

**Conserving the
Global Ocean**

**Initial Indications
for Effective Area-based
Management Tools on
the High Seas**

Citation

Glen Wright, Morgane Bouvet, Klaudija Cremers, Julien Rochette, 'Conserving the Global Ocean: Initial Indications for Effective Area-based Management Tools on the High Seas ', STRONG High Seas Project, 2022.

Authors

Glen Wright, Senior Research Fellow, Institute for Sustainable Development and International Relations (IDDRI)

Morgane Bouvet, Research Fellow, IDDRI

Klaudija Cremers, Research Fellow, IDDRI

Julien Rochette, Ocean Programme Director, IDDRI

Acknowledgements

The authors would like to thank Ben Boteler (IASS), Carole Durussel (IASS) and Shannon Hampton (International Ocean Institute – South Africa) for their review and feedback on this report.

Editing

Glen Wright (IDDRI), Ben Boteler (IASS), Carole Durussel (IASS)

Design and Layout

Sabine Zentek, Alain Chevallier

The STRONG High Seas project is part of the International Climate Initiative (IKI; www.international-climate-initiative.com/en/). The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) supports this initiative on the basis of a decision adopted by the German Bundestag.

The STRONG High Seas project contributes to the work of the Partnership for Regional Ocean Governance (PROG), a partnership hosted by UN Environment, the Institute for Advanced Sustainability Studies (IASS), the Institute for Sustainable Development and International Relations (IDDRI), and TMG – Think Tank for Sustainability.

Supported by:



Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection



based on a decision of
the German Bundestag

© STRONG High Seas 2022. STRONG High Seas, an independent scientific project, is responsible for the content of this publication. This document does not necessarily reflect the views of the funding agencies

www.prog-ocean.org/our-work/strong-high-seas/

© Cