coverage, it has been observed that there is a considerable geographic gap in regional cooperation related to marine biodiversity. Mahon et al analysis shows that there are no biodiversity-related agreements in some regions of ABNJ, and where such agreements do exist most of them do not cover broader habitats and communities but instead focus on specific species.[160] This is apparent in respect to regional seas organizations and RFMOs. From 18 existing regional seas organization, only 5 regional seas organization have a mandate that extends to ABNJ [161], as a consequence there is no regional marine biodiversity agreement in ABNJ of the Indian Ocean, North East and West Pacific, as well as South Pacific.[162] With regard to RFMOs, RFMOs

[156] Pecot (n 19).

[157] *Convention on Biological Diversity* (n 75). Article 5.

[158] Ardron et al (n 92).

[159] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

[160] Robin Mahon et al, *Intergovernmental Oceanographic Commission Transboundary Waters Assessment Programme (TWAP) Assessment of Governance Arrangements for the Ocean Volume 2 Areas Beyond National Jurisdiction* (2015).

[161] See RSP discussion in section 2.1.1.1

[162] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

seem to cover all geographical space in ABNJ and have overlapped to some extent.[163] However, RFMOs are operating based on their legal competence in managing certain species over a certain geographic competence area. In addition, some RFMOs do not cover discrete high seas fish stocks in some ABNJ regions which include Central and North East Pacific, Central and Southwest Atlantic, Northern Indian Ocean, Arctic Ocean (except for the Atlantic sector).[164] Another example is the FAO Compliance Agreement which applies to fishing vessels that fish in the high seas but does not apply to vessels fishing in parts of the high seas where there are no RFMOs or other international agreements.[165] Thus, this geographic coverage gap makes most of the marine biodiversity in some regions of ABNJ are left unmanaged.[166]

Gaps in regulating activities

Gaps in regulating activities in ABNJ are observable in shipping and pollution. Gaps in regulating shipping activities in ABNJ include no legally binding regulation for reducing underwater noise and greenhouse gas emissions, as well as inadequate regulation when it comes to designating ballast water control areas in ABNJ.[167] Additionally, currently there are no formal mechanisms for coordinating port control measures, and ensuring accountability for failure to comply with flag state obligations in ABNJ.[168] Likewise, in the Dumping Protocol there is no requirement for parties to adopt measures and controls activities of vessels flying their flags that may affect ABNJ [169]. Observable gaps in fragmented and sectoral approach hinders the integration and implementation of multisectoral measures to achieve common objective i.e. comprehensive conservation and sustainable use marine biodiversity in ABNJ.[170]

[163] See discussion on RFMO in section 2.1.1.1

[164] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

[165] Ibid.

[166] Guillermo Ortuño Crespo et al, 'High-Seas Fish Biodiversity Is Slipping through the Governance Net' (2019) 3(9) *Nature Ecology and Evolution* 1273.

[167] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19).

[168] Ibid.

[169] Ibid.

[170] Wright et al (n 155).

Such objective can only be achieved through policy coherence, shared common principles, as well as effective cooperation between global and regional level organisations.[171] However, current fragmented and sectoral governance arguably makes cooperation and coordination between organisations are challenging. To illustrate this, in 2014 the OSPAR Commission agreed with NEAFC to establish a formal cooperation mechanism known as the Collective Arrangement which brings together legal competent authorities of the NEAFC and OSPAR to jointly manage and ensure human activities under their competency abide by the conservation measures in ABNJ of the North-East Atlantic.[172] The Collective Arrangement agreed that this cooperation should be based on internationally agreed principles, standards, and norms, and scientific evidence, however it took a decade with a series of meetings and workshops for this Collective Arrangement to be agreed upon.[173] It shows that although some conservation principles are accepted or have become part of customary international law, different organisations have different perspectives on such principles, thus it is hard to have common or integrated principles between these institutions.[174]

OSPAR example demonstrates the needs to have an overarching principle and formal mechanism to foster coordination and cooperation among and cross sectors and organisations to ensure effective implementation of measures to conserve and sustainably manage marine biodiversity in ABNJ.

Section B. Area-based management tools including marine protected areas as one of the measures for conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

Area-based management tools including marine protected areas

The practice of protecting particular marine and coastal areas has evolved for millennia and can be traced back to the customary practices of traditional and indigenous communities and their

[171] Ibid.

[172] OSPAR Commission and NEAFC, 'OSPAR Agreement 2014-09. Collective Arrangement between Competent International Organisations on Cooperation and Coordination Regarding Selected Areas in Areas beyond National Jurisdiction in the North-East Atlantic' (2014). Areas in ABNJ under the collective arrangement are existing bottom fishing areas and VMEs closure for NEAFC, and 10 high seas MPAs for OSPAR. See Annex 1A and 1B. Available at <https://www.ospar.org/documents?v=33030>.

[173] NEAFC and OSPAR, *The Process of Forming a Cooperative Mechanism Between NEAFC and OSPAR* (2015) <https://www.ospar.org/documents?v=35111>.

[174] Freestone et al (n 19).

efforts to protect special areas for future species harvesting.[175] To date there is no international agreed definition of the term "marine protected area". Nevertheless, the world mainly referring to the CBD and the International Union for Conservation of Nature (IUCN) to define MPA.[176] Article 2 of the CBD provides a general definition of a protected area as "a geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives".[177] Similarly, the International Union for Conservation of Nature (IUCN) defines a protected area as "a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values".[178] It is worth to note that both definitions are very generic for protected area and not specifically defined MPA.[179]

In practice, there are a lot of names and types that have been referred by governments to describe MPA.[180] To ensure consistencies in application of MPA in the global level, the IUCN developed guidelines in 2008 on protected area categories, and published supplemental guidelines to applying such categories to MPAs.[181] These guidelines were developed to recognize marine environment particular characteristics such as multi-dimensional environment, multiple jurisdiction, lack of ownership, and habitats or ecosystems connectivity.[182] Likewise, the CBD also provided new definition on marine and coastal protected areas that taken into account ecological, historical, and cultural features of marine and coastal area.[183] To sum, up, what makes a marine area is an MPA is when such area has conservation focus, recognized through legal means and has agreed

[175] Dan Laffoley et al, 'Marine Protected Areas' in *World Seas: An Environmental Evaluation Volume III: Ecological Issues and Environmental Impacts* (Elsevier, 2018) 549.

[176] Ibid.

[177] *Convention on Biological Diversity* (n 75).

[178] N Dudley, *Guidelines for Applying Protected Area Management Categories*, ed N Dudley (IUCN, 2008) <https://portals.iucn.org/library/sites/library/files/documents/PAPS-016.pdf>.

[179] Laffoley et al (n 175).

[180] Ibid.

[181] Jon Day et al, *Guidelines for Applying the IUCN Protected Area Management Categories to Marine Protected Areas. Second Edition* (2019). The IUCN categorized protected area into six categories which should be chosen based on the stated primary objectives of each MPA or zones within. See section 4 of the guideline. Available at <www.iucn.org/pa_guidelines>.

[182] Laffoley et al (n 175).

[183] Ibid.

boundary, has specific conservation goals and objectives which include management plan to achieve the goals.[184]

MPA offers multiple benefits including preserving significant habitats and species from anthropogenic disturbances, acting as a buffer from climate stressors, as well as maintaining ecological connectivity of the ocean to keep providing important ecosystem services for humans.[185] Furthermore, MPAs that highly protected, well enforced, isolated, and cover large habitat and ecosystem as well as ecologically connected will deliver maximum potential conservation outcome.[186] Acknowledging the role of MPA in protecting biodiversity, the global community set a target to protect 10% of the worlds coastal and marine area by 2020 through an ecologically representative and well-connected system of protected areas and other effective area-based conservation measures.[187] Realizing that the 10% target may not be enough to reverse existing adverse impacts and sustain ocean health, scientists called upon countries to adopt a more ambitious target to protect at least 30% of the ocean in a network of highly protected MPAs and other effective area-based conservation measures with the aim to create a fully sustainable ocean.[188] Although for the last decade MPAs have shown significant growth, unfortunately MPAs only covers 7.74% of the total marine area with the majority found within national jurisdiction.[189] And only about 1.5% of the high seas are designated as MPAs from 222,498,835 km^2 of total marine area beyond national jurisdiction [190].

[184] Day et al (n 181).

[185] IUCN, 'Governing Areas Beyond National Jurisdiction' (IUCN, March 2022) <https://www.iucn.org/sites/default/files/2022-07/issues_brief_governing_areas_beyond_national_jurisdiction.pdf>.

[186] Graham J Edgar et al, 'Global Conservation Outcomes Depend on Marine Protected Areas with Five Key Features' (2014) 506(7487) *Nature* 216; Enric Sala and Sylvaine Giakoumi, 'No-Take Marine Reserves Are the Most Effective Protected Areas in the Ocean' (2018) 75(3) *ICES Journal of Marine Science* 1166 <https://academic.oup.com/icesjms/article/75/3/1166/4098821>.

[187] The United Nations Convention on Biological Diversity (UNCBD), 'Decision X/2. Decision Adopted by The Conference of The Parties to The Convention on Biological Diversity at Its Tenth Meeting. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets ' (n 27); United Nations General Assembly, 'Resolution Adopted by the General Assembly on 25 September 2015 . A/RES/70/1. Transforming Our World: The 2030 Agenda for Sustainable Development ' (n 28).

[188] IUCN, 'IUCN Resolution WCC-2016-Res-050-EN. Increasing Marine Protected Area Coverage for Effective Marine Biodiversity Conservation' (Wiley-Blackwell, 1 November 2016) <https://portals.iucn.org/library/node/46467>.

[189] UNEP-WCMC and IUCN (n 29).

[190] Marine Conservation Institute, 'High Seas MPA' (2022) <https://mpatlas.org/countries/HS>.

According to IUCN MPAs are just one type of ABMT, and there is no universally accepted definition of the term "area-based management tool".[191] ABMTs are spatial and non-spatial tools that afford a specified area higher protection than its surrounds due to more stringent regulation of human activities.[192] Moreover, international organizations such as the IMO, RFMOs, and the ISA have applied ABMTs in specific areas to manage activities under their competency which are known as sectoral management tools.[193] Different than MPAs, sectoral management tools do not provide protection from the full range of activities in an area since it is only designed for one use or specific activity and are often short term, thus to protect biodiversity from multiple activities ABMTs should be cross-sectoral which will require consultation, coordination, and cooperation between multiple organizations and bodies.[194]

ABMTs including MPAs implementation practices

A number of MPAs and ABMTs have been established in ABNJ either through regional initiatives or international organizations. MPAs in the North-East Atlantic, Southern Ocean, and Mediterranean have been established using a regional cooperation platform. Similarly, ABMTs to regulate sectoral activities such as sea-bed mining and fisheries have been established by competent international organizations like the ISA and RFMOs. This subsection will review and discuss regional and sectoral organisation practices in implementing ABMTs including MPAs in ABNJ.

The North-East Atlantic MPAs

The North-East Atlantic MPAs are situated within the OSPAR Convention maritime area. The Convention for the Protection of the Marine Environment of the North-East Atlantic (known as OSPAR convention) was adopted in 1992 as a unification and extension of the Oslo Convention

[191] IUCN, *Measures Such As Area Based Management Tools Including Marine Protected Areas. Suggested Responses to Questions on Area Based Management Tools (ABMTs), Based on the Document Entitled "Chair's Indicative Suggestions of Clusters of Issues and Questions to Assist Further Discussions in the Informal Working Groups at the Second Session of the Preparatory Committee* (2015) <https://www.un.org/depts/los/biodiversity/prepcom_files/area_based_management_tools.pdf>.

[192] IUCN, *Measures Such As Area Based Management Tools Including Marine Protected Areas. Suggested Responses to Questions on Area Based Management Tools (ABMTs), Based on the Document Entitled "Chair's Indicative Suggestions of Clusters of Issues and Questions to Assist Further Discussions in the Informal Working Groups at the Second Session of the Preparatory Committee* (2015). Available at <https://www.un.org/depts/los/biodiversity/prepcom_files/area_based_management_tools.pdf>.

[193] Ibid.

[194] Ibid.

and Paris Convention in 1972 and 1974, respectively.[195] A Commission was then established to supervise and assess compliance on the implementation of the OSPAR Convention.[196] The establishment of North-East Atlantic high seas MPAs was motivated by the adoption of the 1998 Sintra Ministerial Statement which promoted the establishment of a network of marine protected areas. This was then followed by the OSPAR Recommendation 2003/3 in 2003 as amended by OSPAR Recommendation 2010/2 in 2010 that aimed to establish an ecologically coherent network of MPAs in the North-East Atlantic by 2016.[197] The 2003/3 recommendation mandated the OSPAR party to identify area in the North-East Atlantic ABNJ to be proposed as MPA within OSPAR Network of MPA.[198] Pursuant to MPA Network recommendation, OSPAR published several guidelines to assist parties in the development and management of MPAs which include an identification and selection guideline, MPA management guideline, guidance on developing ecologically coherent MPA networks, as well as guidance to assess MPA management effectiveness.[199]

Since 2010, OSPAR has established MPAs that located beyond EEZs of its contracting parties namely the Wider Atlantic (OSPAR Region V) and the Arctic Waters (OSPAR Region I).[200] As of 2021, there are 583 MPAs included in the OSPAR Network of MPAs covering 1,490,552 km^2 or 11 % of the OSPAR Maritime Area with 8 MPAs located in ABNJ.[201] The latest high seas MPA that was established is the North Atlantic Current and Evlanov Sea basin MPA that was designated

[195] OSPAR Comission, 'About OSPAR' (2022) <https://www.ospar.org/about>. There are 16 contracting parties of OSPAR which are Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom, together with the European Union.

[196] OSPAR, 'Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)' (1992). See article 10 and 23 on comission and compliance, respectively. Available at <https://www.ospar.org/site/assets/files/1290/ospar_convention-1.pdf>.

[197] OSPAR Comission, 'Marine Protected Areas' (2022) <https://www.ospar.org/work-areas/bdc/marine-protected-areas>.

[198] OSPAR Commission, *OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas as Amended by OSPAR Recommendation 2010/2 (Consolidated Text)* (2003).

[199] OSPAR Commission, 'Guidance for the Development and Management of the OSPAR Network | OSPAR Commission' (2022) <https://www.ospar.org/work-areas/bdc/marine-protected-areas/guidance-for-the-development-and-management-of-the-ospar-network>.

[200] OSPAR Commission, 'MPAs in Areas beyond National Jurisdiction' (2022) <https://www.ospar.org/work-areas/bdc/marine-protected-areas/mpas-in-areas-beyond-national-jurisdiction>.

[201] Janos Hennicke et al, 'Report and Assessment of the Status of the OSPAR Network of Marine Protected Areas in 2021' (2022).

through OSPAR Decision 2021/01.[202] Smith and Jabour documented one of the OSPAR challenges in implementing MPAs in ABNJ is related to the jurisdictional conflict of some areas of MPAs that are subject to the extended continental shelf (ECS) submission by OSPAR parties.[203] In this regard, OSPAR resolved it through grouping the MPAs protection governance into three based on its jurisdictional regime as depicted in Figure 5.[204]

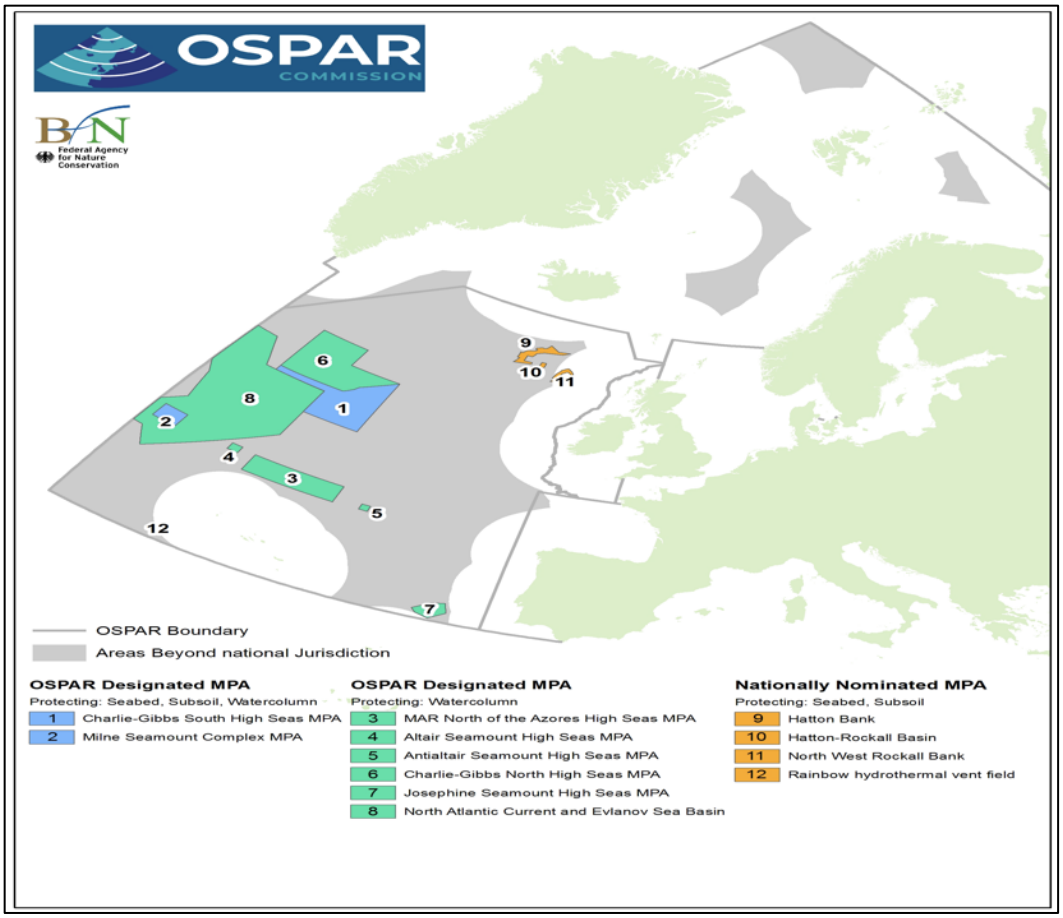

Figure 5. Location, jurisdictional status, and protection governance of OSPAR high seas MPAs [205].

[202] OSPAR Commission, *OSPAR Decision 2021/01 on the Establishment of the North Atlantic Current and Evlanov Sea Basin Marine Protected Area* (2021) <https://www.ospar.org/documents?d=46308>.

[203] Smith and Jabour (n 49).

[204] Ibid.

[205] Hennicke et al (n 201). MPA number 3,4,5,and 7 are subject to Portugal ECS submission to the UN CLCS which Portugal protect the seabed and the subsoil while the water column protected collectively by OSPAR. MPA number 6 is subject to Iceland ECS submission which OSPAR collectively protect only the water column. MPA number 9,10, and 11 are situated within areas subject to a submission by UK ECS submission which UK protects only the seabed and the subsoil.

Another challenge of OSPAR high seas MPAs is regarding limited competence to regulate human activities in its high seas MPAs. As reflected on OSPAR Annex V and Regulatory Regime 2009, OSPAR has no competence in regulating fisheries, maritime transport, and mineral mining in the Area, thus it shall endeavor cooperation with competence authorities such as the NEAFC for fishing, the IMO for shipping, and the ISA for seabed mining.[206] To overcome this, since 2008 OSPAR and NEAFC have started discussion to establish formal cooperation to manage fishing activities in OSPAR MPAs which culminated in the adoption of Collective Arrangement in 2014.[207] However, there have been no formal cooperation to date with the ISA and the IMO despite both organizations are invited and participated to the Collective Arrangement formal meetings.[208] Despite OSPAR Commission achievement in establishing network of MPAs in ABNJ, a study shows that only 55% of OSPAR high seas MPA are being moderately protected which means, OSPAR high seas MPAs could not provide the largest range and magnitude MPA benefit [209].

The Southern Ocean MPAs

The southern ocean is mostly ABNJ and its usage is regulated through the 1982 CAMLR convention which forms part of the Antarctic Treaty System framework.[210] The mandate of the CAMLR Convention is to provide balance between conservation and sustainable fishing of Antarctic marine living resources through application of ecosystem based management that also takes into account the effect of fishing on the environment.[211] The CAMLR Convention established the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) as the decision body to give effects on the CAMLR convention objective and principles through adoption of regulatory frameworks as well as binding conservation and

[206] OSPAR Commission, 'OSPAR 09/22/1-E, Annex 6. OSPAR's Regulatory Regime for Establishing Marine Protected Areas (MPAs) in Areas Beyond National Jurisdiction (ABNJ) of the OSPAR Maritime Area.' (2009). Available at <https://www.ospar.org/site/assets/files/39751/annex06_jl_advice_on_abnj.doc>.

[207] Smith and Jabour (n 49).

[208] Elizabeth M De Santo, 'Implementation Challenges of Area-Based Management Tools (ABMTs) for Biodiversity beyond National Jurisdiction (BBNJ)' (2018) 97(September) *Marine Policy* 34 <https://doi.org/10.1016/j.marpol.2018.08.034>.

[209] Julia Roessger, Joachim Claudet and Barbara Horta e Costa, 'Turning the Tide on Protection Illusions: The Underprotected MPAs of the "OSPAR Regional Sea Convention"' (2022) 142 *Marine Policy* 105109.

[210] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), 'About CCAMLR' (2022) <https://www.ccamlr.org/en/organisation>.

[211] Ibid.

management measures of the fisheries in its area of competence.[212] To support this measure, CCAMLR adopted two important documents, namely MPA Planning Domain that divides CAMLR convention area into 9 MPA planning domains [213]; and Conservation Measure 91-04 which provide general framework to establish CCAMLR MPAs.[214] To date, CCAMLR achievement was to established two MPAs, namely The South Orkneys Islands MPA and The Ross Sea Region MPA. The South Orkney Islands Southern Shelf MPA was established in 2009 through Conservation Measure 91-03 (2009) to protect 94,000 km^2 of area that is important for penguin foraging ground.[215] In 2016, the Ross Sea Region MPA was established through Conservation Measure 91-05 (2016) and protects 2.09 million km^2 of important ecosystems and habitats for krill, Antarctic silverfish, and Antarctic toothfish within a 35 years of time frame.[216]

The process of establishing 2 MPAs in the Southern Ocean was slow and time consuming since it was influenced by political issue and most notably fishing interests of some parties.[217] Regarding the geopolitical issues, prior to the adoption of Conservation Measure 91-04 concerns was raised by some states on the legal competency of CCAMLR to establish MPA.[218] Some states questioned whether establishing MPA was justify the meaning of rational use as stated on the CAMLR convention objective, and MPA would reduce marine living resources harvesting area.[219] In addition, there was also concern on MPA would be used to extend sovereign claims in the Antarctic territory.[220]

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[212] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), 'Commission' (2022) <https://www.ccamlr.org/en/organisation/commission>. Currently commission members are compose of 26 states and European Union. There are also 10 states that accede to the CAMLR convention but not member to the commission.

[213] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), 'SC-CAMLR-XXX Scientific Committee for the Conservation of Antarctic Marine Living Resources Report of the Thirtieth Meeting of The Scientific Committee' (2011) <https://meetings.ccamlr.org/system/files/e-sc-xxx.pdf>.

[214] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), '91-04 (2011) CCAMLR Conservation Measures' (2011) <https://cm.ccamlr.org/measure-91-04-2011>.

[215] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), 'South Orkney Islands Southern Shelf Marine Protected Area (SOISS MPA)' (2022) <https://cmir.ccamlr.org/node/2>.

[216] Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR), 'Ross Sea Region Marine Protected Area (RSr MPA)' (2022) <https://cmir.ccamlr.org/node/1>.

[217] Julien Rochette et al, 'The Regional Approach to the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' <http://dx.doi.org/10.1016/j.marpol.2014.02.005>; Smith and Jabour (n 49); De Santo (n 208).

[218] De Santo (n 208).

[219] Smith and Jabour (n 49).

[220] Ibid.

Accommodating fishing interests was apparent during the establishment process of the South Orkneys Island MPA and the Ross Sea MPA. In the case of South Orkneys Island MPA, fishing states demanded that the current krill fishing grounds and the future area for crab fishing be excluded from the proposed MPA.[221] As a result, the South Orkneys Island MPA fails to protect the biologically important area (i.e. area for penguin and seabirds foraging for krill) and several pelagic bioregions and geomorphic zones remain unprotected.[222] Similarly, the Ross Sea MPA was also colored by compromises to accommodate states fishing interests. The fishing interests were accommodated through allowing directed krill fishing in the Special Research and the Krill Research Zone, and directed toothfish fishing also allowed only in the Special Research Zone.[223]

Furthermore, the Ross Sea MPA also suffered from area reduction (from proposed 2.27 to 1.55 million km^2) to give ways for fishing activities through removal of main fishing grounds and the proposed spawning protection zone from the MPA despite its conservation value .[224] Further, there were also addition of fishing zones to the MPA as an attempt to placate several fishing states.[225] In addition, tradeoffs between conservation and fishing also occurred through opening of Patagonian toothfish fishing area outside of the MPA which used to be closed to maintain overall catch limits of such fish within the CAMLR convention area. [226] Another tradeoff is reducing the MPA timeframe from 50 to 35 years subject to periodic revision.[227] As a result of favoring fishing interests, the Ross Sea MPA may not achieve its intended objective to comprehensively protect its ecological structure and function, and it cannot be considered a MPA since it is limited by a short time frame thus not serving the long term conservation of nature [228].

[221] Ibid; De Santo (n 208).

[222] Smith and Jabour (n 49).

[223] Ibid; De Santo (n 208).

[224] Sarah Louise Lothian, 'Caught in a Geopolitical Undertow Marine Protected Areas beyond National Jurisdiction' in *Marine Conservation and International Law: Legal Instruments for Biodiversity Beyond National Jurisdiction* (Routledge, 2022) 171.

[225] Ibid.

[226] Smith and Jabour (n 49); De Santo (n 208).

[227] Smith and Jabour (n 49); De Santo (n 208).

[228] Lothian, 'Caught in a Geopolitical Undertow Marine Protected Areas beyond National Jurisdiction' (n 224).

The South Orkney Island and Ross Sea MPA shed lights on how political and fishing interest factors influenced the outcome of high seas MPA establishment which may set precedent on the future negotiation of MPA in ABNJ under the new BBNJ agreement.[229]

The Mediterranean Sea MPA

The Pelagos Sanctuary for the Conservation of Marine Mammals in the Mediterranean Sea was established in 1999 through tripartite agreement between the Governments of France, Italy and Monaco as parties of the Barcelona Convention[230]. The Pelagos Sanctuary encompasses 87.500 km^2 of coastal areas of the three states and include also ABNJ that aims to protect eight cetacean species such as sperm whale, cuvier's beaked whale, and risso's dolphin.[231] Following the agreement, in 2001 the sanctuary was recognized as Specially Protected Areas of Mediterranean Importance (SPAMI) under Specially Protected Areas Protocol / SPA and Biodiversity Protocol (SPA/BD Protocol) under the Barcelona Convention, which means that the sanctuary is recognized by all parties of Barcelona Convention.[232]. The management plan was adopted in 2004 which become part of other international agreements and programs, namely ACCOBAMS, RAMOGE, and UNEP/MAP, and later permanent office have been operated since 2007.[233] However, despite being proclaimed as the first regional MPA that include the high seas area, recent expansion in jurisdictional claims by France and Italy have led to the disappearance

[229] Smith and Jabour (n 49); De Santo (n 208); Sarah Louise Lothian, 'The Promise and Limits of International Legal Protection of BBNJ' in *Marine Conservation and International Law* (Routledge, 2022) 21.

[230] The Convention for the Protection of the Marine Environment an the Coastal Region of the Mediterranean (Barcelona Convention), 'Pelagos Sanctuary ' (2022) <http://www.rac-spa.org/sites/default/files/doc_spamis/spamis/25_pelagos.pdf>.

[231] The Pelagos Sanctuary Secretariat, 'Presentation of the Pelagos Sanctuary' (2022) <https://www.sanctuaire-pelagos.org/en/66-anglais/uncategorised/254-presentation-of-the-pelagos-sanctuary>.

[232] The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the Barcelona Convention) (n 195). see article 4, 7, 8, and 9; Wright, Rochette and Druel (n 39).

[233] The Pelagos Sanctuary Secretariat, 'Management Plan' (2022). <https://www.sanctuaire-pelagos.org/en/about-us/management-plan>. ACCOBAMS: Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area ; RAMOGE Agreement: Agreement between France, Monaco and Italy to protect the coast between Marseille in France and La Spezia in Italy; UNEP/Mediterranean Action Plan (UNEP/MAP): Mediterranean Action Plan developed as a result of the 1975 Barcelona Convention, under the framework of the United Nations Environment Program

of high seas part in the sanctuary water.[234] Thus, changing interest of states for jurisdictional claim would likely to transform the governance of MPA in ABNJ.[235]

ABMT in the Area

Deep seabed mining is one of the activities that may impact marine biodiversity in ABNJ. As discussed in the previous session, the ISA was established by UNCLOS with mandate to regulate the exploration and exploitation of mineral resources activities in the Area including the protection of the marine environment from the adverse impacts of such activities. In realizing the mandate to protect marine environment, the ISA has developed a spatial based approach through REMP and APEI in the Area where exploration and exploitation will occurred. In 2012 the ISA has adopted REMP in Clarion-Clipperton Zone (CCZ) which include network of nine APEIs, and in the process of developing REMP for Mid-Atlantic Ridge, Indian and Northwest Pacific oceans.[236] However review on CCZ REMP in 2016 indicated that the APEI locations may not optimal to protect marine environment since the APEI is designed and designated for each exploration contract and to avoid overlaps with the contract area.[237] Gjerde and Domino suggested that large scale spatial planning process to protect network of chemosynthetic system such as hydrothermal vents and seeps before granting of exploration contract would provide optimal protection of such system.[238] Further, there is also a need to develop parameters to assess REMPs effectiveness.[239] Although the ISA is mandated on the development of measures to protect the natural resources of the Area from adverse impacts of mining activities, it has no specific mandate to closed environmentally significant areas or established network of MPAs.[240]

ABMT for fisheries

[234] Giuseppe Notarbartolo, Di Sciara and Tundi Agardy, 'Building on the Pelagos Sanctuary for Mediterranean Marine Mammals' in Peter Mackelworth (ed), *Marine Transboundary Conservation and Protected Areas* (2016).

[235] Ibid.

[236] The International Seabed Authority (ISA), 'Environmental Management Plans' (n 118). See Document ISBA/18/C/22 Decision of the Council relating to an environmental management plan for the Clarion-Clipperton Zone. Available at https://isa.org.jm/files/files/documents/isba-18c-22_0.pdf

[237] Alex Oude Elferink, 'Protecting the Environment of ABNJ through Marine Protected Areas and Area-Based Management Tools' in *International Law and Marine Areas beyond National Jurisdiction* (Brill | Nijhoff, 2022) 205.

[238] Kristina M Gjerde and Anna Rulska-Domino, 'Marine Protected Areas beyond National Jurisdiction: Some Practical Perspectives for Moving Ahead' (2012) 27(2) *The International Journal of Marine and Coastal Law* 351.

[239] Elferink (n 237).

[240] Gjerde and Rulska-Domino (n 238).

Spatial based measures have been implemented in fisheries management to maintain fish stocks at sustainable level and protect associated ecosystems and species as provisioned in both binding and non-binding international legal frameworks. In UNCLOS, coastal state in utilizing and conserving marine living resources in the EEZ shall ensure proper conservation and management measures to maintain or restore stocks population and associated species through inter alia regulating seasons and areas of fishing, the types, sizes and amount of gear.[241] Further, in the high seas coastal states in determining conservation measures shall take into consideration the effect on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species.[242] Conservation measures for marine living resources in the high seas is further detailed in the 1995 UNFSA, especially for straddling fish stocks and highly migratory fish stocks. The 1995 UNFSA provisioned states to adopt conservation and management measures through minimizing pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, and impacts to endangered species, as well as protect marine biodiversity.[243] Application of area-based measures as one of the management tools for fisheries were also recognized in several non-binding instruments on fisheries management.

The FAO in 1995 through the CCRF as non-binding instrument provided States to take appropriate technical measures including closed seasons as well as areas and zones reserved for selected fisheries, in order to minimize catch of non-target species and negative impacts on associated or dependent species.[244] The 1995 UNFSA Review Conference in 2006 also recommended States or RFMOs to develop and implement application of closed areas, MPA, and marine reserves to conserve and manage straddling, migratory, and discrete deep sea fish stocks as well as protect marine biodiversity.[245] Another non-binding instrument with relate to ABMT for fisheries is the UNGA resolution 61/105 which called upon RFMOs/As to adopt and implement measures to protect VMEs from adverse impacts of destructive fishing practices and bottom trawl fishing through inter alia conduct assessments, closing areas for bottom fishing, develop and implement

[241] *United Nations Convention on the Law of the Sea* (n 13). Article 61 (2 and 4) and 62 (4).

[242] Ibid. Article 119.

[243] *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA 1995)* (n 66). Article 119.

[244] FAO, 'Code of Conduct for Responsible Fisheries' (n 122). Para 7.6.9

[245] United Nations Secretary General, *Report of the Secretary-General A/62/66/Add.2* (2007). Para 139.

protocols to cease bottom fishing, and reporting encounter of VMEs [246]. To assist implementation of MPA or ABMT for fisheries, FAO published two guidelines, namely the FAO Technical Guidelines on MPAs in 2011 [247], and the International Guidelines for the Management of Deep-Sea Fisheries in the High Seas in 2008. [248]

In practice, ABMTs are being implemented by RFMOs within their competence area through prohibition use on certain types of fishing gears in particular area or depth level as well as temporal or permanent closure of fishing areas. For example, NEAFC implement bottom fishing closures for several areas to protect VMEs, closure for Rockall Haddock area for all fishing activities except longline fishing, and seasonal bottom gear closures to protect Blue Ling.[249] Similarly, SEAFO designated 11 areas that are closed to all fishing gears and 1 area that is closed to all fishing gears except pots or longlines. Figure 6 illustrates distribution of VME closed areas and bottom fishing designated areas by RFMOs.

[246] United Nations General Assembly, 'A/RES/61/105. Resolution Adopted by the General Assembly on 8 December 2006. 61/105. Sustainable Fisheries, Including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and Related Instruments' (2007). Para 83.

[247] FAO, 'FAO Technical Guidelines for Responsible Fisheries No. 4. Marine Protected Areas and Fisheries.' (FAO, 2011) <https://www.fao.org/3/i2090e/i2090e.pdf>. The guideline aims to provide background and policy considerations of MPA as a fisheries management tool, MPA effects on ecosystems, and the design and implementation of MPAs.

[248] FAO, 'The FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas' (n 126). The guideline aims to provide States and RFMOs with sets of measures to ensure the conservation of target and non-target species as well as affected habitats, and mitigate adverse impacts from deep-sea fisheries activities.

[249] The North-East Atlantic Fisheries Comission (NEAFC) (n 144). See Recommendation 10 : 2021, 05 : 2022, 07 : 2021. Available at <https://www.neafc.org/managing_fisheries/measures/current>

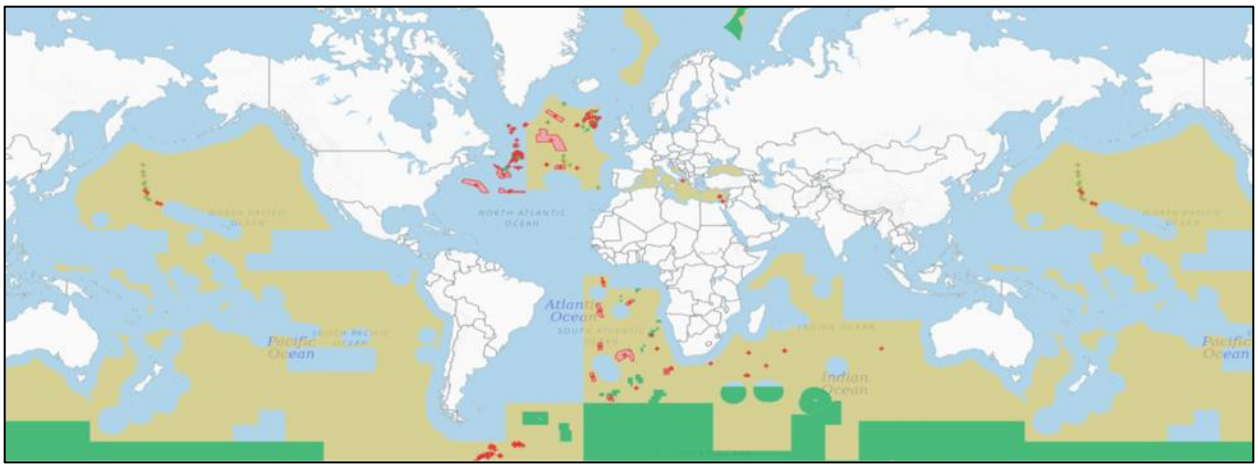

Figure 6. Distribution of bottom fishing designated areas and VMEs closed areas. VMEs closed areas, bottom fishing areas, and other access regulated areas are represent in red, green, and light yellow colour, respectively. [250]

Challenges in ABMTs including MPAs implementation

As we can see from the previous sub-section discussion, MPAs establishment and implementation in ABNJ is currently carried out by several regional and sectoral organizations with various objectives and interests. Gjerde et al argue that the regional and sectoral approaches to establish MPA due to that there is no overarching global mechanism to establish MPAs in ABNJ.[251] Similarly, Frank argues that the non-existence of global mechanism because UNCLOS and CBD as prominent legal instruments in ocean governance and biodiversity conservation, respectively do not specifically mandate a global framework to establish MPA.[252] The Convention only provides general duties which include protection and preservation of marine environment (article 192 and 194(5)), conservation and management of marine living resources in the high seas (article 117-120), and the duty to cooperate on a global and on a regional basis directly or through competent international organizations to adopt rules and standards to protect marine environment (article 197). Although these provisions could provide a legal basis to establish MPA, UNCLOS also does not provision guidance or institutional framework for states to implement these general duties.[253]

[250] FAO, 'Vulnerable Marine Ecosystems Database' (2022) <https://www.fao.org/in-action/vulnerable-marine-ecosystems/vme-database/en/vme.html>.

[251] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19); Veronica Frank, 'Options for Marine Protected Areas under a New Agreement on Marine Biodiversity of Areas beyond National Jurisdiction' in *New Knowledge and Changing Circumstances in the Law of the Sea* (Brill Nijhoff, 2020) 101.

[252] Frank (n 251).

[253] Ibid.

Likewise, CBD has limitation on its provision with regard to the conservation of marine biodiversity in ABNJ.[254]

The CBD main domain is within its parties national jurisdiction (article 4(b)), and it only requires parties to ensure that activities under their jurisdiction do not affect area beyond national jurisdiction (article 3).[255] CBD parties are also required to cooperate with other state or through competent international organization for conservation and sustainable use of biodiversity in area beyond national jurisdiction (article 5). With regard to protected area, CBD obliges States to create a system of protected areas as one of the means to conserve biodiversity (article 8(a)).[256] Despite its limitation, CBD plays significant advisory roles in providing scientific and technical support in establishing MPAs in ABNJ through describing EBSAs which can be followed up to be designated as MPAs.[257] However, this would depends on the parties to follow up since the CBD also does not have mandate and regulatory framework to establish and manage MPA in ABNJ.

The plethora of sectoral and regional ABMTs and MPAs have raised questions on how they contribute to give comprehensive protection to marine biodiversity in ABNJ. As discussed above, sectoral organizations have used ABMTs to manage activities and mitigate environmental impacts within their competence areas. However, these sectoral bodies do not focus on conservation objectives nor have the necessary mandate to regulate and manage impacts from other sector activities.[258] And as their measures only apply for their respective sectoral activities thus they fail to create a protection regime that protects the marine environment from all threats and activities.[259]

Similarly, MPAs that established through regional instruments only cover parts of ABNJ and only bind to parties of such instrument.[260] Therefore such MPAs do not have any effect to other states outside the instrument. Consequently in order to achieve comprehensive protection of its MPAs,

[254] Ibid.

[255] Note: In CBD article 5, area beyond national jurisdiction applies for both marine and terrestrial. Thus it is not abbreviated as ABNJ in this passage.

[256] See sub section 2.1.2.1 for discussion on CBD mandate with regards to protected area and MPA.

[257] COP CBD (n 99). Para 26 and 24; Frank (n 303).

[258] Frank (n 251).

[259] Petra Drankier, 'Marine Protected Areas in Areas beyond National Jurisdiction' (2012) 27(2) *International Journal of Marine and Coastal Law* 291 <https://heinonline.org/HOL/License>.

[260] Rochette et al (n 217); Wright, Rochette and Druel (n 30).

regional organization must cooperate with other competent/sectoral organizations.[261] In other words, establish cross-sectoral cooperation. However, currently there is no global platform to fostering cross-sectoral cooperation in ABNJ, and as a consequence there will be potential conflict between user interests in ABNJ.[262] For example between MPA and fishing activities, or between fishing closure and mining activity.

Moreover, to protect a full range of spectrum of ecosystems, habitats, and species MPAs should be designed to be ecologically coherent and form a representative network of MPAs. The current sectoral and fragmented initiatives in establishing ABMTs and MPAs are not sufficient to create ecologically coherent networks of MPAs and meet global conservation targets.[263] This is the case with OSPAR where its network of MPAs shows significant progress towards the CBD 10% target, but it is not ecologically coherent.[264] Challenges in creating ecologically coherent networks of MPAs is not due to governance gaps alone but may also be due to difficulties in enhancing efforts between existing authorities to go beyond their normal duties.[265] However, Ardron et al argue that current incremental and sectoral approach like prioritizing protection for sites that are ecologically important or under significant threat, such as VME closed areas, would be pragmatic and useful in achieving ecologically coherent networks of protected areas in ABNJ.[266]

Furthermore, to deliver the intended conservation outcome, MPAs in ABNJ should have a management plan that addresses conservation actions and measures needed to achieve the desired goals and objectives.[267]. Nevertheless, several regional MPA areas were designated without management and monitoring plans, for example, management measures and monitoring plans for OSPAR MPAs are only partially being implemented, and likewise South Orkney Island MPA in CAMLR region was designated without a management and monitoring plan.[268] In addition, current ABMT implementation in ABNJ also lacks monitoring mechanisms to ensure compliance and

[261] Frank (n 251).

[262] Ibid.

[263] Frank (n 303).

[264] David Johnson et al, 'When Is a Marine Protected Area Network Ecologically Coherent? A Case Study from the North-East Atlantic' (2014) 24(S2) *Aquatic Conservation: Marine and Freshwater Ecosystems* 44.

[265] De Santo (n 208).

[266] Ardron et al (n 92).

[267] Day et al (n 181).

[268] De Santo (n 208).

effective management implementation.[269]. De Santo argues that creating mechanism to ensure compliance and enforcement of ABMTs and MPAs in ABNJ is challenging due to following factors [270]:

1. impose additional tasks to already busy existing organizations;
2. issue of compromises to keep states engagement as in the case of RFMOs; and
3. ensuring non-parties to adherence to conservation measures.

These challenges urged the need to create a new overarching mechanism under the new BBNJ agreement to ensure compliance and enforcement. In addition, recent technology development in surveillance that combines Vessel Monitoring System (VMS), Automatic Identification System (AIS), satellite imagery, and automation or machine learning may be beneficial for monitoring and enforcing MPAs in ABNJ.[271]

Chapter 2. Opportunity to conserve marine biological diversity in areas beyond national jurisdiction

The previous chapter has provided an understanding on issues of the current global and regional cooperation on ABMTs including MPAs in ABNJ which prompted the urgency on BBNJ Agreement. Subsequently, this chapter discusses developments of the BBNJ agreement. It will first discuss the background and processes of the BBNJ agreement and implications to the existing cooperation on conservation and sustainable use of marine biodiversity. Then, it will be followed by discussion on the BBNJ agreement draft text that related to international cooperation on ABMTs including MPAs. It also will identify options for future cooperation scenarios between the BBNJ agreement and existing regional and sectoral organisation.

[269] Gjerde et al, 'Regulatory and Governance Gaps in the International Regime for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction' (n 19); Frank (n 251).

[270] De Santo (n 208).

[271] Ibid.

Section A. Development of an international legally binding instrument for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

Background and latest development of International Legally Binding Instrument for conservation of marine biological diversity beyond national jurisdiction (BBNJ Agreement)

The process to develop the BBNJ agreement started to approximately 2 decades ago through series of informal and formal process at the global level. The informal process to discuss BBNJ started in 2001 in a workshop organized by Australia and Germany which discussed managing risks to marine biodiversity in ABNJ.[272] Important follow up from the 2001 workshop was the issue on BBNJ became one of the topics of the at fourth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) in 2003, under the topic *"Protecting Vulnerable Marine Ecosystems"*.[273] The 4th meeting of UNICPOLOS recommended UNGA to invite relevant international bodies to better address threats and risks to VME and BBNJ.[274] The UNGA then carried on to discuss the BBNJ issue in 5th meeting of UNICPOLOS in 2004 under the theme of *"New sustainable uses of the oceans, including the conservation and management of the biological diversity of the seabed in areas beyond national jurisdiction"* [275]. As a result, the UNGA adopted Resolution 59/24 to establish Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.[276] This resolution marked the start of the formal discussion process of BBNJ issue under the UN.

Ad Hoc Open-ended Informal Working Group (the BBNJ Working Group)

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[272] Kristina M Gjerde, 'Perspectives on a Developing Regime for Marine Biodiversity Conservation and Sustainable Use beyond National Jurisdiction' in Harry N Schreiber, Nilufer Oral and Moon Sang Kwon (eds), *Ocean Law Debates : The 50-Year Legacy and Emerging Issues for the Years Ahead* (Brill, 2018) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/>.

[273] Ibid.

[274] United Nations General Assembly, 'A/58/95.Report on the Fourth Meeting of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea' (2003) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N03/409/70/PDF/N0340970.pdf?OpenElement>.

[275] United Nations General Assembly, 'A/59/122. Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at Its Fifth Meeting' (2004) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N04/412/21/PDF/N0441221.pdf?OpenElement>.

[276] UN General Assembly, 'A/RES/59/24. Resolution Adopted by the General Assembly on 17 November 2004. 59/24. Oceans and the Law of the Sea' (n 21).

Pursuant to the UNGA Resolution 59/24, The BBNJ Working Group met several sessions from 2006-2015 to discussed mainly on the gaps and weaknesses of the current international regime and whether these requires a new instrument.[277] It reached an important milestone in 2011, when for the first times states reached consensus that discussion on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction should focus on four topics taken as a package, together and as a whole: (i) marine genetic resources, including questions on the sharing of benefits; (ii) measures such as area-based management tools including marine protected areas; (iii) environmental impact assessments; and (iv) capacity-building and the transfer of marine technology.[278] It was in the final meeting of 2015 the BBNJ Working Group reached another important outcome and recommended the UNGA that it is necessary to develop a comprehensive global regime in form of an international legally binding instrument (ILBI) under UNCLOS to better address the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.[279] Other important recommendation of the BBNJ Working was the ILBI should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies.[280] Such recommendations was adopted by the UNGA on the 69th session on 6 July 2015 through the Resolution 69/252 which mandated to establish Preparatory Committee to discuss substantive elements of the ILBI and starts its work from 2016 to 2017.[281]

The Preparatory Committee

The Preparatory Committee (PrepCom) convened for four times from 2016 to 2017. Throughout the PrepCom sessions delegates unpacked and offered detailed suggestions on each of the negotiation elements package. In relation to ABMTs including MPAs, states debated issues such

[277] Wright et al (n 155).

[278] United Nations, 'A/66/119. Recommendations of the Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction and Co-Chairs' Summary of Discussions' (2011) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N11/397/64/PDF/N1139764.pdf?OpenElement>.

[279] United Nations General Assembly, 'A/69/780. Outcome of the Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity beyond Areas of National Jurisdiction' (13 February 2015) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/041/82/PDF/N1504182.pdf?OpenElement>.

[280] Ibid.

[281] UN General Assembly, 'A/RES/69/292. Development of an International Legally Binding instrument

under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Diversity of Areas beyond National Jurisdiction' (n 31).

as not undermining existing instrument and conservation efforts [282], and management types of MPA i.e. from strict protection to multi-use, and protection time duration.[283] At the 3rd PrepCom, the Chair achieved a breakthrough on institutional aspect of the ILBI and relationship with existing instrument through proposing "global," "hybrid" and "regional" models during the discussions on ABMTs including MPAs.[284] In 2017 at the final session, PrepCom produced a document that contains two sections: Section A includes list of non-exclusive elements that most delegations have convergence, and Section B highlights issues where there are divergence views.[285] For example, on measures such as ABMTs including MPAs in Section A there are convergence on topics such as: objectives, relationship with relevant instruments, frameworks and bodies, as well as identification criteria.[286]. While topic that need further discussion in Section B is on institutional set up to enhance cooperation without undermining existing legal instrument and mandates of regional and sectoral bodies.[287]

The Intergovernmental Conference

Considering the PrepCom recommendation, on 24 December 2017 the UNGA adopted resolution 72/249 to convene an Intergovernmental Conference (IGC) in four sessions from 2018-2020 to elaborate the text of BBNJ agreement.[288] The IGC was preceded with organizational meeting from 16 to 18 April 2018 which elected Rena Lee as the President of the IGC.[289] At the first IGC in 2018 delegates discussed list of substantive views on package elements as well as cross cutting

[282] Elisa Morgera, Tallas Kantai and Asterios Tsioumanis, *Summary of the First Session of the Preparatory Committee on Marine Biodiversity beyond Areas of National Jurisdiction: 28 March - 8 April 2016* (2016) <http://www.iisd.ca/oceans/bbnj/prepcom1/>.

[283] Elisa Morgera, Tallas Kantai and Asterios Tsioumanis, *Summary of the Second Session of the BBNJ Preparatory Committee: 26 August – 9 September 2016* (12 September 2016) <http://www.iisd.ca/oceans/bbnj/prepcom2/>.

[284] Elisa Morgera et al, *Summary of the Third Session of the Preparatory Committee on Marine Biodiversity beyond Areas of National Jurisdiction: 27 March-7 April 2017* (10 April 2017) <http://enb.iisd.org/oceans/bbnj/prepcom3/>.

[285] United Nations General Assembly, *A/AC.287/2017/PC.4/2. Report of the Preparatory Committee Established by General A/AC.287/2Assembly Resolution 69/292: Development of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction* (31 July 2017). Page 7-17 and 17. <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N17/237/36/PDF/N1723736.pdf?OpenElement>.

[286] Ibid. Page 11

[287] Ibid. Page 17

[288] UN General Assembly, 'A/RES/72/249. International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction' (n 24).

[289] Wright et al (n 155).

issues.[290] State delegations started to articulating their views on the treaty based text prepared by the President and begin to identify solutions and seeks compromise during the IGC 2.[291] At IGC 3 in 2019, the President presented the draft text of BBNJ agreement which contains 12 parts and 70 articles that address four elements of the 2011 negotiation package, and include one annex on types of capacity building and transfer of marine technology.[292] As part of the IGC 4 preparation, delegations requested the IGC President to prepare a revised draft text that taken into account comments and textual proposal made by delegations during IGC 3.[293]

The IGC 4 was held from 7 to 18 March 2022 after two years of postponement due to COVID-19 global pandemic situation in accordance with the UNGA decision 75/570 and 74/573.[294] The fourth session of IGC was lauded as the most productive with unprecedented progress where delegations submitted textual proposals and drafted consensus text between regional groups for similar text proposal.[295] However, delegations could not conclude the agreement in IGC 4 [296], and

[290] Elisa Morgera et al, *Summary of the First Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 4-17 September 2018* (20 September 2018) <http://enb.iisd.org/oceans/bbnj/igc1/>.

[291] Tallash Kantai et al, *Summary of the Second Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 25 March-5 April 2019* (2019) <http://enb.iisd.org/oceans/bbnj/igc2/>.

[292] United Nations General Assembly, 'A/CONF.232/2019/6. Draft Text of an 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 Note by the President' (17 May 2019) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N19/146/28/PDF/N1914628.pdf?OpenElement>.

[293] United Nations General Assembly, 'A/CONF.232/2019/10. Statement by the President of the Conference at the Closing of the Third Session' (13 September 2019) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N19/281/55/PDF/N1928155.pdf?OpenElement>.

[294] United Nations General Assembly, 'A/75/L.96. General Assembly Decision 75/570 to Postpone the Fourth Session of the Conference' (9 June 2021); United Nations General Assembly, 'A/74/L.41. General Assembly Decision 74/543 to Postpone the Fourth Session of the Conference' (9 March 2020) <https://documents-dds-ny.un.org/doc/UNDOC/LTD/N20/060/54/PDF/N2006054.pdf?OpenElement>.

[295] Tallash Kantai and Paola Bettelli, *Summary of the Fourth Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 7-18 March 2022* (21 April 2022) <https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc4>.

[296] United Nations General Assembly, *A/CONF.232/2022/4. Report of the Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction* (14 April 2022) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/319/34/PDF/N2231934.pdf?OpenElement>.

in accordance to GA decision 76/564 the fifth session of the IGC was held from 15-26 August 2022.[297]

In IGC 5 delegates negotiated the further revised draft text of BBNJ agreement which comprises of 12 parts, 70 articles, and 2 annexes.[298] Despite efforts to finding common grounds to compromise in some provisions, delegates were run out of time to conclude the BBNJ agreement in IGC 5.[299] For example on ABMTs including MPAs, there were indications of agreements on most provisions including on proposal preparation and review, and decision making.[300] The President suspended IGC 5 and would take necessary steps to request the UNGA to convene a resumed session of IGC at a later date.[301] The IGC 5 outcome to deliver the BBNJ treaty within time limit was met with disappointment by many delegations, but they remains hopeful for the resumed session and conveyed that it is worth holding another session if this will ensure the adoption a robust treaty.[302]

Possible implications of the BBNJ Agreement to the existing global frameworks on conservation and sustainable use of marine biological diversity

As discussed in the previous section, the BBNJ agreement aims to address governance challenges to conserve and sustainably use marine biological diversity in ABNJ. One of recognized challenges in the BBNJ Agreement is institutional arrangement or relationship between institutions established under BBNJ agreement with relevant global and regional bodies established by

[297] United Nations General Assembly, 'A/76/L.46. General Assembly Decision 76/564 to Convene a Fifth Session of the Conference ' (24 March 2022) <https://documents-dds-ny.un.org/doc/UNDOC/LTD/N22/298/78/PDF/N2229878.pdf?OpenElement>.

[298] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (1 June 2022) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/368/56/PDF/N2236856.pdf?OpenElement>.

[299] Tallash Kantai, Asterios Tsioumanis and Nicole Schabus, *Summary of the Fifth Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 15-26 August 2022* (29 August 2022) <https://enb.iisd.org/marine-biodiversity-beyond-national-jurisdiction-bbnj-igc5>.

[300] Ibid.

[301] United Nations General Assembly, *A/CONF.232/2022/9. Statement by the President of the Conference Issued after the Suspension of the Fifth Session* (14 September 2022) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/590/77/PDF/N2259077.pdf?OpenElement>.

[302] Kantai, Tsioumanis and Schabus (n 299); MARIPOLDATA, 'Too High Hopes for a High Seas Treaty?' <https://www.maripoldata.eu/too-high-hopes-for-a-high-seas-treaty/#_ftn3>.

existing instrument.[303] BBNJ institutional arrangement was firstly introduced by the PrepCom Chair at the 3rd meeting who deliberated three different approaches on BBNJ institutional arrangement, namely global, hybrid, and regional model.[304] However, as pointed out by Clark, the models was not universally understood and have been interpreted differently by States during the PrepCom discussion.[305] In addition, the further revised draft text of BBNJ agreement does not specifically formulated to make States choose between the three models, but instead includes options on form and function of institutional arrangement.[306]

Based on above discussion, this sub section will examine the further revised draft text of BBNJ Agreement on institutional arrangement and analyze possible relationship and implications of such arrangement to existing global and regional framework. However, it is important to note that the negotiations on the draft text agreement is not yet concluded, but states view has been converge in the BBNJ institutional organs that would consists of decision making body/forum, science/technical body, secretariat, and clearing-house mechanism.[307] Certainly, this convergence has been reflected in the current draft discussed in IGC 5, although states were having different stance with regards to detail functions of the BBNJ institutional organs.[308]

In the further revised draft text, institutional arrangements of the BBNJ agreement are laid down in Part VI Institutional Arrangement which comprises of Conference of the Parties (COP), Scientific and Technical Body (STB), Secretariat, and Clearing-House Mechanism (CHM) in article 48, 49, 50, and 51, respectively.[309]

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[303] Nichola A Clark, 'Institutional Arrangements for the New BBNJ Agreement: Moving beyond Global, Regional, and Hybrid' (2020) 122 *Marine Policy*.

[304] Chair of Preparatory Committee established by General Assembly resolution 69/292, 'Chair's Non-Paper Overview of the Third Session of the Preparatory Committee' (2017) <https://www.un.org/Depts/los/biodiversity/prepcom_files/Chair_Overview.pdf>.

[305] Clark (n 303).

[306] Ibid.

[307] United Nations General Assembly, 'A/AC.287/2017/PC.4/2. Report of the Preparatory Committee Established by General A/AC.287/2Assembly Resolution 69/292: Development of an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction' (n 285).

[308] Clark (n 303).

[309] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298).

The COP is proposed to be the decision making body whose tasks would include adopt rules of procedures (article 48(3)), adopt decision related to implementation of the BBNJ agreement (article 48(5 a)), establish cooperation and coordination with and among relevant framework and global, regional, and sectoral bodies (article 48(5 c)), as well as promote transparency in decision making process (article 48 bis(3)) [310] This proposed provision gives COP a role as global decision making body with power and functions to implement the work of BBNJ agreement.[311] With this, as proposed in article 19 and 19 bis, COP can take decisions related to measures on ABMTs including MPAs.[312] Implication of this current proposal is existing global, regional, and sectoral organisations are expected to gives input and advice which would be considered during the decision making process in COP.[313] In addition, relevant organisations are also expected to adopt measures and guidance developed under the BBNJ agreement within their competence area, and reporting their application of measures through CHM.[314]

Moreover, further revised draft text of BBNJ agreement provisions STB core function is to provide scientific and technical advice through for example, provide preliminary review and assess upon ABMT including MPA proposal.[315] The STB also provisioned to perform functions that have been assigned or determined by COP, for example to monitor, review, and assess effectiveness of measures on ABMTs including MPAs implementation.[316]. While the Secretariat provisioned to perform supporting roles to the implementation of the BBNJ agreement which include among others administrative and logistical support, circulate information, facilitate cooperation and coordination, and manage CHM.[317] Furthermore, the CHM duties are include to provide access and disseminate information on the establishment and implementation of ABMTs including MPAs, provide links to relevant global, regional, and sectoral CHM, and facilitate international

[310] Ibid. Article 48 (3), (5 a and c), and 48bis.

[311] Clark (n 303). Article 11 (8), 19 (1), 38 (1bis), and 51(4).

[312] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298).

[313] Clark (n 303).

[314] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298). Article 23 (3) and (7)

[315] Ibid. See article 18 (2) and (6).

[316] Ibid. See article 21 (2) and (3).

[317] Ibid. See article 50 (2.a, c, d) and 51 (4).

cooperation.[318] As a consequences, relevant global and sectoral bodies are require to provide access to information related to implementation of activities under BBNJ domain such as ABMTs including MPAs.

Section B. International cooperation and coordination on ABMT including MPA in the BBNJ Agreement

This section will discuss the draft text development and examine state views on international cooperation and coordination related to the implementation of ABMT including MPA. The last part of this section will identify options for future cooperation and coordination scenarios between the BBNJ agreement and existing relevant regional and sectoral bodies. Identification of options will be derived from the draft text agreement.

Development of the text agreement and states view on international cooperation in ABMT include MPA

BBNJ agreement objective is to enhance international cooperation to ensure conservation and sustainable use of marine biodiversity in ABNJ.[319] International cooperation is relevant for ABMTs including MPAs since cooperation between international, regional, and sectoral organisations is required to achieve effective implementation of ABMTs including MPAs measures in ABNJ.[320] Enhancing international cooperation in ABNJ means enabling participation of one international body to give effect to measures adopted by another international body.[321] Further, strengthening cooperation would be much affected by States that either acted as independent agent or as members of intergovernmental organizations.[322]

For above reasons, it is important to examine States view on international cooperation in the draft text agreement in particular related to implementation of ABMTs including MPAs. It is worth to note that the negotiation for the BBNJ text agreement is not yet concluded, thus States view during negotiations cannot be perceived as their final positions. However this examination would provide

[318] Ibid. See article 51 (3.a, c, and f)

[319] Ibid. Article 2.

[320] Aguiar Branco (n 46).

[321] Richard Barnes, 'Fisheries and Areas beyond National Jurisdiction: Advancing and Enhancing Cooperation' in Tomas Heidar (ed), *New Knowledge and Changing Circumstances in the Law of the Sea* (Brill Nijhoff, 2020) 124.

[322] Ibid.

insights on States' political interest or support upon BBNJ agreement in particular with regard to international cooperation and ABMTs including MPAs measures.

States during negotiations of the BBNJ text agreement in general can be divided into three blocs, the first bloc is the conservation minded states which include the European Union (EU), Australia, and New Zealand, the second bloc is the Group of 77 plus China (G77/China) and Mexico, lastly the third bloc is the US and include also Canada, Japan, Russia, Iceland, Norway, South Korea and Singapore.[323] The most distinctive division is between the G77/China and the US together with other developed states which based on these groups views on freedom of high seas and common heritage of mankind principles with relate to marine genetic resources governance in ABNJ.[324] However, measures such as ABMTs including MPAs in ABNJ also become contentious debate since such measures will affect the exercise of the freedom of the high seas in the Area and the water column (ABNJ), thus will shape the negotiation of the BBNJ draft text agreement.[325] For contextual reason of the thesis, this section will focus only on SEA countries views during the development of BBNJ agreement.

During the negotiation process, as part of the G77 the SEA States aligned themselves with the G77/China position, but they are also contributed to the negotiations individually or sharing same concerns during the negotiation.[326] The G77 is the largest intergovernmental organization of developing countries in the United Nations which currently has 132 members across the Africa, Asia-Pacific and Latin America and the Caribbean.[327] In general, the G77/China position on ABMTs including MPAs is to support coherent global mechanism to designate, implement and monitoring ABMTs including MPAs that consider existing works of relevant global and regional frameworks.[328] Additionally, the G77/China place concern that the BBNJ agreement should

[323] Elisabeth Druel et al, *A Long and Winding Road International Discussions on the Governance of Marine Biodiversity in Areas beyond National Jurisdiction, Studies No 07/13* (No 07, 2013) <www.iddri.org>; Wright et al (n 155).

[324] Wright et al (n 155).

[325] Sarah Louise Lothian, 'The Grotian Tradition and Its Place in the BBNJ Negotiations' in *Marine Conservation and International Law* (Routledge, 2022) 58.

[326] Gunasekara and Karim (n 43).

[327] The Group of 77, 'About the Group of 77' (2022) <https://www.g77.org/doc/index.html>.

[328] The Group of 77, 'Interventions on Behalf of the Group of 77 and China on Agenda Item 7: Measures Such as Area-Based Management Tools, Including Marine Protected Areas at the First Session of the Intergovernmental Conference on an International Legally Binding Instrument under UNCLOS on the Conservation and Sustainable Use

enhance and develop capacity building of developing countries to implement such agreement.[329] Among States in the SEA region, Indonesia, the Philippines, and Singapore are notably more active than other states in asserting their views during BBNJ discussion and negotiation process.

As archipelagic countries, Indonesia and the Philippines are consistent to push recognition and consideration for special characteristics of such countries. They are of the view that designation and implementation of ABMTs and MPAs should not place additional burden to developing countries and archipelagic states.[330] For Indonesia its archipelagic waters and the surroundings ABNJ are interlinked and connected, thus it views the BBNJ agreement will provides opportunities to obtain monetary and non-monetary benefits from conservation and sustainable use of marine biodiversity.[331] Furthermore, both Indonesia and the Philippines called for the BBNJ agreement should not prejudice the rights and obligations of coastal states especially on ECS, and adjacent coastal states should be consulted during the deliberation of proposal to establish ABMTs

of Marine Biological Diversity of Areas Beyond National Jurisdiction' (7 September 2018) <https://www.g77.org/statement/getstatement.php?id=180910c>.

[329] The Group of 77/China, 'The Group of 77 and China's Written Submission to the Preparatory Committee Established by the General Assembly Resolution 69/292' (5 December 2016) <https://www.un.org/depts/los/biodiversity/prepcom_files/rolling_comp/Group_of_77_and_China.pdf>.

[330] Permanent Mission of the Republic of Indonesia to the United Nations, 'Statement by Alternate Head of the Delegation/Deputy Permanent Representative of the Republic of Indonesia, Ambassador Mohammad K. Koba On Agenda Item 5-General Exchange of Views The 4 Th Intergovernmental Conference on Marine Biodiversity of Areas' (18 March 2022) <https://www.un.org/bbnj/sites/www.un.org.bbnj/files/indonesia_statement_closing_igc_4_bbnj_.pdf>; Philippine Mission to the United Nations, 'Closing Statement of Assistant Secretary for Maritime and Ocean Affairs Office Department of Foreign Affairs, Republic of the Philippines at the Closing of the Fourth Session Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction' (18 March 2022).

[331] Dirhamsyah, 'Biodiversity Beyond National Jurisdiction (BBNJ): Indonesian Perspective as an Archipelagic State' (2021) 789(1) *IOP Conference Series: Earth and Environmental Science* 012020.

including MPAs.[332] These concerns have been consistently deliberated throughout PrepCom sessions.[333]

Similarly, Singapore supported consultation with any potential affected states whose continental shelf or maritime area suprajacent to proposed MPAs, and with relevant global, regional, and sectoral bodies that have a role and activities in the proposed area.[334] In addition, Singapore showed support for global mechanism to addressing governance gaps through providing exchange and consultation platform on ABMT including MPAs proposal, but decision making could be executed through BBNJ organ or other competent bodies.[335]

Above discussions highlighted some of the SEA states' interests on international cooperation and ABMTs including MPAs measure in the BBNJ agreement. They have common concern on issues such as coastal states right with regard to adjacency and ECS, consultation with relevant organisations/bodies on MPA proposal, as well as enhancing capacity building. Such issues are still continue to be debated at the IGC 5. Although delegates were come close to agreement on most provisions such as the preparation and review of proposals, and decision making, the IGC 5 were suspended with some provisions are still not yet reaching consensus.[336] Some contentious provisions at the IGC5 are include COP roles on ABMTs including MPAs decision making, and respecting the role of existing relevant international framework and bodies.[337]

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[332] United Nations General Assembly, 'Textual Proposals Submitted by Delegations by 20 February 2020, for Consideration at the Fourth Session of the Intergovernmental Conference on an International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (the Conference), in Response to the Invitation by the President of the Conference in Her Note of 18 November 2019 (A/CONF.232/2020/3)' (15 April 2020) <https://www.un.org/bbnj/sites/www.un.org.bbnj/files/a_conf232_2022_inf1_textualproposalscompilation_articleby article15april2020_rev.pdf>.

[333] Elisa Morgera et al, *Summary of the Fourth Session of the Preparatory Committee on Marine Biodiversity beyond Areas of National Jurisdiction: 10-21 July 2017* (24 July 2017) <http://enb.iisd.org/oceans/bbnj/prepcom4/>; Morgera et al, 'Summary of the Third Session of the Preparatory Committee on Marine Biodiversity beyond Areas of National Jurisdiction: 27 March-7 April 2017' (n 284); Morgera, Kantai and Tsioumanis (n 283).

[334] Tallash Kantai et al, 'Summary of the Third Session of the Intergovernmental Conference (IGC) on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 19-30 August 2019' 1 <http://enb.iisd.org/oceans/bbnj/igc3/>.

[335] Morgera et al, 'Summary of the First Session of the Intergovernmental Conference on an International Legally Binding Instrument under the UN Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biodiversity of Areas Beyond National Jurisdiction: 4-17 September 2018' (n 290).

[336] Kantai, Tsioumanis and Schabus (n 299).

[337] Ibid.

Possible scenarios of cooperation and interaction between the BBNJ Agreement with existing regional or sectoral organizations on the implementation of ABMT including MPA

At the IGC 5 held in New York from 15-26 August 2022, delegations discussed the further revised draft text of the BBNJ agreement. The further revised draft text maintained the revised draft structure from the IGC 4 with some changes and placement on some articles that reflects idea and proposal made during the IGC 4 discussion.[338] It is noteworthy that by the time of this thesis written, the IGC 5 has been concluded but not resulted in the adoption of final BBNJ agreement text. And the draft text of IGC 5 results have not yet released by the UN DOALOS. Further, similar with other provisions, some provisions on ABMTs including MPAs were presented throughout the draft either in brackets or options indicating the differences in delegations position that captured during the IGC 4. This thesis will review the further revised draft text that had been presented and discussed at the IGC 5 meeting. Although it is not yet final, this review will provides possible scenarios on future relationship, cooperation, and coordination between the BBNJ agreement and existing relevant regional and sectoral bodies.

In overall the further revised draft text contains 12 parts and 70 articles and two annexes. Measures such as ABMTs, including MPAs is on Part III that covers aspects include objectives (article 14), proposals (article 17), identification of areas (article 17 bis), consultation on and assessment of proposals (article 18), decision-making (article 19), international cooperation and coordination (article 19bis), implementation (article 20), and monitoring and review (article 21).[339] All these proposed articles have provisions that regulate relationship between BBNJ agreement and relevant global, regional, and sectoral organisations as illustrated on Figure 7 .

[338] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298). See annex

[339] Ibid. See President's note para 6 and 9.

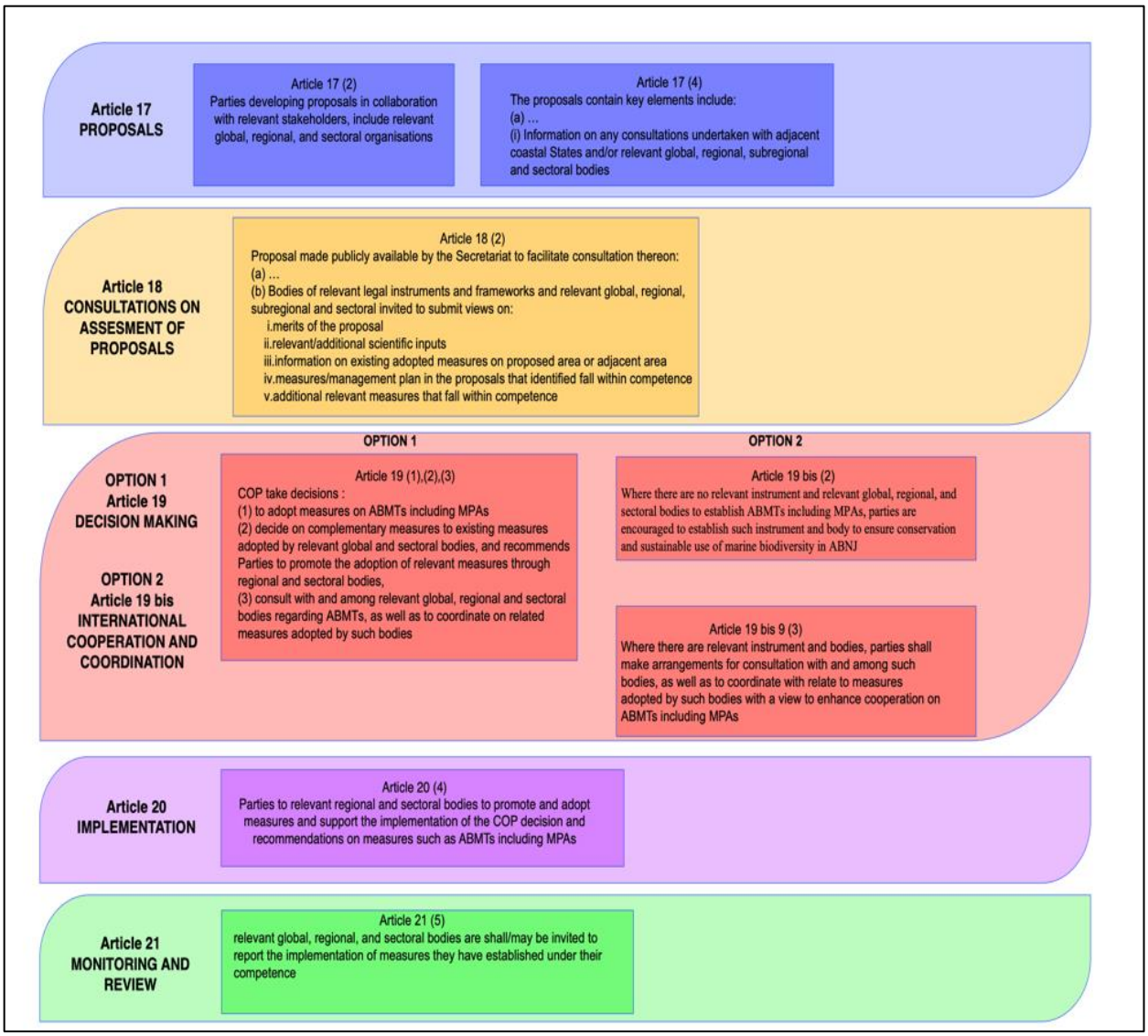

Figure 7. Articles in Part III Measures such as ABMTs including MPAs that relate with global, regional, and sectoral organisations

Article 14 provisions that ABMTs including MPAs objectives are to enhance coordination and cooperation with relevant global, regional, and sectoral organisations, as well as to promote cross sectoral approach to conserve and sustainably use marine biodiversity in ABNJ.[340] Further laid down in article 17 on Proposals, Parties collectively or individually shall submit proposal on ABMTs including MPAs to the secretariat (article 17(1)), and such proposal may be develop in collaboration with relevant regional organisations as stipulate in article 17(2).[341] To this end, ABMT proposal shall be made publicly available by the Secretariat for consultation and

[340] Ibid. Article 14 (1)

[341] Ibid. Article 17 (2) and (2) (b).

assessment as provisioned in article 18(2). Accordingly, adjacent coastal states and relevant regional and sectoral bodies will be invited to submit inputs on the proposals regarding among others scientific information and existing adopted or additional measures on the proposed or adjacent area within its competencies.[342]

Steps on establishing ABMTs including MPAs is then continue to decision making on the proposals as provisioned in article 19 which has 2 provision options i.e. article 19 and 19 bis. The first option on article 19 stipulates that COP shall decide on followings matters: measures on ABMTs including MPAs, complementary measures to existing measures adopted by relevant global and sectoral bodies, recommends Parties to promote the adoption of relevant measures through regional and sectoral bodies, and make consultation and coordination with relevant global and sectoral bodies on related measures adopted by such bodies.[343] While in the second option (article 19 bis), decision making would involve two scenarios related to the existence of relevant global, regional, and sectoral bodies as follows:

1. Article 19 bis (2), where there are no relevant instrument and relevant global, regional, and sectoral bodies to establish ABMTs including MPAs, parties are encouraged to establish such instrument and body to ensure conservation and sustainable use of marine biodiversity in ABNJ [344]; and
2. Article 19 bis (3), where there are relevant instrument and bodies, parties shall make arrangements for consultation with and among such bodies, as well as to coordinate with relate to measures adopted by such bodies with a view to enhance cooperation on ABMTs including MPAs [345] .

With regards to situation where there are no relevant instrument as in article 19 bis (2), Tang et al argue that under such article COP could directly establish ABMTs including MPAs and obliges parties to cooperate and establish such ABMTs or MPAs.[346] On the other hand, where there are relevant bodies, existing relevant organisations could establish ABMTs including MPAs whilst

[342] Ibid. Article 18 (2 a and b).

[343] Ibid. Article 19 (1-3).

[344] Ibid. Article 19 bis (2).

[345] Ibid. Article 19 bis (3).

[346] Yi Tang, Wenjin Chen and Yanxuedan Zhang, 'International Cooperation and Coordination in the Global Legislation of High Seas ABMTs Including MPAs: Taking OSPAR Practice as Reference' (2021) 133 *Marine Policy*.

COP plays role on oversight and review of such MPA.[347] Moreover, in the latter scenario, existing global, regional, and sectoral bodies are expected to have consultation and arrangements with parties or other organisations, and to coordinate on implementing ABMT including MPA measures. Further, article 20 provisions duty to Parties who are members of relevant global, regional, and sectoral organisations to promote and adopt measures and support the implementation of the COP decision and recommendations on measures such as ABMTs including MPAs.[348] Further, relevant global, regional, and sectoral bodies are shall/may be invited to report the implementation of measures they have established under their competence (article 21(5)).[349]

[347] Ibid.

[348] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298). Article 20 (4).

[349] Ibid. Article 21 (5).

Part 2. Future endeavors in cooperation to conserve and sustainably use marine biological diversity in the Southeast Asia region and adjacent ABNJ

The objective of Part 2 of this thesis is to provide an overview of the condition and threats to marine biological diversity in the Southeast Asia region and adjacent ABNJ. This will necessarily entail reviewing existing efforts to protect biological diversity within this region and undertaking an examination of gaps in regional cooperation to implement ABMTs including MPA in this part of the world.

Chapter 3. Regional significance and efforts to conserve and sustainably use marine biodiversity in Southeast Asia and adjacent ABNJ

Section A. Marine biological diversity in Southeast Asia and adjacent ABNJ

The Southeast Asian (SEA) region is situated between two vast oceans, namely the Indian Ocean in the south, and the Pacific Ocean in the northeast. The marine biological diversity in these oceans hold significant value for communities in SEA. For example, approximately 100,000 km^2 of these marine waters are covered by coral reefs. The region is a global biodiversity hotspot for coral reefs,[350] with 600 coral species and 1300 reef-associated fish species documented. Most of the coral reefs and reef fishes are concentrated in the Coral Triangle Area, a marine area extending from the Philippines to the Solomon Islands. This area hosts 605 of the known coral species and 37% of the world's fish species in over 73,000 km^2 of coral reef.[351] The extent of the Coral Triangle Area and its biodiversity is illustrated in Figure 8.

[350] K Tun et al, 'Status of Coral Reefs in Southeast Asia' in C Wilkinson (ed), *Status of Coral Reefs of the World: 2008* (Global Coral Reef Monitoring Network and Reef and Rainforest Research Centre, 2008) 131.

[351] Veron et al (n 33); Allen (n 33); Burke et al (n 33).

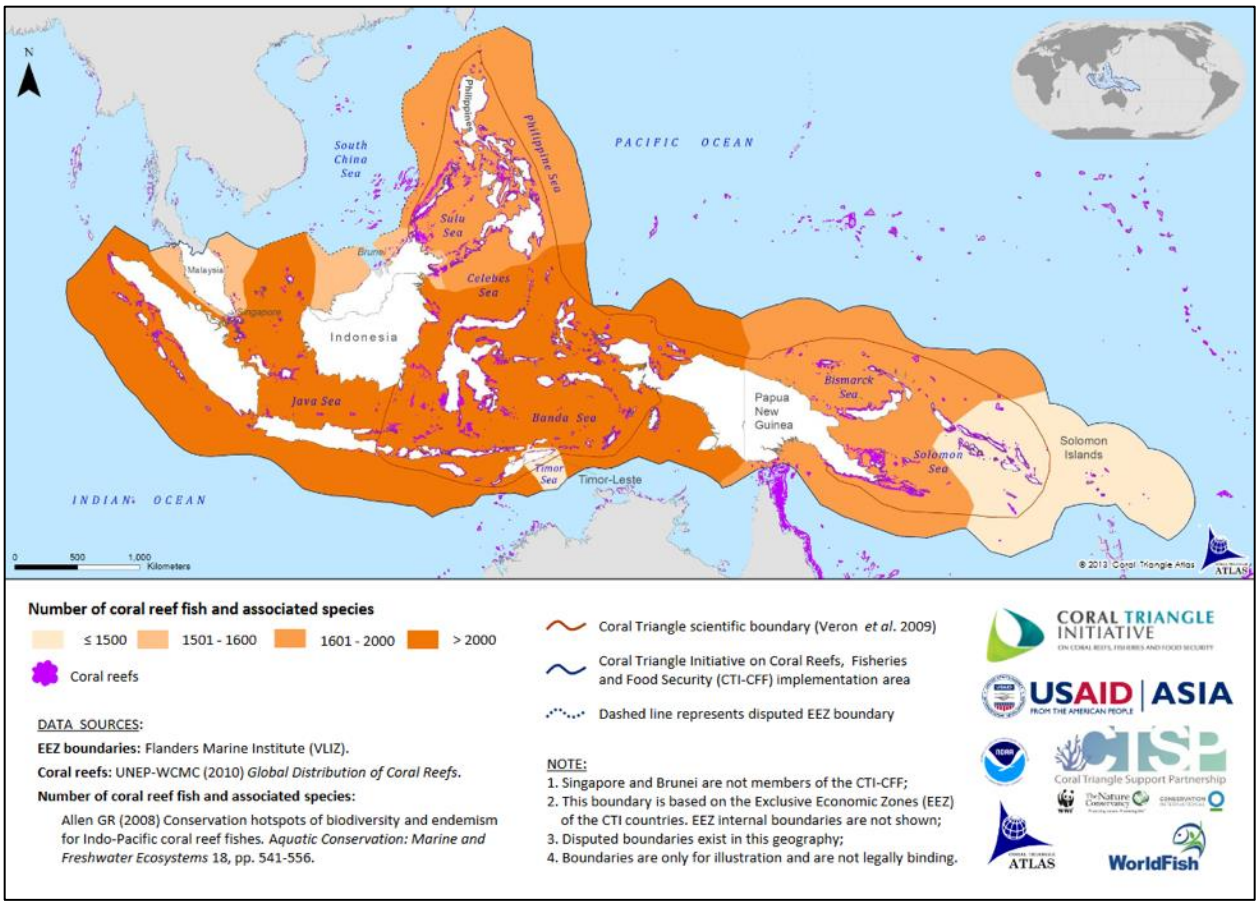

Figure 8. The Coral Triangle is a scientific delineated marine area encompassing almost 4 million square miles of ocean and coastal waters in Southeast Asia and the Pacific surrounding Indonesia, Malaysia, Papua New Guinea, the Philippines, Timor Leste, and the Solomon Islands.[352]

Besides coral reefs, other critical coastal habitats such as seagrasses and mangroves are also abundant in this region. The extent of seagrass meadows in this region is 36,762.60 km^2 and consist of 21 seagrass species in nine genera and four families, making up 29% of the world's seagrass species.[353] The SEA region also has the largest mangrove forests in the world extending to 48,222 km^2.[354] The coral reefs, seagrasses and mangroves provide important ecosystem services. For example, fisheries are essential to the livelihood of more than 60% of the 557 million people of

[352] Fisheries, and Food Security The Coral Triangle Atlas. Coral Triangle Initiative on Coral Reefs, 'The Coral Triangle Area' (2022) <http://ctatlas.coraltriangleinitiative.org/About>.

[353] Miguel D Fortes et al, 'Seagrass in Southeast Asia: A Review of Status and Knowledge Gaps, and a Road Map for Conservation' (2018) 61(3) *Botanica Marina* 269 <https://www.degruyter.com/document/doi/10.1515/bot-2018-0008/html?lang=en>.

[354] Maricé Leal and Mark D Spalding, *The State of the World's Mangroves 2022* (2022) <https://www.mangrovealliance.org/wp-content/uploads/2022/09/The-State-of-the-Worlds-Mangroves-Report_2022.pdf>.

Southeast Asia who live within 60 km of the coasts.[355] Marine capture fisheries is a particularly valuable sector for SEA states like Indonesia, the Philippines, Malaysia, Thailand, Myanmar, and Vietnam who are among the world's top 25 producers of marine capture fisheries.[356] In 2019, the total production of marine fisheries in the region was 18 million metric tonnes, largely derived from tuna and tuna-like species, small pelagic fishes (e.g. scads, mackerel, anchovies, sardines), demersal fish species, crustaceans, molluscs, and seaweeds. [357] This production generated an economic value of USD 29.3 billion.[358] In addition, fish consumption on average in this region is 39.4 kg/person/year or two times of the world's average fish consumption per capita. [359] The SEA region is surrounded by two oceans basins that are known to have abundant natural resources, namely the Indian Ocean and the Pacific Ocean. The Western Indian Ocean and the Eastern Indian Ocean as the two FAO major fishing areas in the Indian Ocean, show a steady increase in total landing at a figure of 5.5 million and 6.8 million tonnes in 2019 respectively that contributes [360]. Overall the Indian Ocean contributes to 14.5% of the global marine fisheries capture.[361] Similarly, the Western Central Pacific produced 17% of the global total fish landing or about 13.9 million tonnes in 2019.[362]

Moreover, the SEA region provides passage to a number of transboundary marine species including whales, turtles, as well as sharks and rays. There are at least 28 species of whales that have been sighted and known to migrate through Southeast Asian marine waters, including the killer whale (*Orcinus orca*), blue whale (*Balaenoptera musculus*) and sperm whale (*Physeter macrocephalus*).[363] Six out of seven of the world's turtles species nest on the coasts and traverse the waters within the SEA region, including the leatherback (*Dermochelys coriacea*), green

[355] The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34).

[356] Ibid.

[357] The Southeast Asian Fisheries Development Center (SEAFDEC), *Fishery Statistical Bulletin of Southeast Asia 2019* (2019) <https://repository.seafdec.org/handle/20.500.12066/6749>.

[358] The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34).

[359] FAO, *The State of World Fisheries and Aquaculture 2022* (n 9).

[360] Ibid.

[361] Ibid.

[362] Ibid.

[363] Sayan Promjinda et al, 'SEAFDEC Initiatives on Cetacean Sighting in the Waters of Southeast Asia' (The Southeast Asian Fisheries Development Center, 2011) <https://repository.seafdec.org/handle/20.500.12066/858>; UNEP/CMS Secretariat, 'Report of the Third Southeast Asian Marine Mammal Symposium (SEAMAM III)' in *CMS Technical Series No. 32* (2015) 643 <https://www.cms.int/sites/default/files/publication/SEAMAM_smallfilesize.pdf>.

(*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), olive ridley (*Lepidochelys oliviacea*), loggerhead (*Caretta caretta*) and flatback (*Natator depressus*).[364] In respect to elasmobranchii species, there are at least 196 sharks, 160 rays, 30 skates, and 7 chimeras species that have been recorded in SEA water. [365]

Besides fisheries, the deep-sea of the Indian Ocean and western Pacific Ocean hold rich biodiversity. Studies suggest that the Indian Ocean has unique biodiversity features that are associated with the extreme environments of the deep-sea, including hydrothermal vents, submarine volcanoes, and cold seeps.[366] Likewise, expeditions conducted during 2014-2017 at seamounts in the western Pacific Ocean, discovered new genera and species of cold-water corals, sponges, Polychaete, and Crustaceans.[367] Selig et al suggest that the ABNJ of the Indian Ocean and western Pacific Ocean be included as priority areas for conservation due to characteristics of high richness, range rarity, and relatively high or low levels of human impact, however these regions are less researched.[368] Similarly, the biogeographic provinces with the highest number of hydrothermal vents are situated in the southern hemisphere such as the Indian Ocean. Unfortunately, deep-sea research surveys have not been conducted in these areas to the same extent as the northern hemisphere.[369] In addition, the deep-sea with its rich biodiversity provides marine genetic resources that hold the potential for the development of new commercial products in pharmaceutical, cosmetic, and food, as well as new solutions for sustainable energy and bioremediation.[370] This potency triggers research for marine genetic resources in ABNJ, which is concentrated in limited locations such as the East Pacific Rise and Mid-Atlantic Ridge.[371]

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[364] Zulkifli Talib et al, 'Managing Sea Turtles in Southeast Asia: Hatcheries and Tagging Activities' (2003) 27.

[365] Ahmad Bin Ali et al, 'Biodiversity and Habitat Preferences of Living Sharks in the Southeast Asian Region' (2018) 24(2) *Indonesian Fisheries Research Journal* 133; W Wanchana, A Ahmad and S Putsa, 'Recording Sharks and Rays Statistics from Southeast Asia at Species Level' (2016) 14(1) *Fish for the People* 2.

[366] Thomas Wilke et al, 'Editorial: Benthic Biodiversity of the Indian Ocean' (2022) 9 *Frontiers in Marine Science | www.frontiersin.org* 877196 <www.frontiersin.org>.

[367] Kuidong Xu, 'Preface Exploring Seamount Ecosystems and Biodiversity in the Tropical Western Pacifi c Ocean*' (2021) 39(5) *Journal of Oceanology and Limnology* 1585 <https://doi.org/10.1007/s00343-021-1585-9>.

[368] ER Selig et al, 'Global Priorities for Marine Biodiversity Conservation' (2014) 9(1) *PLoS ONE* 82898 <www.plosone.org>.

[369] Andrew D Thaler and Diva Amon, '262 Voyages Beneath the Sea: A Global Assessment of Macro- and Megafaunal Biodiversity and Research Effort at Deep-Sea Hydrothermal Vents' (2019) 7(e7397) *PeerJ*.

[370] Oldham et al (n 7); Skropeta and Wei (n 7); Martins et al (n 7).

[371] Oldham et al (n 7).

Separated but connected water

Although separated by jurisdictional boundaries, the waters within the SEA region (which include the territorial seas, archipelagic waters, and EEZs of a number of States) and the adjacent ABNJ are connected and interlinked through ecological connectivity. Ecological connectivity is a complex natural process that allows dispersal of marine life across time, populations, communities, and ecosystems.[372] According to Popova et.al, there are two types of ecological connectivity:

(1) Passive/circulation connectivity through the ocean currents, and
(2) Active/migratory connectivity by active swimming.[373]

With passive/circulation connectivity, the ocean currents allow transport of marine organisms during their lifespan as larvae in planktonic stages from one area where they spawned, to other areas where they will complete their life stages. [374] An example of passive/circulation connectivity can be seen in the studies that reveal ecological connectivity through long distance larval movement of coral and associated reef fishes that traverse between the EEZs of different countries in the Coral Triangle and the Caribbean region.[375] Moreover, fish stocks juvenile that travels across countries boundaries and the high seas also indicates interdependency between neighboring countries and surrounding high seas area.[376] Besides fish larvae and juveniles, ocean currents also transport and disperse marine pollution such as marine debris, oil, and radioactive matter that can impact marine biodiversity both in ABNJ and marine areas within national jurisdiction. [377]

[372] Popova et al (n 37); Arieanna C Balbar and Anna Metaxas, 'The Current Application of Ecological Connectivity in the Design of Marine Protected Areas' (2019) 17(e00569) *Global Ecology and Conservation*.

[373] Popova et al (n 37).

[374] Ibid.

[375] Eric A Treml and Patrick N Halpin, 'Marine Population Connectivity Identifies Ecological Neighbors for Conservation Planning in the Coral Triangle' (2012) 5(6) *Conservation Letters* 441; Steven R Schill et al, 'No Reef Is an Island: Integrating Coral Reef Connectivity Data into the Design of Regional-Scale Marine Protected Area Networks' (2015) 10(12) *PLoS One* <http://tnc.usm.edu/connectivity/Reef_Units_>.

[376] Nandini Ramesh, James A Rising and Kimberly L Oremus, 'The Small World of Global Marine Fisheries: The Cross-Boundary Consequences of Larval Dispersal' (2019) 364(6446) *Science* 1192 <https://www.science.org>.

[377] Aurélie V. Duhec et al, 'Composition and Potential Origin of Marine Debris Stranded in the Western Indian Ocean on Remote Alphonse Island, Seychelles' (2015) 96(1–2) *Marine Pollution Bulletin* 76; Tamay M Özgökmen et al, 'Over What Area Did the Oil and Gas Spread during the 2010 Deepwater Horizon Oil Spill?' (2016) 29(3) *Oceanography* 96; Han GuiJun et al, 'An Ensemble Estimation of Impact Times and Strength of Fukushima Nuclear Pollution to the East Coast of China and the West Coast of America' (2013) 56(8) *Science China: Earth Sciences* 1447 <http://www.cora.net.cn>.

On the other hand, active/migratory connectivity is an active movement of marine species from breeding to feeding grounds during their lifecycle stages.[378] The tuna and sea turtle migratory movement and distribution between the high seas and the territorial and EEZ waters of coastal states provides the best example of active/migratory connectivity. A number of studies have recorded that the bigeye, yellowfin, and skipjack tuna species are distributed and caught between the waters of Indonesia and the Philippines and the adjacent high seas.[379] This is also evidenced in fisheries statistics which show tuna are among the highest production for Indonesia and the Philippines.[380] In addition, the leatherback sea turtle population in the western and eastern Pacific Ocean traverse between 32 countries including Indonesia and the high seas of the western Pacific Ocean where they spend 75% of their time in a year.[381]

The findings above show that there is a connectivity and interdependency between marine areas in the Southeast Asia region and adjacent ABNJ through the migration of fish and marine biota. As States in Southeast Asia depend on adjacent ABNJ for inflows of fish stock, the conservation and management measures of these resources should be coherent and compatible to ensure sustainable fisheries. This would also align with relevant provisions in UNCLOS and UNFSA regarding the conservation and management of straddling and highly migratory fish stocks.[382] Similar to other marine regions in the world, marine biodiversity in the Southeast Asia region and adjacent ABNJ are facing threats from human activities such as fisheries, marine pollution, and deep-sea mining.[383]

Threats to marine biodiversity from fishing activity

Fishing has a negative impact on target and non-target species, associated ecosystems and marine biodiversity in general. Fishing practices without proper management measures lead to stock

[378] Popova et al (n 37).

[379] Ibid; Fonteneau and Hallier (n 38).

[380] The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34).

[381] Autumn-Lynn Harrison et al, 'The Political Biogeography of Migratory Marine Predators' (2018) 2(10) *Nature Ecology & Evolution* 1571.

[382] *Convention on the Law of the Sea* (n 15). Article 63 and 64; UN General Assembly, 'Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA 1995)' (n 68). Article 7(2).

[383] The ASEAN Centre for Biodiversity (ACB), 'ASEAN Biodiversity Outlook 2' (n 39); Michel et al (n 39); Reynolds et al (n 39).

overexploitation and overfishing.[384] In 2019, assessed stocks in the Western Central Pacific, the Eastern Indian, and the Western Indian Oceans were fished within biologically sustainable levels at a figure of 76.9%, 65.3%, and 62.5%, respectively.[385] However, limited data availability makes the stock assessment in these ocean basins challenging and there is a high degree of uncertainty.[386] Within waters of the SEA region, fishing activities are conducted in the high seas and inside the EEZs of coastal States.[387] Small and artisanal fishers that operate in the coastal waters dominate the fishing fleets and contribute enormously to the fishing productivity in the Southeast Asia region.[388] Within the EEZs of SEA countries, stock status of several commercially pelagic species such as oceanic tuna (e.g. bluefin and yellow tail tuna), neritic tuna (e.g. kawakawa and long tail tuna), tuna-like species (e.g. indo-pacific mackerel) are overfished and overexploited, while status stocks on demersal fishes, reef fishes and crustaceans require management interventions.[389] Given the potential overfishing status of fisheries within the EEZs of coastal States, SEA countries will look to the opportunity to fish outside their respective EEZ and to the adjacent high seas.[390]

Moreover, fishing can have direct impact on non-target species including endangered, threatened, and protective species. The use of fishing gear both in the water column and the bottom of the ocean can catch species that are not intentionally targeted. This is generally referred to as "bycatch".[391] Risk assessment analysis on bycatch vulnerabilities in the Indian Ocean shows that many species groups such as sea turtles, manta rays, oceanic, pelagic, and shallow shelf sharks, as well as whales are highly vulnerable to tuna fishing gears namely, purse seines, longlines, and drift gill nets.[392] This was further reinforced in the 2012 report that reported bycatch at 14% or 32,700 tonnes of total tuna longline catch in IOTC.[393] Likewise, it is estimated that from 2010 to 2018

[384] FAO, *The State of the World Fisheries and Aquaculture 2010* (2010) <https://www.fao.org/3/i1820e/i1820e.pdf>.

[385] FAO, *The State of World Fisheries and Aquaculture 2022* (n 9).

[386] Ibid.

[387] The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34).

[388] Ibid.

[389] Ibid.

[390] Michel et al (n 39).

[391] FAO, 'International Guidelines on Bycatch Management and Reduction of Discards' (2011).

[392] Leslie Roberson et al, 'Spatially Explicit Risk Assessment of Marine Megafauna Vulnerability to Indian Ocean Tuna Fisheries' (2022) 23 *Fish and Fisheries* 1180.

[393] IOC-Smartfish, 'Bycatch and Discards in Indian Ocean Tuna Fisheries' (Indian Ocean Commissions-SmartFish, 2012) <https://www.fao.org/3/br817e/br817e.pdf>.

bycatch level of tuna longline fleets in the Pacific Ocean is at a figure of 30.4% which dominated by sharks species.[394]

Another factor that has an impact on marine biodiversity is illegal, unreported, and unregulated Fishing (IUU Fishing). IUU Fishing is a broad term for fishing activities that violate laws related to fishing, this include for example: fishing using gears that contravene with conservation measures of a RFMO (illegal); not reporting fish catch in accordance with RFMO requirement (unreported); and using vessel without nationality to fish in RFMO area (unregulated).[395]. IUU Fishing undermines efforts on sustainable fisheries management and weakens conservation and management measures for marine biodiversity.[396] The Pacific Islands Forum Fisheries Agency (FFA) estimate that IUU activities during 2017-2019 accounted for around 192,186 tonnes of tuna product worth approximately US $333 million or about 6.5% of the total WCPFC catch.[397] This estimation shows almost a 50% reduction from the previous period between 2010-2015 which came in at a figure of 306,440 tonnes at a value of US $616.11 million. This result is mostly due to regional cooperation between Pacific countries on Monitoring Control and Surveillance.[398] An anecdotal report in 2013 estimated that 16-34% of catches from observed stocks in the Indian Ocean were illegal or unreported.[399]

Threats from marine pollution

Marine pollution is the direct or indirect introduction of any substances by human activities to the marine environment which will likely cause harmful effects to living resources and marine life as

[394] Jiaqi Wang et al, 'The Discards and Bycatch of Chinese Tuna Longline Fleets in the Pacific Ocean from 2010 to 2018' (2021) 255(109011) *Biological Conservation*.

[395] FAO, 'What Is IUU Fishing? | Illegal, Unreported and Unregulated (IUU) Fishing' <https://www.fao.org/iuu-fishing/background/what-is-iuu-fishing/en/>.

[396] FAO and UNEP, 'Report of the FAO/UNEP Report of the FAO/UNEP Expert Meeting on Impacts of Destructive Fishing Practices, Unsustainable Fishing, and Illegal, Unreported And Unregulated (IUU) Fishing on Marine Biodiversity and Habitats' (2010) 32 <https://www.proquest.com/docview/922422975/fulltextPDF/5F2EF6B898AC4B6EPQ/1?accountid=15112>.

[397] MRAG Asia Pacific, *The Quantification of Illegal, Unreported and Unregulated (IUU) Fishing in the Pacific Islands Region* (October 2021) <https://www.ffa.int/system/files/MRAG - FFA - IUU Quantification - 2020 Update - final %281%29.docx>.

[398] Ibid.

[399] STIMSON, 'The Future of Indian Ocean and South China Sea Fisheries: Implications for the United States NATIONAL INTELLIGENCE COUNCIL REPORT' (30 July 2013) <https://www.dni.gov/files/documents/nic/NICR 2013-38 Fisheries Report FINAL.pdf>.

well as human health, and interfere with marine activities and use.[400] Anthropogenic activities that cause marine pollution include maritime transportation, offshore oil and gas installations, and land or marine based plastic pollution. Marine spaces in the Southeast Asia region, the Indian Ocean, and the Western Central Pacific Ocean have a strategic position in terms of maritime transport. Due to its geographical location, the Indian Ocean facilitates one of the world's largest trade routes by volume and links the economies in the Northern Atlantic and the Asia-Pacific.[401] Specifically, Selat Malacca in the SEA region serves as an important sea-lane for petroleum oil transport. In 2016, one-third of the 61% of total global petroleum or 6.0 million barrels per day (b/d) was transported through the Selat Malacca.[402] During the 2002-2012 period, the Indian Ocean and Western Central Pacific Ocean experienced a 400% and 200% growth respectively in respect to sea traffic density.[403] However, high sea traffic density increase the risk to marine biodiversity through oil spills, invasive species, noise disturbance, invasive species, and ship collision with marine megafauna.[404] For instance, satellite tagging analysis shows that whale sharks have greater exposure to vessel strike as their migratory route overlaps with major shipping routes in the international waters of the Indian Ocean.[405] With respect to oil spills, during 2016-2018, four oil spill incidents which impacted ecosystems in nearby coastal areas were reported in the Indian Ocean.[406]

Another type of marine pollution is marine debris either in the form of plastic litters, microplastics, or abandoned, lost or otherwise discarded fishing gear (ALDFG). Marine debris can cause entanglement and ingestion to marine mammals, sea turtles, and elasmobranch which can result in

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[400] *United Nations Convention on the Law of the Sea* (n 13). Article 1 (4).

[401] Gayathri Iyer, *Mega-Ships in the Indian Ocean: Evaluating the Impact and Exploring Littoral Cooperation | ORF* (No 204, July 2019) <https://www.orfonline.org/research/mega-ships-in-the-indian-ocean-evaluating-the-impact-and-exploring-littoral-cooperation-53235/#_edn7>.

[402] PEMSEA, *Regional State of Ocean and Coasts 2021: The East Asian Seas Region. Blue Economy: Where Are We Now? Where Are We Heading?* (2021) <http://pemsea.org/sites/default/files/RSOC Report 2021 (FINAL) 20220609.pdf>.

[403] J Tournadre, 'Anthropogenic Pressure on the Open Ocean: The Growth of Ship Traffic Revealed by Altimeter Data Analysis' (2014) 41 *Geophysical Research Letters* 7924.

[404] Benjamin S Halpern et al, 'Spatial and Temporal Changes in Cumulative Human Impacts on the World's Ocean' (2015) 6 *Nature Communication* <www.nature.com/naturecommunications>; Vanessa Pirotta et al, 'Consequences of Global Shipping Traffic for Marine Giants' (2019) 17(1) *Front Ecology Environmen* 39.

[405] Reynolds et al (n 39).

[406] Saima Naz et al, 'Marine Oil Spill Detection Using Synthetic Aperture Radar over Indian Ocean' (2021) 162 *Marine Pollution Bulletin* 111921.

mortality.[407] Coral reefs covered by marine plastic are also 20 times more likely to suffer disease due to lack of light, toxin release, and loss of oxygen supply.[408] Moreover, between 2.8 and 18.6% of marine debris are from land-based sources which reach the ocean through global river systems and contribute to 1.2–2.4 million metric tons of marine plastic debris in the ocean.[409] Furthermore, it is estimated that the annual global rate loss of fishing nets, traps, and lines are 5.7%, 8.6%, and 29% respectively which also contribute to ALDFG around the world.[410] Wide dispersal of marine debris in the coastal and open ocean areas is also affected by the ocean currents.

Within the SEA region, marine plastic debris and microplastics more widespread and can be found in most marine ecosystems including mangroves, water columns, sediments, and biota.[411] A study estimates that seasonal monsoon currents play role in transporting marine plastic debris back and forth in the Northern and Southern Indian Ocean, and a large amount of debris will beach along the coastline of countries in the Northern Indian Ocean including Bangladesh, Myanmar, India, Malaysia, Indonesia, Sri Lanka, and Thailand.[412] In addition, marine debris can also reach the bottom of the ocean as observed during underwater surveys carried out during 2015-2017. The surveys found metal, glass, plastic, rubber, cloth and fishing gear at depths ranging from 150m to 6,000m in the Central and Western Pacific Ocean.[413]

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[407] Martin Stelfox, Jillian Hudgins and Michael Sweet, 'A Review of Ghost Gear Entanglement amongst Marine Mammals, Reptiles and Elasmobranchs' (2016) 111(1–2) *Marine Pollution Bulletin* 6; Susanne Kühn and Jan Andries van Franeker, 'Quantitative Overview of Marine Debris Ingested by Marine Megafauna' (2020) 151 *Marine Pollution Bulletin* 110858.

[408] Joleah B Lamb et al, 'Plastic Waste Associated with Disease on Coral Reefs' (2018) 359(6374) *Science* 460 <https://www.science.org/doi/10.1126/science.aar3320>.

[409] Laurent CM Lebreton et al, 'River Plastic Emissions to the World's Oceans' (2017) 8(15611) *Nature Communications* 1 <https://www.nature.com/articles/ncomms15611>.

[410] Kelsey Richardson, Britta Denise Hardesty and Chris Wilcox, 'Estimates of Fishing Gear Loss Rates at a Global Scale: A Literature Review and Meta-Analysis' (2019) 20(6) *Fish and Fisheries* 1218 <https://onlinelibrary.wiley.com/doi/full/10.1111/faf.12407>.

[411] MR Cordova and UE Hernawan, 'Microplastics in Sumba Waters, East Nusa Tenggara' (2018) 162 *IOP Conf. Series: Earth and Environmental Science* 12023; Nurain Saipolbahri et al, 'Determination of Microplastics in Surface Water and Sediment of Kelantan Bay' (2020) 549(1) *IOP Conference Series. Earth and Environmental Science*; Gajahin Gamage Nadeeka Thushari, Suchana Chavanich and Amararatne Yakupitiyage, 'Coastal Debris Analysis in Beaches of Chonburi Province, Eastern of Thailand as Implications for Coastal Conservation' (2017) 116(1–2) *Marine Pollution Bulletin* 121.

[412] Mirjam Van Der Mheen, Erik Van Sebille and Charitha Pattiaratchi, 'Beaching Patterns of Plastic Debris along the Indian Ocean Rim' (2020) 16(5) *Ocean Science* 1317.

[413] Diva J Amon et al, 'Deep-Sea Debris in the Central and Western Pacific Ocean' (2020) 7 *Frontiers in Marine Science*.

Threats from deep-sea mining activity

Regarding to deep-sea mining in the Area, currently there are 1 exploration contract on polymetallic nodules and 4 exploration contracts for polymetallic sulphides in the Indian Ocean. [414] While in the northwest Pacific Ocean, 1 polymetallic nodules and 4 cobalt-rich ferromanganese crusts exploration contracts have been granted by the ISA.[415] Figure 9 below depicts the distribution of exploration contracts in the Indian and Pacific Oceans. One of the requirements for deep-sea mining activities is REMP which serve as a measure to protect marine biodiversity in the contract areas. However, REMPs for the aforementioned exploration contract areas are still in the process of being developed. A number of workshops have been conducted in 2018 and 2020 for the Northwest Pacific Ocean while workshops for the Indian Ocean are still being prepared.[416]

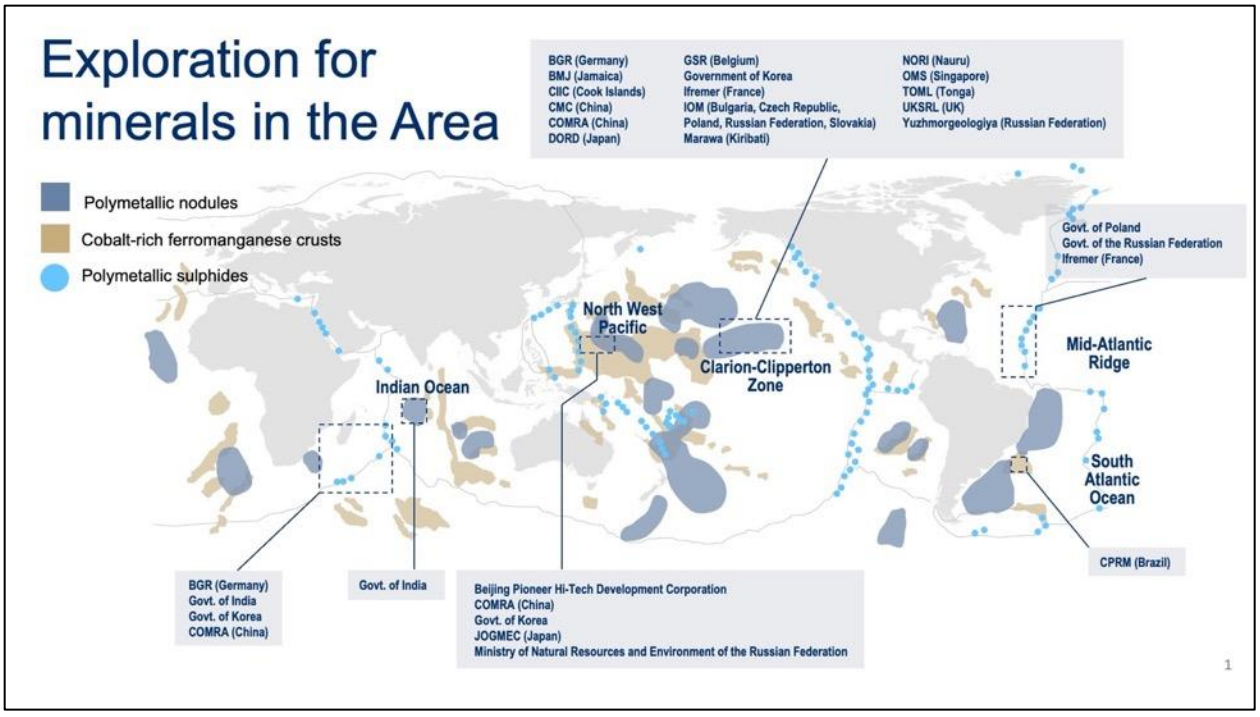

Figure 9. Deep-sea mining exploration contracts in the Area [417].

[414] The International Seabed Authority (ISA), 'Exploration Areas | International Seabed Authority' (2022) <https://www.isa.org.jm/index.php/minerals/exploration-areas>.

[415] Ibid.

[416] The International Seabed Authority (ISA), 'Environmental Management Plans' (n 118).

[417] The International Seabed Authority (ISA), 'Maps | International Seabed Authority' (2022) <https://www.isa.org.jm/minerals/maps>.

Deep-sea mining activities involve removing materials such as polymetallic nodules, cobalt-rich manganese crusts, and polymetallic sulphides from the seabed. It will likely alter deep-sea ecosystems and habitats through the removal of cobalt-rich crusts and polymetallic nodules from the abyss, increased temperature and noise, anthropogenic light, sediment plumes, and extraction of gas hydrates operations.[418] As exploitation activities are yet to take place, the exact impact on marine biodiversity and the ecosystem recovery rate are currently unknown. However, studies suggest that removal of materials from seabed ecosystems could alter species distribution, stop ecosystem functioning and create sediment plumes which may degrade the marine environment at the relevant mining site as well as areas located 20km away.[419]

Urgency to cooperate in managing marine biodiversity in SEA region and adjacent ABNJ

Marine areas in SEA are rich in marine biodiversity, and ecologically connected through larval and fish species and other marine biota that move and migrate through the EEZs of each country in SEA and adjacent ABNJ. The region is currently exposed to threats from anthropogenic activities such as fisheries, maritime transport, and deep-sea mining. Impacts arise from such activities can be widely distributed within the region to adjacent ABNJ or vice versa through ocean currents. Dispersal of marine life and pollutants indicates strong connectivity between ABNJ and adjacent coastal states, with unsustainable activities in ABNJ likely to affect the ecosystem and socio-economics in neighbouring coastal areas.[420] Moreover, coastal countries that are connected and dependent on adjacent ABNJ through migratory species and ocean currents will be vulnerable to impacts if these species are not managed properly and disturbance occurs in ABNJ. On the other hand, biodiversity in ABNJ will also be affected if there is no good management of marine areas within the EEZs of coastal States. Therefore, States located in the SEA region need to urgently coordinate and cooperate to ensure activities within their respective EEZs and adjacent ABNJ are coherently managed to support the conservation and sustainable use of marine biodiversity.

[418] Kathryn A Miller et al, 'An Overview of Seabed Mining Including the Current State of Development, Environmental Impacts, and Knowledge Gaps' (2018) 1 *Frontiers in Marine Science* 418.

[419] Ibid.

[420] Popova et al (n 37); Dunn, Crespo and Halpin (n 40).

Section B. Existing efforts to conserve and sustainably use marine biological diversity in the Southeast Asia region and surrounding ABNJs

Global and sectoral instruments/organisations

As discussed earlier, one of the issues that has continuously been debated during BBNJ negotiations has been the relationship between any new institutions established under the BBNJ Agreement and existing relevant global, sectoral, and regional instruments and organisations. The implementation of the BBNJ agreement at the regional level will also depend on states, in this case SEA states, either individually or collectively as parties of global, sectoral, or regional instruments/organisations. To this end, it is important to examine relevant global, sectoral, or regional instruments/bodies and their efforts to conserve and sustainably use marine biodiversity in the study area. Table 2 below provides an overview of relevant legal instruments or bodies and the SEA states membership status to such instruments, as well as measures related to ABMTs including MPAs. The membership status indicates political support of these states to adopt BBNJ agreement measures. While the column on measures highlights possibilities for these frameworks in implementing ABMTs including MPAs in the Indian Ocean and Western Central Pacific Ocean. Besides these bodies, there are also other regional organisations that exist within the study area, however they are either focused on economic cooperation or project based organization, therefore such organisations are not included in the discussion.[421]

In general, most of the nations in the SEA region are parties to global and sectoral instruments on ocean governance. Except for Cambodia, almost all states in the region are parties to UNCLOS and the 1994 Part XI Implementing Agreement.[422] With respect to UNFSA, only Indonesia and the Philippines have ratified the agreement.[423] Nevertheless, generally countries in the SEA region show good adherence and consistency in implementing UNCLOS and its relevant institutions in

[421] Example of such organisations are include Asia-Pacific Economic Cooperation (APEC), the Indian Ocean Rim Association (IORA), and Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area (BIMP EAGA).

[422] The United Nations Division for Ocean Affairs and the Law of the Sea (UNDOALOS), 'Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements' <https://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#Agreement for the implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks>.

[423] Ibid.

the region.[424] With regards to ABMT including MPA measures, UNCLOS only provides a general framework for the conservation and management of marine resources. UNCLOS does provide a general obligation for its parties to protect the marine environment including rare and fragile ecosystems, and habitats of endangered and threatened species.[425] Similarly, UNFSA does not provide measures for ABMTs including MPAs. However, the review conference of UNFSA in 2006 recognized MPAs as important management measures for fisheries and encouraged States and RFMOs to implement such measures.[426] This was followed by several RFMOs implementing VMEs and fisheries closures as part of an ecosystem approach to fisheries management.

[424] Tim Stephen, 'The United Nations Convention on the Law of the Sea in South East Asia Smooth Sailing or Stormy Seas?' in Donald R Rothwell and David Letts (eds), *Law of the Sea in South East Asia : Environmental, Navigational and Security Challenges* (Taylor & Francis Group, 2019) <https://ebookcentral.proquest.com/lib/uow/reader.action?docID=5831719>.

[425] *United Nations Convention on the Law of the Sea* (n 13). Article 192 and 194 (5).

[426] United Nations Secretary General (n 245). Para 139

Table 1.

Overview of Global, Sectoral, and Regional Instruments/Organisations in the study area

	Instruments/Organisations (short name)	Adoption/ratification/ accession/membership status	Geographical coverage	Measures/policies relevant to ABMTs including MPAs
Global/Sectoral	UNCLOS	All except for Cambodia	ABNJ & AWNJ	Provide general framework on the conservation and management of marine resources. The BBNJ Agreement will likely be the third Implementing Agreement to UNCLOS.
	1995 UNFSA	All	High seas	No specific provision on ABMTs including MPAs. Recognized MPA as a management measure for fisheries and encourages States and RFMOs to implement them[427]. This was followed by several RFMOs designating VMEs.
	Part XI agreement of the Convention/the ISA	All except for Cambodia	The Area	Areas of Particular Environmental Interest (APEI), preservation reference zones [428]. Currently the ISA granted several contracts in the Area of Indian Ocean and North Western Pacific Ocean, and REMP to establish APEIs are still in development. See sub-section 3.1.1.2 and Figure 8.
	1948 IMO Convention	All		Particularly Sensitive Sea Areas (PSSAs) [429]. Currently there are no PSSAs in the Indian Ocean and Western Central Pacific Ocean.

[427] Ibid. Para 139

[428] The International Seabed Authority (ISA), 'ISBA/19/C/17. Decision of the Council of the International Seabed Authority Relating to Amendments to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and Related Matters' (22 July 2013) <https://isa.org.jm/files/files/documents/isba-19c-17_0.pdf>.

[429] IMO (n 103). Document A.927(22) for the Identification and Designation of Particularly Sensitive Sea Areas, and further updated in 2005 through resolution A.982(24) Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs).

Instruments/Organisations (short name)	Adoption/ratification/ accession/membership status	Geographical coverage	Measures/policies relevant to ABMTs including MPAs
MARPOL 73/78	All except for Timor Leste		Special Areas (SAs) [430]. Currently there are no SAs in the Indian Ocean and Western Central Pacific Ocean.
the International Convention for the Regulation of Whaling	Cambodia	AWNJ	Whale sanctuaries in the Indian Ocean [431]. There is no management measure that is being documented for this sanctuary.
1979 CMS Convention	Philippines	ABNJ & AWNJ	No specific provision on ABMTs including MPAs. The CMS encourages parties to protect, and restore habitats of endangered migratory species listed in its appendices [432].
1992 CBD	All	AWNJ	The CBD requires parties to create a system of MPAs within their national jurisdiction [433]. Since 2008, the CBD has identified EBSAs including in the Indian Ocean and Western Central Pacific Ocean [434].
IOTC	Indonesia, Malaysia, Philippines, and Thailand	ABNJ	Time-area fisheries closures in the Western Indian Ocean from 2011-2014 [435]

[430] IMO (n 102).

[431] The International Whaling Commission, 'Whale Sanctuaries & Marine Protected Areas' <https://iwc.int/management-and-conservation/sanctuaries>.

[432] *Convention on the Conservation of Migratory Species of Wild Animals* (n 90). Article III and IV.

[433] *Convention on Biological Diversity* (n 75). Article 8.

[434] Secretariat of the Convention on Biological Diversity, 'Special Places in the Ocean: A Decade of Describing Ecologically or Biologically Significant Marine Areas' (n 85).

[435] The Indian Ocean Tuna Commission (IOTC), 'Resolution 12/13 for the Conservation and Management of Tropical Tunas Stocks in the IOTC Area of Competence' (2011) <https://iotc.org/cmm/resolution-1213-conservation-and-management-tropical-tunas-stocks-iotc-area-competence>. Resolution 12/13 superseded by Resolution 14/02 that adopt quota based measure as replacement for time closure measure for particular area in the Western Indian Ocean. Thus this resolution is not active anymore.

	Instruments/Organisations (short name)	Adoption/ratification/ accession/membership status	Geographical coverage	Measures/policies relevant to ABMTs including MPAs
Regional	WCPFC	Indonesia and Philippines	ABNJ	Temporal fish aggregating device (FAD) prohibition and vessel days limit in high seas pocket-1 area [436], FAD closure for purse seine fishery [437], and transshipment ban eastern-high seas pocket area [438]
	East Asian Regional Seas Programme (COBSEA)	Cambodia, Indonesia, Malaysia, Philippines, Singapore, and Vietnam	AWNJ	Establishment of viable network of MPAs, and evaluating the effectiveness of MPA management [439]
	ASEAN and related bodies	All	AWNJ	Establish marine protected areas under national jurisdiction [440]
	CTI-CFF	Indonesia, Malaysia, and Philippines	AWNJ	Establish a fully functioning and effectively managed region-wide Coral Triangle Marine Protected Area System (CTMPAS) [441]

[436] The Western and Central Pacific Fisheries Commission (WCPFC), 'CMM-2021-01. Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna in the Western and Central Pacific Ocean' (2021) <https://www.wcpfc.int/doc/cmm-2021-01/conservation-and-management-measure-bigeye-yellowfin-and-skipjack-tuna-western-and>.

[437] The Western and Central Pacific Fisheries Commission (WCPFC), 'CMM-2009-02. Conservation and Management Measure on the Application of High Seas FAD Closures and Catch Retention' (2009) <https://www.wcpfc.int/doc/cmm-2009-02/conservation-and-management-measure-application-high-seas-fad-closures-and-catch>.

[438] Ibid.

[439] The United Nations Environment Program (UNEP), 'Action Plan for the Protection and Sustainable Development of the Marine and Coastal Areas of the East Asian Region' (1994) <https://wedocs.unep.org/bitstream/handle/20.500.11822/29052/AP94.pdf?sequence=1&isAllowed=y>; The Coordinating Body on the Seas of East Asia (COBSEA), 'The Coordinating Body on the Seas of East Asia (COBSEA) Strategic Directions 2018-2022' (April 2018) <https://www.unep.org/cobsea/resources/policy-and-strategy/cobsea-strategic-directions-2018-2022?_ga=2.104541312.1601611076.1666063323-1042988402.1666063323>.

[440] The Association of Southeast Asian Nation, 'ASEAN Agreement on the Conservation of Nature and Natural Resources' (1985) <https://asean.org/wp-content/uploads/2021/09/D-0104-OCR-Watermark-1.pdf>. Article 11

[441] Fisheries and Food Security (CTI-CFF) The Coral Triangle Initiative on Coral Reefs, 'CTI-CFF Regional Plan of Action (RPOA) ' (2009) <https://coraltriangleinitiative.org/node/9482#:~:text=CTI-CFF Regional Plan Of Action (RPOA) _1.pdf>.

On the other hand, the 1994 Implementing Agreement through its governing body the ISA has provisioned specific measures related to ABMTs to minimize impact of deep-sea mining to marine biodiversity in the Area. These sectoral ABMTs are known as APEI and preservation reference zones and they are to specified in the REMP document.[442] Currently there are exploration contracts granted by the ISA for polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts in the Indian Ocean and Pacific Ocean,[443] however REMPs for these contracts are still being prepared.[444]

The IMO Convention and MARPOL 73/78 also introduced sectoral ABMTs to protect the marine environment from pollution from shipping activities, namely PSSA [445] and SA.[446] All SEA states are party to the IMO Convention and MARPOL 73/78 except for Timor Leste. Currently only one PSSA has been established in SEA waters which is the Tubbataha Reefs Natural Park in the Philippines[447]. There are no PSSAs or SAs designated in ABNJ bordering the SEA region. Furthermore, both the 1946 International Convention for the Regulation of Whaling [448] and the CMS are global instruments which have low rate of membership in the SEA region, where only Cambodia [449] and Philippines [450] are parties of the whaling convention and CMS respectively. The International Whaling Commission (IWC) as the decision making body of the whaling convention has established whale sanctuaries in the Indian Ocean [451], however no documentation exists on its management efforts. In respect to the CMS, there are MOUs that are being signed by some SEA states which are relevant to the conservation of marine biodiversity in ABNJ. These include a

[442] The International Seabed Authority (ISA), 'ISBA/19/C/17. Decision of the Council of the International Seabed Authority Relating to Amendments to the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area and Related Matters' (n 428).

[443] The International Seabed Authority (ISA), *Exploration Areas | International Seabed Authority* (n 414).

[444] The International Seabed Authority (ISA), 'Environmental Management Plans' (n 118).

[445] IMO (n 103). Document A.927(22) for the Identification and Designation of Particularly Sensitive Sea Areas, and further updated in 2005 through resolution A.982(24) Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs).

[446] IMO (n 102).

[447] IMO (n 103).

[448] the International Convention for the Regulation of Whaling was signed in Washington DC on 2nd December 1946. It established the International Whaling Commission (IWC) to coordinate implementation of the whaling convention.

[449] The International Whaling Commission (IWC), 'Member Map' <https://iwc.int/member-map>.

[450] The Convention on Migratory Species (CMS), 'Parties and Range States' <https://www.cms.int/en/parties-range-states>.

[451] The International Whaling Commission (n 431).

MOU on the conservation of migratory sharks [452], and a MOU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia.[453] However both MOUs are implemented within national jurisdiction or through flag state jurisdiction and do not mandate the establishment of ABMT or MPA as measures. Lastly, nations in the SEA region are parties to the CBD. Although the CBD mandate is implemented within national jurisdiction, it includes a requirement for its parties to establish an ecologically representative network of MPAs (otherwise known as EBSAs) within and beyond national jurisdiction.[454]

Moreover, regional organisations in the SEA region and adjacent ABNJ comprise of RFMOs (the IOTC and the WCPFC) that operate in ABNJ, and regional organisations that have mandates within national jurisdiction. Following sub-sections will discuss such regional organisations.

The Indian Ocean Tuna Commission

The Indian Ocean Tuna Commission (IOTC) is an intergovernmental organisation that manages tuna and tuna-like species. The IOTC was established at the 105th session of the FAO Council on 25 November 1993 under Article XIV of the FAO Constitution. The IOTC area of competence is the Indian Ocean that covers two FAO statistical areas, namely Western Indian Ocean (statistical area 51) and Eastern Indian Ocean (statistical area 57).[455] Membership of the IOTC is open for coastal States located in the Indian Ocean, and States that fish within the geographical scope of the IOTC.[456] Currently, the IOTC has 30 Contracting Parties and 1 Non Contracting Party, and among SEA States only Indonesia, Malaysia, Philippines, and Thailand have become IOTC contracting parties.[457] The IOTC manages in total 16 tuna and tuna like species stocks that are

[452] Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals, 'Memorandum of Understanding on the Conservation of Migratory Sharks' <https://www.cms.int/sharks/en/page/sharks-mou-text>.

[453] Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals, 'IOSEA Marine Turtle MOU Text Including Conservation and Management Plan' <https://www.cms.int/iosea-turtles/en/page/mou-text-cmp>.

[454] Secretariat of the Convention on Biological Diversity, 'Special Places in the Ocean: A Decade of Describing Ecologically or Biologically Significant Marine Areas' (n 85).

[455] The Indian Ocean Tuna Commission (IOTC), 'The Agreement for the Establishment of the Indian Ocean Tuna Commission' (1993) <https://iotc.org/sites/default/files/documents/2012/5/25/IOTC Agreement.pdf>.

[456] Ibid. Article IV

[457] The Indian Ocean Tuna Commission (IOTC), 'Structure of the Commission' <https://iotc.org/about-iotc/structure-commission>.

located or migrate in and out of the Indian Ocean.[458] In addition to species target, the IOTC also performs data collection for non-target, associated and dependent species that are affected by tuna fishing operations, including marine turtles, marine mammals, seabirds, sharks, and bycatch species.[459]

The IOTC aims to ensure optimum utilization of stocks covered by the agreement through appropriate conservation and management measures.[460] In achieving this objective, the IOTC through its governing body, the Commission, adopted conservation and management measures (CMMs) that are based on scientific advice provided by the Scientific Committee.[461] The CMMs are adopted as resolutions and have legally binding effect on members. The Commission also adopts recommendations that can be implemented voluntarily by members.[462] In its CMMs the IOTC has incorporated the precautionary approach and ecosystem-based fisheries management (EBFM), although such principles are not mandated. For example, the Commission adopted a resolution on the application of the precautionary approach in 2012.[463] It further adopted a resolution on target and limit reference points and decision framework in 2015 to address the poor data situation in establishing reference points and inconsistency with the FAO and UNFSA guidelines.[464] Regarding EBFM, the Commission adopted CMMs on non-target species such as cetaceans, sharks and rays, albacore, and marine turtles.[465] Notably, the Commission also introduced temporal fisheries closures of yellowfin and bigeye tuna in the Western Indian Ocean

[458] The Indian Ocean Tuna Commission (IOTC), 'The Agreement for the Establishment of the Indian Ocean Tuna Commission' (n 455). Article III and annex B for list of species managed by the IOTC.

[459] The Indian Ocean Tuna Commission, 'Competence: Area & Species' <https://iotc.org/about-iotc/competence>.

[460] The Indian Ocean Tuna Commission (IOTC), 'The Agreement for the Establishment of the Indian Ocean Tuna Commission' (n 455). Article II

[461] Ibid. Article V and IX

[462] Ibid. Article IX para 1.

[463] The Indian Ocean Tuna Commission (IOTC), 'Resolution 12/01 on the Implementation of the Precautionary Approach' (2012) <https://iotc.org/cmm/resolution-1201-implementation-precautionary-approach>.

[464] the Indian Ocean Tuna Commission (IOTC), 'Resolution 15/10 On Target and Limit Reference Points and a Decision Framework | IOTC' (2015) <https://iotc.org/cmm/resolution-1510-target-and-limit-reference-points-and-decision-framework>.

[465] Indian Ocean Tuna Comission (n 142). See for examples Resolution 13/04 on Cetaceans conservation, 13/09 on albacore, 18/02 on blue sharks, 19/05 on discard ban for non-target species caught by purse seine.

from 2011-2014.[466] However due to little effect on fish stocks such closures was superseded by another measure to allocate quota and improve the artisanal tuna fisheries reporting system.[467]

The Western Central Pacific Fisheries Commission

The Western Central Pacific Fisheries Commission (WCPFC) was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention) which entered into force on 19 June 2004. Currently it has 26 members which include Indonesia and the Philippines, 7 participating territories, and 8 cooperating non-members including Thailand and Vietnam.[468] The geographical competence of the WCPFC area encompasses all waters of the Pacific Ocean bounded to the south and to the east. This region has been suffering from high seas fisheries management issues such as unregulated fishing, fishing vessels overcapacity, insufficient multilateral cooperation, lack of fishing enforcement, and unreliable fisheries data.[469] Accordingly, the WCPFC tries to address these issues and aims to ensure effective management and the long-term conservation and sustainable use of fish stocks in its area of competence.[470] The WCPFC manages all highly migratory fish stocks as listed in Annex 1 of UNCLOS within the its competence area except for sauries, and other species that may be determined by the Commission.[471] All measures on conservation and management within the WCPFC competence area are decided by the

[466] The Indian Ocean Tuna Commission (IOTC), 'Resolution 12/13 for the Conservation and Management of Tropical Tunas Stocks in the IOTC Area of Competence' (n 435).

[467] M Herrera and J Geehan (IOTC Secretariat), *Update on Estimates of the Catch Reductions Achieved through the Application of the Time/Area Closures Proposed in IOTC Resolution 10/01. IOTC–2013–SC16–INF11* (2013) <https://iotc.org/documents/update-estimates-catch-reductions-achieved-through-application-timearea-closures-proposed>; David M Kaplan et al, 'Spatial Management of Indian Ocean Tropical Tuna Fisheries: Potential and Perspectives' (2014) 71(7) 1728 <https://academic.oup.com/icesjms/article/71/7/1728/665606>.

[468] The Western and Central Pacific Fisheries Commission (WCPFC), 'About WCPFC' <https://www.wcpfc.int/about-wcpfc>.

[469] Ibid.

[470] The Western and Central Pacific Fisheries Commission (WCPFC), 'Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean' (2000) <https://www.wcpfc.int/doc/convention-conservation-and-management-highly-migratory-fish-stocks-western-and-central-pacific>. Article 2 and 9.

[471] Ibid. Article 1 (f) and 3 (3).

Commission as the governing body taking into account scientific and technical advice from its subsidiary bodies, namely the Science, and the Technical and Compliance Committee.[472]

In managing the fish stocks the WCPFC adopts CMMs that are binding on all members and are to be applied using the principles specifically mandated in the WCPF Convention text.[473] To this end, the WCPFC applies the precautionary approach to protect marine biodiversity, and adopts measures to minimize bycatch and impacts on non-target species, as well as to collect data on target/non-target species. For example, the WCPFC adopts binding measures to prevent bycatch to seabirds, sea turtles, sharks and cetaceans and to minimize marine pollution from fishing vessels.[474] In relation to ABMTs, the WCPFC has adopted measures on Fisheries Aggregating Device (any man-made device that capable to aggregating fish) closures and prohibition for purse seine fishery in high seas pocket, transshipment ban in eastern-high seas pocket area, as well as time-area closure in high seas pocket-1 area.[475]

Regional Seas Program of East Asian Seas

The Regional Seas Program of East Asian Seas is a UNEP administered RSP. Unlike any other RSPs, East Asian Seas RSP was not established through a regional convention but instead by the adoption of the Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Region (the East Asian Seas Action Plan) in 1981, which was further revised in 1994.[476] The East Asian Seas Action Plan lays the foundation on steps that have to be undertaken to protect marine and coastal environments in the region through regional databases, long-term monitoring, environmental impact assessment, rehabilitation of vital ecosystems and restoration of ecologically or economically important species and communities.[477]

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[472] Ibid. Article 11 and 12.

[473] Ibid. Article 5.

[474] The Western Central Pacific Fisheries Commission (WCPFC), 'Conservation and Management Measures (CMMs) and Resolutions of the Western Central Pacific Fisheries Commission (WCPFC)' (7 April 2022). See for example CMM 2008-04, 2018-04, 2019-04, and 2017-04.

[475] The Western and Central Pacific Fisheries Commission (WCPFC), 'CMM-2009-02. Conservation and Management Measure on the Application of High Seas FAD Closures and Catch Retention' (n 437); The Western and Central Pacific Fisheries Commission (WCPFC), 'CMM-2021-01. Conservation and Management Measure for Bigeye, Yellowfin and Skipjack Tuna in the Western and Central Pacific Ocean' (n 436).

[476] The United Nations Environment Program (UNEP), 'East Asian Seas ' <https://www.unep.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/regional-seas-programmes/east-asian?_ga=2.69454224.1601611076.1666063323-1042988402.1666063323>.

[477] The United Nations Environment Program (UNEP) (n 439).

The Action Plan also mandated the establishment of the Coordinating Body of East Asian Seas (COBSEA) as a regional intergovernmental body to coordinate and review implementation progress of the Action Plan and bringing together nine countries (Cambodia, China, Indonesia, Korea, Malaysia, the Philippines, Thailand, Singapore and Viet Nam) in the East Asia region as participating members.[478] Specifically, COBSEA aims to address pressures on marine environments in the East Asia Seas region by assessing the state of the marine environment from the effect of land-based activities, and developing coordinating measures for implementation of the East Asian Seas Action Plan.[479]

In implementing the Action Plan COBSEA is guided by Strategic Directions, which in 2018-2022 focuses on land-based pollution, marine and coastal planning and management, and governance and partnership.[480] Although not established through a legally binding instrument, COBSEA carries out its activities based on the goodwill of its member countries and promotes coherence with existing international legal instruments such as UNCLOS, the CBD, and MARPOL 73/78.[481] Further, COBSEA does not specifically possess the mandate to work in ABNJ, thus most of its activities are implemented within national jurisdiction with a view to maintaining coordination within the region and with other RSPs.[482] Current strategy related to MPA is the establishment of East Asian Seas MPA network and MPA management effectiveness evaluation.[483] Progress on this strategy include the formulation of marine and coastal ecosystem framework and technical capacity building on marine spatial planning.[484]

[478] Ibid. Part IV Implementation of the Action Plan.

[479] The United Nations Environment Program (UNEP) (n 476).

[480] The Coordinating Body on the Seas of East Asia (COBSEA), 'The Coordinating Body on the Seas of East Asia (COBSEA) Strategic Directions 2018-2022' (n 439).

[481] Hugh Kirkman, 'The East Asian Seas UNEP Regional Seas Programme' (2006) 6(3) *International Environmental Agreements* 305.

[482] The United Nations Environment Program (UNEP) (n 439). See Part IV Project implementation.

[483] The Coordinating Body on the Seas of East Asia (COBSEA), 'The Coordinating Body on the Seas of East Asia (COBSEA) Strategic Directions 2018-2022' (n 439). See Section 2.2 Marine and coastal planning management.

[484] The Coordinating Body on the Seas of East Asia (COBSEA), *UNEP/COBSEA IGM 25/9 Rev.1. Report of Part One of the Twenty-Fifth Intergovernmental Meeting of the Coordinating Body on the Seas of East Asia* (21 January 2021).

Association of South East Asian Nations (ASEAN) and related bodies

The Association of South East Asian Nations (ASEAN) is a prominent intergovernmental cooperation in the Southeast Asia region. It was established in 1967 and currently has ten member states namely, Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. In 2008, SEA States renewed their political commitment in the region through the adoption of a legally binding ASEAN Charter which established the ASEAN Coordinating Council that coordinates three pillars of the ASEAN community: (1) ASEAN Socio-Cultural Community (ASCC) Council; (2) ASEAN Economic Community (AEC) Council; and (3) ASEAN Political-Security Community (APSC) Council.[485] ASEAN has a complicated institutional structure with extensive layers, interrelated working groups and technical bodies to implement its cooperation work.

The ASEAN Working Group on Coastal and Marine Environment (AWGCME) is the most significant working group when it comes to the protection of the marine environment.[486] The AWGCME is currently developing an Action Plan which will aim to ensure ASEAN's coastal and marine environment are sustainably managed; representative ecosystems, pristine areas and species are protected; economic activities are sustainably managed; and there is public awareness of the coastal and marine environment.[487] The Action Plan will be implemented by the AWGMCE through coordination with the ASEAN Centre for Biodiversity (ACB), an ASEAN intergovernmental organisation that facilitates cooperation among ASEAN member States and other regional and international organisations on the conservation and sustainable use of biological diversity, and the fair and equitable sharing of benefits arising from the use of such natural treasures.[488]

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[485] ASEAN, *ASEAN Charter* (2008) <https://asean.org/wp-content/uploads/images/archive/publications/ASEAN-Charter.pdf>. Article 8 and 9.

[486] The Association of Southeast Asian Nations (ASEAN) Secretariat, 'Environment - ASEAN' <https://asean.org/our-communities/asean-socio-cultural-community/environment/>.

[487] ASEAN Working Group on Coastal and Marine Environment (AWGCME), 'Draft of Strategic Priority 2: Coastal and Marine Environment' (2022) <https://environment.asean.org/public/uploads/working_groups/20220627-2.-AWGCME-Action-Plan.pdf>.

[488] The ASEAN Centre for Biodiversity (ACB), 'About ACB | ACB | ASEAN Centre for Biodiversity' <https://www.aseanbiodiversity.org/about-acb/>.

Under the ASEAN umbrella there is also the Southeast Asia Fisheries Development Centre (SEAFDEC), a technical advisory body mandated to develop and manage rational utilization of fisheries and marine resources in the national waters of the region through research, transfer of technology and dissemination activities.[489]

With regards to MPA, states in the SEA region have designated in aggregate approximately 229,534 km^2 of their territorial waters as MPAs. However, this number only cover 2% of the states territorial marine area.[490] Additionally, there is only one transboundary MPA in the region, namely Turtle Island Heritage Protected Area (TIHPA) which was established in 1996 through a Memorandum of Understanding between Malaysia and the Philippines.[491] TIHPA aims to protect the last major nesting grounds for green turtles situated adjacent to the international treaty limits which separate the Philippines and Malaysia in the southern Sulu Sea near Sabah, Malaysia.[492]

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) is a multilateral partnership between six countries (Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste) in the Coral Triangle region. The CTI-CFF was established through a non-legally binding CTI Leaders Declaration in 2009 in Manado and it focuses on managing marine resources while taking into account climate change impacts.[493] This was followed up in 2011 with the establishment of a CTI-CFF Regional Secretariat. In 2017 the CTI-CFF was recognized as a UN regional organization.[494] Notably, the CTI-CFF is the only

[489] The Southeast Asian Fisheries Development Centre (SEAFDEC), 'About SEAFDEC' <http://www.seafdec.org/about/>.

[490] The ASEAN Centre for Biodiversity (ACB), 'ASEAN Biodiversity Outlook 2' (n 39).

[491] Evangeline Miclat and Enrique Nunez, 'The Philippines–Sabah Turtle Islands Heritage Protected Area (TIHPA)' [2016] *Marine Transboundary Conservation and Protected Areas* 144 <https://www-taylorfrancis-com.ezproxy.uow.edu.au/chapters/edit/10.4324/9781315724270-16/philippines–sabah-turtle-islands-heritage-protected-area-tihpa-evangeline-miclat-enrique-nunez>.

[492] Ibid.

[493] Fisheries and Food Security (CTI-CFF) The Coral Triangle Initiative on Coral Reefs, 'The Coral Triangle Initiative Leaders' Declaration on Coral Reefs, Fisheries and Food Security ' (2009) <https://www.coraltriangleinitiative.org/sites/default/files/resources/Leader Declaration coral triangle initiative_0.pdf>.

[494] Fisheries and Food Security (CTI-CFF) Regional Secretariat The Coral Triangle Initiative on Coral Reefs, 'The Agreement on the Establishment of the Regional Secretariat Of The Coral Triangle Initiative On Coral Reefs,Fisheries And Food Security' (2016) <https://www.coraltriangleinitiative.org/sites/default/files/resources/The Agreement on The Establishment of RS CTI-CFF_Newest_2017_compressed.pdf>.

regional organization that connects States in the SEA and Pacific region and encourages these States to cooperate on issues relating to the conservation and sustainable use of marine and coastal resources.

The work of the CTI-CFF is guided by the Regional Plan of Action (RPOA), a living and non-legally binding document that sets out guiding principles and goals to conserve and sustainably manage marine resources within the region.[495] The initiatives of the CTI-CFF are voluntary in nature and rely upon the willingness of member countries to implement the RPOA. Additionally, CTI-CFF seeks to aligning its work with international and regional legal instruments, and promote cooperation with other multilateral/regional organizations and civil societies.[496] Accordingly, the CTI-CFF depends on international and non-governmental organizations for funding and technical expertise to implement the RPOA.[497]

The RPOA consists of 5 overarching goals, namely:

(1) The designation and effective management of priority seascapes;
(2) The promotion of and application of an ecosystem approach to fisheries management;
(3) The establishment of a fully functional and effectively managed Coral Triangle MPA System;
(4) Adapting to climate change impacts; and
(5) Improving threatened species status [498].

With regards to MPA, CTI-CFF member countries collectively designated in total around 166,995 km^2 or 2,371 nationally and locally managed MPAs within the Coral Triangle region or known as CTMPA system.[499] To support MPA management CTI-CFF developed tools which include guideline to design locally manage MPA, MPA Management Effectiveness Assessment Tool, and

[495] The Coral Triangle Initiative on Coral Reefs, 'CTI-CFF Regional Plan of Action (RPOA) ' (n 441). Section II.

[496] Ibid. Section II and IV.

[497] Fisheries and Food Security (CTI-CFF) Regional Secretariat The Coral Triangle Initiative on Coral Reefs, 'How to Become Involved' <https://coraltriangleinitiative.org/how-become-involved>. The CTI-CFF partners are include USAID, Australian Government, The Nature Conservancy, and the Global Environment Fund. The CTI-CFF also cooperates with inter alia Secretariat of the Pacific Regional Environment Program, GIZ, and SEAFDEC.

[498] The Coral Triangle Initiative on Coral Reefs, 'CTI-CFF Regional Plan of Action (RPOA) ' (n 441). Section III.

[499] Fisheries and Food Security (CTI-CFF) Regional Secretariat The Coral Triangle Initiative on Coral Reefs, 'Marine Protected Areas (MPA) ' <https://www.coraltriangleinitiative.org/index.php?q=mpa>.

the Coral Triangle Atlas (an online GIS based website to monitor MPA achievement within the CT region).[500]

Chapter 4. Analysis of limitations and gaps in existing regional cooperation for conservation and management of marine biological diversity in the Southeast Asia region and adjacent ABNJ

The following part of this chapter analyzes the limitations and gaps of existing regional bodies as well as their future relationship or cooperation with the BBNJ agreement to implement ABMTs including MPAs. Section A will first provide a gap analysis on the current mandate and institutional setting of existing regional bodies that might support or hinder ABMTs including MPA implementation. This is followed by Section B that discusses on lessons learned from other regional bodies in implementing ABMTs including MPAs, which may be useful for future implementation of ABMTs and MPAs in the SEA region and adjacent ABNJ.

Section A. Gap analysis of existing regional mechanism to implement ABMTs include MPAs

Analysis of mandate and institutional framework

Regional organizations in the South East Asia region have a variety of mandates and competences. Both the IOTC [501] and WCPFC [502] have legally binding mandates and the competence to manage fisheries in ABNJ. The competence of the IOTC is limited to tuna and tuna-like species [503], while the WCPFC has a wider authority to manage highly migratory fish stocks including tuna, marlins, and oceanic sharks.[504] By contrast, the mandates of the COBSEA [505], ASEAN [506] and CTI-CFF [507] are geographically limited to the EEZ waters of its member States and have voluntary and non-

[500] Ibid.

[501] The Indian Ocean Tuna Commission (IOTC), 'The Agreement for the Establishment of the Indian Ocean Tuna Commission' (n 455).

[502] The Western and Central Pacific Fisheries Commission (WCPFC), 'Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean' (n 470).

[503] The Indian Ocean Tuna Commission (n 459).

[504] The Western and Central Pacific Fisheries Commission (WCPFC), 'Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean' (n 470).

[505] The United Nations Environment Program (UNEP) (n 439).

[506] ASEAN (n 485).

[507] The Coral Triangle Initiative on Coral Reefs, 'The Coral Triangle Initiative Leaders' Declaration on Coral Reefs, Fisheries and Food Security ' (n 493).

legally binding frameworks. Nevertheless, all of these organizations are focused on the sustainable management of marine resources and biodiversity. The main aim of COBSEA is to protect the marine environment from land-based pollution impacts.[508] ASEAN through the ACB and SEAFDEC puts an emphasis on marine biodiversity and fisheries [509], and the CTI-CFF tries to conserve coral reefs and manage fisheries to ensure food security in the region. [510] This non-legally binding approach is characteristic of the Southeast Asia region where countries prefer action to be taken based on goodwill rather than majority rule.[511]

The above findings highlights the fact that existing regional organizations have limited geographic coverage and competence in the Indian Ocean and Western Central Pacific Ocean. Also, some organizations have a mandate in ABNJ which only focus on fisheries management while others focus on the conservation of marine biodiversity but do not have competence in ABNJ. This situation proves challenging when it comes to providing comprehensive protection of marine biodiversity in ABNJ bordering the SEA region. For instance, in the Indian Ocean gaps in spatial competence and fish species of RFMOs i.e. the IOTC and SIOFA leave non tuna fisheries (squids, small pelagic, crustaceans, and some sharks species) in some areas under uncontrolled exploitation and not covered by the conservation and management measures in tuna and non-tuna RFMOs.[512] Expanding the mandate and competence of these RFMOs to protect marine biodiversity more broadly was recommended in the 2016 Review Conference of UNFSA. This conference called upon RFMO/As to increase their species and area coverage gap.[513] The 2nd performance review

[508] The United Nations Environment Program (UNEP) (n 439).

[509] ASEAN Working Group on Coastal and Marine Environment (AWGCME) (n 487); The Southeast Asian Fisheries Development Centre (SEAFDEC) (n 489).

[510] The Coral Triangle Initiative on Coral Reefs, 'The Coral Triangle Initiative Leaders' Declaration on Coral Reefs, Fisheries and Food Security ' (n 493).

[511] Amber Rose Maggio, 'Regional Cooperation for Protection of the Marine Environment in Southeast Asia: Current Trends in the South China Sea' (2019) 22(1) *Asia Pacific Journal of Environmental Law* 160.

[512] WWF, *Unregulated Fishing on the High Seas of the Indian Ocean. The Impacts on, Risks to, and Challenges for Sustainable Fishing and Ocean Health Unregulated Fishing on the High Seas of the Indian Ocean.* (2020) <https://wwfint.awsassets.panda.org/downloads/wwftmt_unregulated_fishing_on_the_high_seas_of_the_indian_ocean_2020.pdf>.

[513] United Nations General Assembly, 'A/CONF.210/2016/5. Report of the Resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks'(2016) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N16/244/06/PDF/N1624406.pdf?OpenElement>. See Annex section B.1.

report of the IOTC and WCPFC also encouraged both RFMOs to address incomplete fisheries management coverage and consider general biodiversity protection.[514]

On the other hand, the COBSEA, ASEAN, and CTI-CFF have a mandate only for marine areas within national jurisdiction. As argued by Mahon, limited mandate means limited governance connection to ABNJ and a lack of coordination among regional organizations which weakens governance for marine biodiversity in ABNJ.[515] In the SEA region, the only connection between regional organizations and ABNJ is through fisheries management that centers on the Indian Ocean (the IOTC) and the Western Central Pacific Ocean (the WCPFC), while there is no connection for biodiversity governance to ABNJ as COBSEA's mandate is limited to national waters. In addition, there are no overarching mechanisms for integration and coordination between regional organizations in the SEA region and adjacent ABNJ, and existing organizations like the COBSEA, which are designed to play a coordinating role, have no mandate in ABNJ.[516]

Another issue for regional organizations in the SEA region is the non-legally binding framework which affect member countries commitments to implementing the framework. For the COBSEA, member obligations and commitments to the Action Plan including trust fund contributions are questionable which result in difficulties to measure the outcome of its work in a regional policy setting and marine environment.[517] However, recently one of COBSEA's achievements has been the adoption and implementation of the COBSEA Regional Action Plan on Marine Litter and South China Sea Strategic Action Programme which is supported by external funding.[518] Similarly, achieving countries political and funding commitments for the CTI-CFF is challenging due to a lack of capacity for some countries.[519] Nevertheless, a preference for non-binding frameworks in the SEA region does not appear to diminish the commitment of states when it comes to cooperation

[514] The Western and Central Pacific Fisheries Commission (WCPFC), *WCPFC8- 2011/12. Review of the Performance of the WCPFC* (2012) <https://tuna-org.org/Documents/WCPFC-PerformanceReviewRep.pdf>; The Indian Ocean Tuna Commission (IOTC), *IOTC-2016-PRIOTC02-R[E]. Report of the 2nd IOTC Performance Review* (2015).

[515] Mahon et al (n 160).

[516] Robin Mahon and Lucia Fanning, 'Regional Ocean Governance: Integrating and Coordinating Mechanisms for Polycentric Systems' (2019) 107 *Marine Policy*.

[517] Robert Bensted-Smith and Hugh Kirkman, *Comparison of Approaches to Management of Large Marine Areas* (2010) <http://www.conservation.org/documents/CI_FFI_Management_of_Large_Marine_Areas.pdf>.

[518] The United Nations Environment Program (UNEP) (n 476).

[519] Pedro Fidelman et al, 'Coalition Cohesion for Regional Marine Governance: A Stakeholder Analysis of the Coral Triangle Initiative' (2014) 95 *Ocean & Coastal Management* 117.

in respect to marine biodiversity protection in the region.[520] In addition, soft laws can offer flexibility to address particular issues which do not require consensus of all States but could include other States in the future.[521]

Analysis of future cooperation or relation with the BBNJ Agreement

Process for identification and designation of ABMTs including MPAs

Proposed provisions on further revised draft text of BBNJ agreement lays out processes to designate ABMTs including MPAs which comprises of proposal development (article 17), identification of areas (article 17(bis)), and proposals consultation (article 18).[522] It specifies parties and international/regional organisations role on each process. State parties individually or collectively are required to submit ABMT proposal (article 17(1), and such proposal may be developed in collaboration with regional organisation (article 17(2)).[523] Further, parties particularly adjacent coastal states and relevant regional organisations will be invited to provide inputs on ABMT including MPA proposal (article 18(2a and b)). [524] These provisions may implicates differently to regional organisations and states in the SEA region.

For the IOTC and the WCPFC, it is clear that proposals of ABMTs including MPAs under a BBNJ Agreement would have implications for fishing activities in the proposed area that fall within the spatial jurisdiction of such RFMOs. Thus, the IOTC and the WCPFC shall be invited by the Secretariat of BBNJ to submit views and respond to proposals for ABMTs including MPAs. This proposal consultation process is viewed by Tladi as a way for the BBNJ Agreement to promote cooperation and coordination with existing competence organizations such as RFMOs.[525] Furthermore, consultation with existing organizations could provide benefits in terms of engaging

[520] Gunasekara and Karim (n 43); Amber Rose Maggio, 'Regional Cooperation and Marine Environmental Protection in Southeast Asia Governance Models and Regional Particularities' (2019) 4(2) *Asia-Pacific Journal of Ocean Law and Policy* 202.

[521] Maggio (n 520).

[522] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298).

[523] Ibid.

[524] Ibid.

[525] Dire Tladi, 'The Proposed Implementing Agreement: Options for Coherence and Consistency in the Establishment of Protected Areas beyond National Jurisdiction' (2015) 30 *The International Journal of Marine and Coastal Law 30* 654.

regional/sectoral expertise and identify potential challenges on measures implementation. [526] Such consultation can also address concern on potential undermine of regional organisations.[527] Moreover, ABMTs including MPA proposals may have different implications for States in the SEA region particularly adjacent coastal states to ABNJ such as Indonesia, Malaysia, Philippines, and Timor Leste. For these adjacent states where there is ecological connectivity between adjacent ABNJ and areas within national jurisdiction, there should be a compatibility between measures adopted in ABMTs or MPAs in ABNJ with measures adopted in areas within national jurisdiction.[528] Most importantly, designation of ABMTs or MPAs in ABNJ should take into account the socio-economic interests of communities in adjacent areas within national jurisdiction.[529] The further revised draft text of BBNJ agreement provides for adjacent coastal states shall be invited by the Secretariat to submit views on MPAs proposal in ABNJ.[530] SEA States such as Indonesia, the Philippines and Singapore have consistently supported the insertion of a consultation clause for adjacent coastal States in the draft text during BBNJ negotiations.[531] Nevertheless, the consultation process proposed in the draft text requires scientific and technical capacity from regional organizations or States in the study area.

Under the mandates of the IOTC and the WCPFC, both are required to take into account scientific information in respect to conservation and management measures, and they have established scientific committees to support this requirement.[532] In addition, the IOTC established a Working Party on Ecosystems and Bycatch.[533] while most of the science on ecosystems for the WCPFC are

[526] Andrew Friedman, 'Beyond "Not Undermining": Possibilities for Global Cooperation to Improve Environmental Protection in Areas beyond National Jurisdiction' (2019) 76(2) *ICES Journal of Marine Science* 452.

[527] Ibid.

[528] Popova et al (n 37).

[529] Ibid.

[530] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298). Article 18(2a).

[531] See section 2.2.2.1

[532] The Indian Ocean Tuna Commission (IOTC), 'The Agreement for the Establishment of the Indian Ocean Tuna Commission' (n 516). See article V (2c) and XII(1 & 4); The Western and Central Pacific Fisheries Commission (WCPFC), 'Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean' (n 531). See article 5(a), XI, and XII.

[533] The Indian Ocean Tuna Commission (IOTC), 'Working Party on Ecosystems and Bycatch (WPEB) ' <https://iotc.org/node/3384>. The WPEB function is to analyse and review matters related to bycatch and ecosystem that are affected by tuna fisheries.

supported by the Secretariat of the Pacific Community-Ocean Fisheries Program.[534] However, it has been argued that scientific committees/bodies in tuna-RFMOs like the IOTC and the WCPFC have limited capacity and authority to assess and coordinate all research on fisheries impacts to ecosystems, thus hindering comprehensive implementation of ecosystem based fisheries management.[535]

Similarly, the ASEAN, COBSEA, and CTI-CFF that operate within EEZ waters in the SEA region are to also consider scientific advice in implementing their work programs[536], although have variations for scientific institutional design. The ASEAN have established committees and institutions to provide scientific advice in developing common policy and guidelines for management of marine biodiversity and fisheries within the SEA, namely: ASEAN Sub-Committee on Marine Science and Technology [537], SEAFDEC [538], and ACB [539]. While the COBSEA and the CTI-CFF does not have a dedicated body to perform scientific advice, but most science and assessment activities are conducted through projects or cooperation with other institutions.[540] In general, the SEA region has limited capacity in science and research to support

[534] The Western Central Pacific Fisheries Commission (WCPFC), 'WCPFC SPC-OFP Revised Memorandum of Understanding | WCPFC' (2019) <https://www.wcpfc.int/doc/wcpfc-spc-ofp-revised-memorandum-understanding>. Secretariat of the Pacific Community-Ocean Fisheries Program provides scientific assessment on ecology and bycatch to the WCPFC.

[535] Juan-Jordá et al (n 143).

[536] ASEAN (n 547). See para 10.; The United Nations Environment Program (UNEP) (n 499). See section II ; The Coral Triangle Initiative on Coral Reefs, 'The Coral Triangle Initiative Leaders' Declaration on Coral Reefs, Fisheries and Food Security ' (n 556). See RPOA Guiding Principles#2 .

[537] The ASEAN Secretariat, 'Sub-Committee on Marine Science and Technology (SCMSAT) - ASTNET' <https://astnet.asean.org/sub-committee-on-marine-science-and-technology-scmsat/>.

[538] The Southeast Asian Fisheries Development Centre (SEAFDEC) (n 489). SEAFDEC provides research and scientific advice on fisheries management for ASEAN member states.

[539] The ASEAN Centre for Biodiversity (ACB), *About ACB | ACB | ASEAN Centre for Biodiversity* (n 488). The ACB manages ASEAN Clearing House Mechanism that provides platform for information exchange on biodiversity conservation and management within the SEA region.

[540] The Coordinating Body on the Seas of East Asia (COBSEA), 'Governance, Resource Mobilization and Partnerships' <https://www.unep.org/cobsea/what-we-do/governance-resource-mobilization-and-partnerships>. Example of project in scientific assessment is assessment of marine litter in the southeast asia; The CTI-CFF Secretariat, 'The CTI-CFF University Partnership | CTI-CFF' <https://coraltriangleinitiative.org/index.php?q=univpartnership/#important-documents>. The CTI-CFF also had partnership with SEAFDEC to develop technical capacity on Ecosystem Approach for Fisheries Management in the CT area.

policy and action on marine biodiversity conservation and fisheries management.[541] Nevertheless, the SEA States have participated in the Ecologically and Biologically Significant Marine Areas (EBSAs) regional workshops in East Asian Seas [542], North Indian Ocean [543], and Southern Indian Ocean [544] which describe EBSAs in the Indian Ocean (Olive Ridley Sea Turtle Migratory Corridor in the Bay of Bengal, Upwelling Zone of the Sumatra-Java Coast, and Central Indian Ocean Basin) and Western Central Pacific Ocean (Kyushu Palau Ridge).

Decision making, implementation, and monitoring and review

Proposed provisions in the further revised draft text of BBNJ agreement indicate roles for the COP, States Parties, and relevant global, regional, and sectoral organizations in decision making, implementation, and monitoring and review of ABMTs including MPA measures.

Applying those proposed provisions to the SEA region and adjacent ABNJ, it is apparent that the IOTC and WCPFC would have a central role in supporting the implementation of ABMTs including MPAs since they are the only organisations that have mandate in ABNJ. As pointed out by Gjerde et al., regional organizations will play an important role in the effective implementation of the BBNJ Agreement, provided there is a mechanism to improve cooperation and coordination with and among regional organizations.[545] This has been recognized in numerous proposed provisions in the further revised draft text agreement especially article 48(5c) which states the COP shall promote cooperation and coordination with and among relevant global, sectoral, and regional

[541] Julian Clifton, 'Comment Science, Funding and Participation: Key Issues for Marine Protected Area Networks and the Coral Triangle Initiative' (2009) 36(2) *Environmental Conservation* 91 <https://doi.org/10.1017/S0376892909990075>; The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34); The ASEAN Centre for Biodiversity (ACB), 'ASEAN Biodiversity Outlook 2' (n 39); STIMSON (n 399).

[542] The United Nations Convention on Biological Diversity (UNCBD), *UNEP/CBD/EBSA/WS/2015/3/4. Report of the Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas in the Seas of East Asia* (2016).

[543] The United Nations Convention on Biological Diversity (UNCBD), *UNEP/CBD/EBSA/WS/2015/1/4. Report Of the North Indian Ocean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas* (16 March 2016).

[544] The United Nations Convention on Biological Diversity (UNCBD), *UNEP/CBD/RW/EBSA/SIO/1/4. Report of the Southern Indian Ocean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas* (26 June 2013) <https://www.cbd.int/doc/meetings/mar/ebsa-sio-01/official/ebsa-sio-01-04-en.pdf>.

[545] K Gjerde et al, *Conservation and Sustainable Use of Marine Biodiversity in Areas Beyond National Jurisdiction: Options for Underpinning a Strong Global BBNJ Agreement through Regional and Sectoral Governance* (2018) <www.prog-ocean.org/our-work/strong-high-seas/>.

organisations.[546] Several scholars argue that one of the mechanisms to promote cooperation is through formal arrangements or Memorandums of Understanding (MoU) between regional organizations and the BBNJ organ.[547] Haas et al. point out that signing MoU between the BBNJ organ and RFMOs could improve conservation measures within RFMO jurisdiction areas by improving ecosystem based management, providing a standard framework for RFMO parties to follow, and thereby overcoming mandate limitations in RFMOs.[548] This is relevant for the IOTC and the WCPFC whose mandates are limited to tuna and highly migratory species respectively. Both the IOTC and the WCPFC do cooperate with other organizations to support achievement of their mandate objectives. For example, the IOTC has an agreement with the Overseas Fishery Cooperation Foundation of Japan to improve accuracy and develop capacity for collecting and reporting tuna fisheries statistics by the IOTC coastal States.[549] Similarly, the MoU between the WCPFC and the Pacific Island Fisheries Forum Agency (FFA) is to exchange information relating to their activities and programmes of work on highly migratory fish stocks and associated and dependent species in the Pacific Islands region.[550] Notably, strong ties between common members of the FFA and the WCPFC has culminated in strong conservation measures on fishing closures in high seas pocket areas in the Pacific Ocean.[551] Furthermore, support in the adoption of measures on ABMTs including MPAs in the study area could also be carried out by countries in the SEA region.

Proposed provisions in the further revised draft text place an obligation on States parties to: either ensure activities of their vessels or under their jurisdiction or control are conducted consistently

[546] United Nations General Assembly, 'A/CONF.232/2022/5. Further Revised Draft Text of an 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 Note by the President' (n 298).

[547] Ardron et al (n 92); Quirk and Harden-Davies (n 50); Wright and Rochette (n 147); Bianca Haas et al, 'Regional Fisheries Management Organizations and the New Biodiversity Agreement: Challenge or Opportunity?' (2021) 22(1) *Fish and Fisheries* 226.

[548] Haas et al (n 547).

[549] The Indian Ocean Tuna Commission (IOTC), 'Cooperation Agreement between the Indian Ocean Tuna Commission and the Overseas Fishery Cooperation Foundation of Japan' (2022) <https://iotc.org/sites/default/files/documents/2022/09/Signed_Cooperation_Agreement_IOTC_OFCF_20Sept2022.pdf>.

[550] The Western and Central Pacific Fisheries Commission (WCPFC), 'Memorandum of Understanding between the Secretariat of the Pacific Islands Forum Fisheries Agency and the Secretariat of the Western and Central Pacific Fisheries Commission' (2009) <https://www.wcpfc.int/doc/wcpfc-ffa-memorandum-understanding>.

[551] Quirk and Harden-Davies (n 50).

with MPA measures (article 20(1)), or promote the adoption of such measures within regional/sectoral organizations of which they are members (article 20(4)). This could be conducted through utilizing regional organizations such as ASEAN. Although the programmes of these organizations are limited to areas within national jursdiction, improving member States implementation on such programmes could support ABMTs including MPAs measures in ABNJ. For example, ASEAN through SEAFDEC are implementing regional initiatives to support sustainable fisheries management which include: the ASEAN Guidelines for Preventing the Entry of IUU Fish and Fishery Products into the Supply Chain, implementing Port States Measure Agreement in the SEA region, and Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing in the Region (RPOA-IUU),[552] Strengthening implementation of these initiatives by the SEA States could ensure that fishing vessels flying their flags in the high seas act consistently with MPA measures that are established in the Indian Ocean or the Western Central Pacific Ocean.

Other discussion regarding implication of BBNJ agreement to existing regional cooperation is related to issue on undermining existing legal instrument and bodies. The UNGA resolution 69/292 and 72/249 emphasized that BBNJ Agreements should not undermine existing relevant legal instruments and frameworks and relevant global, regional, and sectoral bodies.[553] Scholars have recognized that undermining term is ambiguous and political [554], and it was intended to acknowledge the primacy of existing legal instruments such as RFMO.[555] However, such term should be broadly interpreted in an essence that the BBNJ agreement should not apply measure to manage activities that are already governed by existing instrument.[556] Thus, avoiding measures and ensuring compatibility and coordination between instruments to achieve BBNJ agreement

[552] The Southeast Asian Fisheries Development Center (SEAFDEC) (n 34).

[553] UN General Assembly, 'A/RES/69/292. Development of an International Legally Binding instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Diversity of Areas beyond National Jurisdiction' (n 31); UN General Assembly, 'A/RES/72/249. International Legally Binding Instrument under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction' (n 33).

[554] Zoe Scanlon, 'The Art of "Not Undermining": Possibilities within Existing Architecture to Improve Environmental Protections in Areas beyond National Jurisdiction' (2018) 75(1) *ICES Journal of Marine Science* 405.

[555] McDorman (n 45).

[556] Wright et al (n 155). See section 7.6

objective.[557] Since negotiation of BBNJ agreement is still ongoing process, there is no certainty in practice how measures on ABMTs or MPAs under BBNJ Agreement would undermine existing regional organisations in SEA region and adjacent ABNJ. In addition, such issue is beyond the scope of this research objective, thus this thesis will not investigate issue on undermining existing regional organisations in the SEA region.

Section B. Lessons learned from other regions regarding ABMTs, including the implementation of MPAs

Cooperation in the North East Atlantic High Seas MPAs

Currently there are 11 high seas MPAs that cover 19.9% of ABNJ i.e. High Seas, the Area, and the Extended Continental Shelf (ECS) of the OSPAR maritime area.[558]. OSPAR is deemed to be a pioneer regional organization when it comes to establishing and implementing MPAs in ABNJ.[559] Reviewing OSPAR's experience could provide lessons for regional organizations in the study area and provide insights into how cooperation could be fostered in the designation and implementation of ABMTs including MPAs under BBNJ Agreement.

Legal competence of OSPAR in the establishment of MPAs in ABNJ

Article 1 of the OSPAR Convention defines its jurisdictional scope as "maritime areas means the internal waters and the territorial seas of the Contracting Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the bed of all those waters and its sub-soil".[560] When it was first adopted in 1992, the OSPAR Convention contained a general obligation to protect and restore the marine environment (article 2(1)), and specifically obliged its parties to prevent and eliminate pollution from land-based sources, by dumping or incineration, and from other offshore

[557] Vito De Lucia et al, 'Rethinking the Conservation of Marine Biodiversity beyond National Jurisdiction-From "Not Undermine" to Ecosystem-Based Governance' (2019) 8(4) *ESIL Reflections* <https://www.researchgate.net/publication/334537490>.

[558] OSPAR Commission, '11% of the North-East Atlantic Is Now Protected' <https://www.ospar.org/news/mpareport>.

[559] Erik J Molenaar and Alex G Oude Elferink, 'Marine Protected Areas in Areas beyond National Jurisdiction: The Pioneering Efforts under the OSPAR Convention' (2009) 5(1) *Utrecht Law Review*.

[560] *Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)* (n 196).

sources (article 3-5).[561] Later in 1998 through the OSPAR Ministerial Meeting in Sintra, Annex V on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area was adopted.[562] Although Annex V does not specifically mention MPAs, the 1998 Sintra Ministerial Statement provides more clarity on establishing MPA networks and it was listed as one of the strategies to conserve marine biodiversity in the OSPAR maritime area.[563] Therefore, Annex V provides a legal basis for OSPAR to establish MPAs in its maritime area.

Annex V sets out further obligation for parties, commission duties, and mandate limitations related to the protection and conservation of marine biodiversity. Article 2 of Annex V requires parties to take necessary measures and to cooperate to protect and conserve ecosystems and biodiversity.[564] Article 3 of Annex V lays out OSPAR commission duties that include collecting information on human activities that impact on marine ecosystems, regulate conservation measures to specific areas or habitat, and apply the ecosystem approach.[565]. Furthermore, Article 4 of Annex V specifies that OSPAR cannot take legally binding measures related to fisheries and maritime transport as these are outside OSPAR competence, and to achieve appropriate measures the commission may adopt non legally binding decisions and shall cooperate with competent organizations i.e. RFMOs and the IMO.[566] In 2009, the OSPAR Commission adopted a non-binding instrument entitled the 2009 Regulatory Regime which further clarified that OSPAR has the legal competence to establish MPAs in ABNJ, however not all human activities can be regulated under OSPAR's remit i.e. fisheries, shipping, and deep-seabed mining in the Area.[567] Pursuant to Annex V, OSPAR endorsed several non-binding guidelines to assist parties in establishing and implementing MPAs in

[561] Ibid.

[562] OSPAR Commission, *OSPAR98/14/1-E, Annex 31. Ministerial Meeting of the OSPAR Commission. The Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area.* (1998).

[563] OSPAR Commission, 'OSPAR Commission Ministerial Meeting of the OSPAR Commission Sintra, 22-23 July 1998' (1998). See Sintra Statement: Ecosystems and Biological Diversity. <https://www.ospar.org/documents?v=6877>.

[564] *Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)* (n 196). Annex V.

[565] Ibid. Annex V article 3.

[566] Ibid.

[567] OSPAR Commission, 'OSPAR 09/22/1-E, Annex 6. OSPAR's Regulatory Regime for Establishing Marine Protected Areas (MPAs) in Areas Beyond National Jurisdiction (ABNJ) of the OSPAR Maritime Area.' (n 206). OSPAR may regulate binding measures on activities such as: scientific research, cable-laying, dumping, construction of installations and artificial islands, and deep-sea tourism.

ABNJ.[568] Among the guidelines are Recommendation 2003/3 which recommends parties: to identify MPAs in ABNJ (section 3.1); and to develop a management plan and identify suitable measures to be implemented that may lie within the competence of relevant organizations or frameworks (section 3.2).[569] These non-binding guidelines are viewed by Matz-Lück and Fuchs as OSPAR's approach to addressing its mandate limitations and providing binding management measures on certain activities in MPAs in ABNJ.[570]

Clearly, OSPAR is expanding the scope of its mandate from pollution prevention to marine biodiversity conservation through the establishment of MPA networks. OSPAR also acknowledges its limited competence to regulate activities in MPA in ABNJ (e.g. fisheries) and has addressed this issue through the adoption of non-binding recommendations which encourage parties to work with organizations that have competence in such activities. The OSPAR example could provide an incentive for other regional organizations in the study area to expand their mandate to establish MPAs in ABNJ. Regional organizations in the study area may combine binding and non-binding approaches to overcome the limitations of their respective mandates to designate and manage MPAs in ABNJ. For example, utilizing Article 19bis(1) of BBNJ further revised draft text agreement, ASEAN through non-binding decisions may encourage its member states to support the establishment of ABMTs or MPAs in the Indian Ocean or the Western Central Pacific Ocean. Further, following Article 20(1) of the further revised draft text of BBNJ agreement, ASEAN through binding decisions may require its member states to ensure vessels or activities within their jurisdiction or control are conducted consistently with MPA measures in adjacent ABNJ.

Fostering cooperation to establish and manage MPAs in ABNJ of the North East Atlantic

The geographical scope of OSPAR's jurisdiction extends to the North East Atlantic, which is the same geographical location of other regional organizations including the North East Atlantic

[568] OSPAR Commission, *Guidance for the Development and Management of the OSPAR Network | OSPAR Commission* (n 199). Among the guidance are include Recommendation 2003/3 on network of MPA, Agreement 2003-17 on identification and selection of MPA, Agrement 2006-17 on developing ecologically coherent MPA network.

[569] OSPAR Commission, 'OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas as Amended by OSPAR Recommendation 2010/2 (Consolidated Text)' (n 198).

[570] Nele Matz-Lück and Johannes Fuchs, 'The Impact of OSPAR on Protected Area Management beyond National Jurisdiction: Effective Regional Cooperation or a Network of Paper Parks?' (2014) 49 *Marine Policy* 155.

Fisheries Commission (NEAFC). Both OSPAR and NEAFC occupy the same geographical areas (i.e. ABNJ of the North East Atlantic) and both have a similar substantive mandate which concerns the protection of vulnerable marine ecosystems and biodiversity.[571]. NEAFC's competence is on fisheries management with related measures including bottom fishing closure areas and gear restrictions. Specifically, NEAFC conservation measures on area closure for VMEs protection[572] is overlaps with OSPAR high seas MPAs.[573] On the other hand although OSPAR has the legal competence to establish MPAs in ABNJ, OSPAR Annex V and Regulatory Regime 2009 explicitly state that measures on fisheries management, shipping, and deep sea mining are outside OSPAR's mandate on regulating human activities in MPAs. In other words, OSPAR has a gap in its mandate to manage human activities in high seas MPAs. This has prompted OSPAR to seek cooperation with other competent organizations to manage specific human activities in its MPA e.g. NEAFC for fisheries, the IMO for shipping, and the ISA for deep sea mining.

To facilitate such cooperation, OSPAR have MoUs with several organizations such as with NEAFC in 2008 (Agreement 2008-04), the IMO in 1999 (Agreement 1999-15), and the ISA in 2010 (Agreement 2010-09).[574] Under the MoUs, each institution is allowed to attend the meetings of the other institution as an observer and this improves understanding between the two organizations and their work.[575] However, the MoUs have not resulted in improving coordination to manage activities in OSPAR MPAs.[576] OSPAR has continued to improve coordination through a series of meetings in Madeira commencing in 2008 (referred to as the Madeira Process) with participants including the IMO, NEAFC, ICCAT, FAO, and other institutions.[577] The Madeira Process resulted in a formal bilateral agreement between OSPAR and NEAFC in 2014 which

[571] NEAFC and OSPAR (n 173).

[572] The North-East Atlantic Fisheries Comission (NEAFC) (n 145).

[573] Hennicke et al (n 201). See figure 3.7 page 66. NEAFC bottom fishing areas closure that overlap with OSPAR high seas MPA are namely Hatton Bank (in Hatton Bank MPA), Middle MAR area (in Charlie Gibs North and South MPA), Altair Seamount (in Altair Seamount MPA), Southern MAR area (in Azores MPA), and Antialtair Seamount (Antialtair Seamount MPA).

[574] OSPAR Commission, 'Memoranda of Understanding & Cooperation Arrangements ' <https://www.ospar.org/about/international-cooperation/memoranda-of-understanding>.

[575] Hennicke et al (n 201).

[576] EM De Santo et al, 'Protecting Biodiversity in Areas beyond National Jurisdiction: An Earth System Governance Perspective' (2019) 2 *Earth System Governance* 100029.

[577] Tang, Chen and Zhang (n 346).

subsequently transformed into a Collective Arrangement to accommodate wider involvement of institutions that are competent to manage human activities in ABNJ i.e. the IMO and ISA.[578]

The Collective Arrangement serves as a multilateral forum for dialogue and exchange of information which aims to foster cross-sectoral cooperation and coordination between competent organizations. Notable result of the collective agreement is management of fishing activities in OSPAR MPAs that overlap with NEAFC bottom fishing closures areas[579], thus filling the gap in OSPAR mandate to manage fishing activities. However, to date neither the IMO and ISA are adopting the collective agreement which resulting in not all management measures can be implemented in OSPAR high seas MPAs.[580]

Lessons learnt from the OSPAR experience that can be useful for regional organizations in the study area is regional organizations need to initiate communication and raise awareness on the MPA measures to other competent organizations in ABNJ. This can be done through MoUs with relevant organizations. MoUs allow the presence of each representative in regular meetings between the two organizations, thus increasing understanding on each organizations work and interests. Although a MoU is not legally binding, it can be upgraded into a formal agreement between competent organizations. Formal agreement may facilitate joint activities such as data and information collection, management of fishing activities, and developing standards and procedures for human activities that can support and complement measures on ABMTs including MPAs. Further, a formal agreement can fill the competency gap of a regional organization in managing MPAs in ABNJ. Further revised draft text of the BBNJ agreement provides roles for COP (Option 1. Article 19. (3)) or parties (Option 2. Article 19bis(3)) to enhance consultation and coordination with relevant competent organizations related to ABMTs including MPAs.

Another relevant experience from OSPAR on MPAs is the involvement of NGOs and science institutions. Although Recommendation 2003/3 encourages OSPAR member States to contribute to the identification and proposal of areas to be designated as MPAs in ABNJ (section 3.1)[581], 8 of 11 OSPAR high seas MPAs were proposed by university and NGOs. Proposal for 7 MPAs

[578] Ibid.

[579] Hennicke et al (n 201).

[580] Ibid. Section 3.8

[581] OSPAR Commission, 'OSPAR Recommendation 2003/3 on a Network of Marine Protected Areas as Amended by OSPAR Recommendation 2010/2 (Consolidated Text)' (n 198).

established in 2010 and 2012 were developed by the World Wildlife Fund for Nature (WWF) and the University of York[582], and similarly the newly established MPA in 2021 was proposed by Birdlife International.[583] It was made possible because OSPAR recognizes NGOs as observers in which they can participate (without voting rights) and provide information or reports relevant to the objectives of meetings of commissions, committees, and working groups.[584] Most importantly, OSPAR Biodiversity Strategy (Agreement 2003-21) states that the OSPAR Commission can consider proposals and assessments from NGOs regarding the establishment of MPAs in ABNJ to achieve the target of ecologically coherent MPA networks in the OSPAR area.[585] In addition, OSPAR cooperates with the International Council for the Exploration of the Sea (ICES) on provision of scientific advice including MPA proposals review and monitor environmental changes within OSPAR maritime areas.[586]

The involvement of NGOs in the preparation of MPA proposals may be a good example for regional organizations in the SEA region and adjacent ABNJ. Although majority of OSPAR members are developed countries, initiatives to propose MPA have come from NGOs. Since scientific surveys and environmental assessments in ABNJ are likely to cause extra economic costs for the State, it might be the reason that proposing MPA was not considered a priority for OSPAR States. Regional organizations and States in the SEA region may collaborate with NGOs and regional research centers to identify areas in ABNJ that require protection through ABMTs or MPAs. This is in-line with Article 17(2) of the BBNJ draft text. The involvement of NGOs in the MPA identification process may address gaps in States' capacity and interests in their efforts to

[582] Hennicke et al (n 201). See Annex III: The University of York (with support funding from Germany from 2008-2010) and WWF developed proposals for Charlie-Gibbs Fracture Zone/Mid-Atlantic Ridge, Reykjanes Ridge, Mid-Atlantic Ridge north of the Azores, Milne Seamount Complex, Altair Seamount, Antialtair Seamount, and Josephine Seamount Complex MPAs.

[583] BirdLife International, 'Seabird Tracking Data Identify a Major Foraging Hotspot in the North Atlantic, Now Protected as the North Atlantic Current and Evlanov Sea-Basin Marine Protected Area (NACES MPA)' (2022) <http://datazone.birdlife.org/sowb/casestudy/seabird-tracking-data-identify-a-major-foraging-hotspot-in-the-north-atlantic>.

[584] NGOs as observer participation in OSPAR Commission meeting is regulated in article 11 of the 1992 OSPAR Convention, and their participation in working group and committee meetings further emphasized in 1998 Sintra Ministerial Statement under follow ups.

[585] OSPAR Commission, 'OSPAR 09/22/1-E, Annex 6. OSPAR's Regulatory Regime for Establishing Marine Protected Areas (MPAs) in Areas Beyond National Jurisdiction (ABNJ) of the OSPAR Maritime Area.' (n 206). Such statement derived from

[586] OSPAR-ICES, 'Agreement 2006-8. Memorandum of Understanding between the OSPAR Commission and the International Council for the Exploration of the Sea' (2006) <https://www.ospar.org/documents?d=32623>.

conserve and sustainably manage marine biodiversity in ABNJ. As capacity building and marine technology transfer is one of the elements of the BBNJ Package Deal, strengthening capacity of regional organizations is crucial for effective implementation of the new legal instrument for the conservation and sustainable use of marine biodiversity.[587] In addition, the G77 and China group have stated that ensuring implementation of provisions on capacity building, transfer of technology, and scientific knowledge will enable developing countries to access and benefit from the sustainable use of marine biodiversity in ABNJ.[588]

Regional recognition for Pelagos marine mammals sanctuary in the Mediterranean

The Pelagos Sanctuary MPA provides a different story. Although it has lost its ABNJ portion, its journey to gain cross sectoral management is worth looking at and may provide valuable lessons for this study. The Pelagos Sanctuary for the Conservation of Marine Mammals in the Mediterranean Sea is often referred to as the first MPA established in ABNJ.[589] The sanctuary situated in the Ligurian Sea of the Mediterranean covers the high seas, the internal waters, and territorial sea of France, Italy, and the Monaco Mediterranean Sea.[590]. Its water has high levels of primary productivity, deep water, and shelf slope habitats which makes it suitable for breeding and foraging ground for large number of cetaceans species [591]. Increasing threats from large fishing driftnets, vessel strikes, and land based pollution to the area prompted civil societies, scientists, and the government of France, Italy, and Monaco to initiate protection measures. In 1999, France, Italy, and Monaco signed a Multilateral Agreement on the Creation of a Sanctuary for marine mammals in the Mediterranean Sea.[592] This agreement entered into force in 2002. The Pelagos Sanctuary agreement requires its parties to ensure protection of all marine mammals from direct

[587] Rochette et al (n 217).

[588] The Group of 77/China, 'Statement on Behalf of the Group of the Group of 77 and China By Minister Diego Limeres, Deputy Permanent Representative of the Permanent Mission of Argentina to the United Nations, at the Ad Hoc Open-Ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biological Diversity Beyond Areas of National Jurisdiction' (31 May 2011) <http://www.g77.org/statement/getstatement.php?id=110531&print=1>.

[589] Julien Rochette et al, 'Delivering the Aichi Target 11: Challenges and Opportunities for Marine Areas beyond National Jurisdiction' (2014) 24(S2) *Aquatic Conservation: Marine and Freshwater Ecosystems* 31.

[590] Tullio Scovazzi, 'The Mediterranean Marine Mammals Sanctuary' (2001) 16 *International Journal of Marine and Coastal Law* 132. When it first designated, France, Italy, and Monaco were yet to claim their EEZ.

[591] Giuseppe Notarbartolo-Di-Sciara et al, 'The Pelagos Sanctuary for Mediterranean Marine Mammals' (2008) 18 *Aquatic Conservation: Marine and Freshwater Ecosystems* 367 <https://onlinelibrary.wiley.com/doi/10.1002/aqc.855>.

[592] Pelagos Sanctuary Secretariat, 'History' <https://www.sanctuaire-pelagos.org/en/about-us/history>.

and indirect negative impacts through measures that prohibit actions on hunting, catching, killing or harassing, as well as the attempting of such actions', and disturbance of marine mammals.[593]

There are two other regional instruments that were also signed close in time with the Pelagos Sanctuary, they are the 1996 Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) and the 1999 the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) of the Barcelona Convention.[594] Both instruments require its parties to endeavor in efforts to conserve cetaceans through the establishment of protected areas.[595] As parties to both instruments, France, Italy and Monaco made a joint proposal for the inclusion of the Pelagos Sanctuary in the list of Specially Protected Areas and Biological Diversity in the Mediterranean (SPAMI) under SPA/BD Protocol.[596] In 2001, the Pelagos Sanctuary was included as SPAMI which means that all parties of the Barcelona Convention recognized the Pelagos Sanctuary as SPAMI and abide with the measures applicable to the Sanctuary.[597] The sanctuary also recognized as Specially Protected Area under ACCOBAMS. ACCOBAMS recognition means that the sanctuary is gained wide acknowledgement since ACCOBAMS encompasses states in the Black Sea and the contiguous Atlantic area west of the Strait of Gibraltar.[598]

Parties of the Pelagos Sanctuary were also endeavor to secure integrative management and cross-sectoral cooperation with regional organizations. In 2004, the management plan was adopted which become part of other international agreements and programs, namely ACCOBAMS, RAMOGE, and UNEP/MAP, and later permanent office have been operated since 2007.[599] Further, cross-sectoral cooperation with other organizations were conducted in an effort

[593] Tullio Scovazzi (n 590).

[594] Pelagos Sanctuary Secretariat (n 592).

[595] Tullio Scovazzi (n 590).

[596] Ibid.

[597] Ibid.

[598] Sabine Christiansen, 'Background Document for the HIGH SEAS MPAs Regional Approaches and Experiences. Side Event at the 12th United Nations Environment Programme Global Meeting of the Regional Seas Conventions and Action Plans.' (2010) <https://wedocs.unep.org/bitstream/handle/20.500.11822/12700/inf.06-high-seas-side-event.pdf?sequence=1&isAllowed=y>.

[599] The Pelagos Sanctuary Secretariat, 'Management Plan' (2022). <https://www.sanctuaire-pelagos.org/en/about-us/management-plan>. ACCOBAMS: Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area ; Ramoge Agreement: Agreement between France, Monaco and Italy to protect the

to ensure protection of the Pelagos Sanctuary. For instance, GFCM forbid towed dredges and bottom trawl-nets fishing in the sanctuary, and shipping companies encouraged usage of the real time plotting of cetaceans (REPCET) system to avoid collisions.[600] In addition, the permanent secretariat was established in 2006 with aims to ensure that the Pelagos agreement's objectives and resolutions were being implemented, and facilitate coordination between parties, agreement bodies, and local municipalities that surround the sanctuary.[601]

The Pelagos Sanctuary provides valuable lessons on scaling up initiatives on marine mammal protection by three countries to be widely recognized by other states in the region. France, Italy, and Monaco were leveraging their membership in SPA/BD and ACCOBAMs instruments to advance regional recognition of the Pelagos Sanctuary in such instruments. It showcased leadership and political will from the three countries in promoting cooperation with other regional and international organizations to ensure conservation and protection of cetaceans in the Pelagos Sanctuary.

coast between Marseille in France and La Spezia in Italy; UNEP/MAP: Mediterranean Action Plan developed as a result of the 1975 Barcelona Convention, under the framework of the United Nations Environment Program

[600] Wright, Rochette and Druel (n 30).

[601] The Pelagos Sanctuary Secretariat, 'Permanent Secretariat' <https://www.sanctuaire-pelagos.org/en/about-us/permanent-secretariat>.

Recommendations and conclusions

Recommendations to strengthen regional cooperation to support ABMTs including MPAs implementation in Southeast Asia and adjacent ABNJ

The foregoing analysis has highlighted challenges faced by regional organizations in the study area and lessons learned from other regions in implementing MPAs in ABNJ. Accordingly, this section will provide suggestions to strengthen regional organizations in the study area to support implementation of measures on ABMTs including MPAs.

Overcoming mandate and competence gaps

As discussed above, regional organizations in the study area have varied and limited mandates in ABNJ. The IOTC and WCPFC have mandates in ABNJ but its competence only to regulating tuna and other migratory species fisheries, respectively. While East Asian Seas RSP, ASEAN, and CTI-CFF mandates are only applied for AWNJ. There are two options to overcome this mandate gap. The first option is to expand the mandate and competence of these organizations to cover ABNJ and ecosystem based management. In recent years there has been calls to expand the mandates and competences of regional organizations to cover activities in ABNJ. The UN Environmental Assembly resolution in 2016 encouraged parties of the regional seas convention to consider possibilities of increasing coverage of RSP to ABNJ according to international law.[602] Similarly, the UNFSA review conference in 2016 also called RFMOs to expand species and geographic coverage gap.[603] This was also acknowledged in the 2nd performance review report of the IOTC and WCPFC that asked both RFMOs to extend their mandates to adopt more conservation biodiversity protection measures.[604] Expanding the mandates would make regional organizations

[602] Delia Paul et al, 'Summary Report 23–27 May 2016. The Second United Nations Environment Assembly of the United Nations Environment Programme (UNEA-2)' (2016) <https://enb.iisd.org/events/unea-2/summary-report-23-27-may-2016>.

[603] United Nations General Assembly, 'A/CONF.210/2016/5. Report of the Resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks'(2016) <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N16/244/06/PDF/N1624406.pdf?OpenElement>. See Annex section B.1.

[604] The Western and Central Pacific Fisheries Commission (WCPFC), 'WCPFC8- 2011/12. Review of the Performance of the WCPFC' (n 514); The Indian Ocean Tuna Commission (IOTC), 'IOTC-2016-PRIOTC02-R[E]. Report of the 2nd IOTC Performance Review' (n 514).

have sufficient legal competences to directly implement measures or adopt measures for ABMTs including MPAs under the BBNJ Agreement.

With regard to ASEAN and CTI-CFF, given the objective and focus of such organizations mandate extension would not be possible. It is suggested for these organizations to encourage its member States to support the establishment and implementation of ABMTs including MPAs in adjacent ABNJ. For example, ASEAN could strengthen flag State responsibilities and implementation of the Port States Measure Agreement by its members in the SEA region, and implementing other initiative such as Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing in the Region (RPOA-IUU). Further, member States of ASEAN and CTI-CFF could advocate for marine biodiversity conservation issues in ABNJ in other regional fora. They may raise issues on inter alia migratory marine species protection, transboundary marine plastic debris pollution, enhance ecosystem based management and biodiversity protection measures, and establishing a network of ecologically representative and connected MPAs. Such awareness raising may increase buy-in from other States and stakeholders outside the region to support implementation of ABMTs including MPAs in the adjacent ABNJ of the SEA region.

Building cooperation and coordination

As discussed in previous part, there is no overarching mechanism to coordinate regional organisations in the SEA region and adjacent ABNJ. It has been argued that regional organisations within a region need to have coordination and cooperation among themselves and with other relevant organisations to achieve effective and efficient conservation and sustainable use of marine biodiversity in ABNJ.[605] Thus it is suggested that there should be an institution that undertakes a coordinating role between regional organizations in the study area. In the Western Pacific region, strong coordination mechanisms between regional organizations enabled the formulation of an overarching regional ocean policy framework that provides integration and prevents competition and overlap between regional organizations work thus supporting conservation and sustainable use of marine biodiversity in ABNJ.[606] In addition, strengthening cooperation and coordination between regional, global, and sectoral organizations could increase understanding and recognition

[605] Wright and Rochette (n 47).

[606] Quirk and Harden-Davies (n 50).

of the establishment and management of ABMTs or MPAs which in turn can support comprehensive and cross-sectoral implementation of such measures.

Cooperation with other regional organizations in other regions can also be established to enhance coordination. For instance, cooperation between COBSEA and the Mediterranean Action Plan Coordinating Unit under the Barcelona Convention on designating regional MPA networks to enhance cetacean protection, or between COBSEA and South Asia Co-operative Environment Programme (SACEP) on possibilities to designate MPAs in the ABNJ of Bay of Bengal marine ecoregion. Although currently coordination between RSPs already takes place under the UNEP umbrella, it mainly takes place at the secretariat level. Cross regional cooperation will serve not only as a platform for information exchange and sharing best practices between regions, but if adequately supported in capacities it can be further expanded to connect works across marine regions and achieving regional scale ecosystem-based management in ABNJ.[607]

Build collective capacities

Measures on AMBTs or MPAs requires scientific, technical, and funding capacities of States for identification of areas requiring protection, proposal development and consultation, implementation, as well as monitoring and review. Further, identifying ABMTs or MPAs need to enhance States technical and scientific capacities, and provide access to information such as biodiversity, the distribution and impact of sectoral activities, as well as biological and ecological connectivity between coastal State jurisdiction and adjacent ABNJ.[608] As reviewed in the above sections, most of the States and the regional organizations in the study area are developing States and are currently lacking in such capacities. And for developing countries support on capacity building that include exchange of experts, knowledge sharing, access to technology and infrastructures are needed to ensure effective and equitable implementation of the BBNJ Package Deal.[609] Therefore, States and regional organizations need to build capacities to advance implementation of ABMTs including MPAs. Gjerde et al. suggest that there should be a capacity needs assessment for developing States that could identify capacity needs and priorities, determine

[607] Rochette et al (n 217).

[608] Kristina Gjerde et al, 'Strategy for Designing and Implementing Area-Based Management Tools Including MPAs under the Future BBNJ Agreement' (IUCN, 2021) <https://www.iucn.org/sites/default/files/2022-07/iucn_abmt_strategy_2021.pdf>.

[609] Ribeiro (n 51).

key infrastructure and facilities such as research vessels, and strengthening existing research facilities. Developing capacities could be conducted both globally or regionally through collaboration with UN agencies and intergovernmental bodies, NGOs, academia, and science institutions.[610]

Moreover, regional organizations in the study area can establish cooperation with the aim to increase collective capacity through for example, biological and ecological data collection training, or data and information sharing on fisheries or sectoral activities impacts on biodiversity in ABNJ. In addition, SEA States and regional organizations can also cooperate with NGOs, and utilizing regional and global research initiatives such as the Intergovernmental Oceanographic Commission-Sub Commissions for Western Pacific (IOC-WESTPAC)[611], the Group on Earth Observations Biodiversity Observation Network (GEO BON)[612], and Global Ocean Observing System (GOOS)[613] to collect information and conduct marine biodiversity assessments in the Indian Ocean or Western Central Pacific Ocean. There is a precedent on this in the OSPAR region where its MPA proposals have been developed by NGOs and universities, and reviewed by ICES. Building capacities and cooperation on biodiversity and ecological data collection would contribute in designing MPA networks and ABMT systems that are adjacent to, straddle, or even include areas within national jurisdiction.[614]

Furthermore, SEA States and regional organizations can also utlising recent developments in surveillance technologies to monitor ocean usage. Technologies like air and under water drones, Artificial Intelligence, or a combination of satellite imageries with on board ships satellite tracking (VMS and AIS) can be employed to monitor and enforce fisheries and MPAs.[615] Utilization of these technologies can be done through partnership with civil society that will provide technical

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[610] Kristina M Gjerde et al, 'Getting beyond Yes: Fast-Tracking Implementation of the United Nations Agreement for Marine Biodiversity beyond National Jurisdiction' (2022) 1(1) *npj Ocean Sustainability* 6 <https://www.nature.com/articles/s44183-022-00006-2>.

[611] IOC WESTPAC, 'About Us - IOC Sub-Commission for the Western Pacific (WESTPAC)' <https://ioc-westpac.org/about-us/>.

[612] GEO BON, 'GEO BON's 2025 Vision Statement and Goals' <https://geobon.org/about/vision-goals/>.

[613] GOOS, 'Global Ocean Observing System - Our Work' <https://www.goosocean.org/index.php?option=com_content&view=article&id=307&Itemid=429>.

[614] Gjerde et al, 'Getting beyond Yes: Fast-Tracking Implementation of the United Nations Agreement for Marine Biodiversity beyond National Jurisdiction' (n 610).

[615] De Santo (n 208).

expertise to the government instructed to conduct analysis. For example partnership between the Global Fishing Watch with Indonesia in 2017 on analysis of Indonesian Vessel Monitoring System (VMS) data for improvement in fisheries enforcement.[616] These new developments in ocean monitoring technology can be useful to monitor and review ABMTs including MPA measures implementation in the SEA region and adjacent ABNJs. Therefore, the BBNJ Agreement should provide means to ensure there is capacity building and technology transfer for developing countries to enable them to better conserve marine biodiversity in ABNJ and their adjacent EEZs.

Start to design comprehensive network of MPAs and ABMTs

One of the objectives of the BBNJ Agreement when it comes to ABMTs including MPAs is to provide a legal framework for establishing a comprehensive system of ABMTs, including a network of ecologically representative and well-connected MPAs that are effectively and equitably managed. As argued by Gjerde et al., achieving this objective will require global-regional partnerships, coordination, and developing scientific support.[617] Since this process would take time, States can be encouraged to begin systematic work on designing MPA networks through identify areas that are ecologically important and representatives at multiple scales, from transboundary to regional to global.[618] To this end, States in the SEA region can start this process by building up existing works on designing networks of MPA in the SEA region and adjacent ABNJ that have been started by the CTI-CFF in the Coral Triangle [619], the ACB [620] in SEA,

[616] Global Fishing Watch, 'Indonesia VMS Joint Statement - Global Fishing Watch' <https://globalfishingwatch.org/news-views/republic-of-indonesia-vms-joint-statement/>.

[617] Gjerde et al, 'Getting beyond Yes: Fast-Tracking Implementation of the United Nations Agreement for Marine Biodiversity beyond National Jurisdiction' (n 610).

[618] Ibid.

[619] Anne Walton et al, 'Establishing a Functional Region-Wide Coral Triangle Marine Protected Area System' (2014) 42(2) *Coastal Management* 107 <https://www.tandfonline.com/action/journalInformation?journalCode=ucmg20>.

[620] The ASEAN Centre for Biodiversity (ACB), 'ACB Shares ASEAN's "Ripples and Waves" in Marine Conservation Efforts ' <https://www.aseanbiodiversity.org/2020/08/20/acb-shares-aseans-ripples-and-waves-in-marine-conservation-efforts/>.

COBSEA in East Asian Seas [621], Arafura Timor Sea 2 (ATSEA-2) Project in the Arafura and Timor Sea [622], and the CBD on EBSAs [623] .

Further, the work carried out by these regional organizations thus far has been designed independently per sub-region across different time frames, thus they might not form cohesive and mutually supportive ecological networks, and not incorporate largescale connectivity patterns between fisheries, and socioeconomic considerations in the SEA region. Thus, States through respective regional organizations can revisit this work and improve on its design to develop a network of ecologically representative and well-connected MPAs in the SEA region and adjacent ABNJs. This design will be useful to determine connectivity between ABNJ and EEZ, and identify potential impacts from activities in ABNJ to the adjacent coastal communities.[624] In addition, the availability of such design will be useful during proposal consultation for MPAs or ABMTs that in particulare situated adjacent to EEZs of states in SEA region. This consulation process would help in determining appropriate and complementary management measures, thus accelerating consultation process and adoption of measures.

Conclusions

This thesis has discussed current practices carried out by global, regional, and sectoral organizations in implementing ABMTs including MPAs to conserve and sustainably use marine biodiversity in ABNJ. It has revealed that such practices are fragmented and sectoral and are lacking an overarching framework to establish MPAs. Consequently, it has resulted in gaps in area and ecological coverage and failure to provide comprehensive protection to marine biodiversity in

[621] The Coordinating Body on the Seas of East Asia (COBSEA), 'Marine and Coastal Planning and Management ' <https://www.unep.org/cobsea/what-we-do/marine-and-coastal-planning-and-management>.

[622] Y Fajariyanto, L Hakim and ARA Prananda, *Setting Goals, Objectives, and Design of Resilient Arafura and Timor Seas MPA Network* (2020) <https://atsea-program.com/wp-content/uploads/2022/03/Final-Report_Setting-Goals-Objectives-and-MPA-Network-Design.pdf>.

[623] The United Nations Convention on Biological Diversity (UNCBD), 'UNEP/CBD/EBSA/WS/2015/3/4. Report of the Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas in the Seas of East Asia' (n 542); The United Nations Convention on Biological Diversity (UNCBD), 'UNEP/CBD/RW/EBSA/SIO/1/4. Report of the Southern Indian Ocean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas' (n 544); The United Nations Convention on Biological Diversity (UNCBD), 'UNEP/CBD/EBSA/WS/2015/1/4. Report Of the North Indian Ocean Regional Workshop to Facilitate the Description of Ecologically or Biologically Significant Marine Areas ' (n 543).

[624] Popova et al (n 37).

ABNJ. Efforts to address such issues are ongoing through the negotiation of a global framework to establish and implement measures on ABMTs including MPAs under the BBNJ agreement.

To this end, this thesis has reviewed the BBNJ agreement text in particular on ABMTs including MPAs, and identified possible relation and future cooperation between BBNJ agreement organs and existing relevant international, regional, and sectoral bodies in implementing MPAs in ABNJ. Such review are proven useful when applied in the Southeast Asia regional context with a view to build a cooperation scenario between existing regional organizations and BBNJ institutions for the implementation of measures on ABMTs including MPAs.

Certainly, assessment of marine areas in the SEA region and adjacent ABNJ i.e. Indian Ocean and Western Central Pacific Ocean showed that these areas contain rich biodiversity features which provide livelihoods for residing communities in the SEA region. It indicates that there are ecological connectivity and interdependency between these areas, and they are under increasing anthropogenic threats. Therefore, cooperation and coherence in marine biodiversity conservation and management among states in these regions are necessary. Accordingly, this research observed that through participation in global, sectoral, and regional instruments/bodies, States in the SEA region show commitment and political will to manage marine biodiversity in the SEA region and adjacent ABNJ. Such organizations are observed to have relevant measures or policies on ABMTs including MPAs.

Part of this thesis also have highlighted limitations of mandates and competencies of selected regional organizations namely, IOTC, WCPFC, COBSEA, ASEAN, and CTI-CFF to implement ABMTs including MPAs under the BBNJ agreement. The IOTC and WCPFC have competence in ABNJ but their mandate is limited to fisheries management, while COBSEA, ASEAN and CTI-CFF although focused on marine biodiversity conservation do not have competence in ABNJ. Limited technical and funding capacities of SEA States as members of these organizations have also been identified in the study.

Furthermore, this thesis has identified future relationship and cooperation between BBNJ agreement and regional organisation in SEA region with relate to ABMTs including MPAs measure. It reveals regional organisations roles including its barriers and modalities to undertaking process of identification, decision making and implementation, as well as monitoring and review of ABMTs measures.

As an endeavor to provide recommendations to strengthen regional organizations in the SEA region, this study reviewed OSPAR and Pelagos Sanctuary MPAs implementation practices. To this end, this study pointed out positive lessons from these practices include: mandate expansion, fostering cross-sectoral cooperation, NGOs and universities involvement, and scaling up regional wide recognition for MPAs. Lastly, this study made a series of recommendations to strengthen regional organizations to implement ABMTs including MPAs measures in ABNJ. These recommendations include overcoming mandate and competence gaps, improving cooperation and coordination among regional organizations, building collective capacities, and designing a comprehensive network of MPAs or ABMTs. Thereby, this study has addressed its aim and objectives.

It is expected that the findings of this research will assist policy makers in the SEA region in getting regional organizations ready to support the implementation of the BBNJ agreement. Additionally, it will eventually accelerate adoption of measures on ABMTs including MPAs in adjacent ABNJ. Moreover, this research will also fill in a knowledge gap through providing insights on the modalities and limitations of regional organizations in the SEA region that will affect adoption of the BBNJ Agreement's measures on ABMTs including MPAs.

Finally, due to the nature and extent of this thesis, this study can only provide recommendations on aspects that should be strengthened in general for all regional organizations to implement ABMTs including MPA. Another limitation is that at the time this thesis was written, the BBNJ Agreement has not been adopted which creates uncertainty on how provisions on ABMTs including MPAs will be applied. Therefore, future research can be conducted on the implementation of measures on MPAs based on the adopted provisions of the BBNJ Agreement. In addition, future research can also focus on technical aspects to identify potential areas to be designated as ABMTs or MPAs in ABNJ bordering coastal states in Southeast Asia, and examine what aspects can support and hinder the implementation of MPA measures. Aspects that can be investigated include connectivity, adjacency, as well as issues on ABMTs or MPAs superjacent to extended continental shelf of a state such as Indonesia.

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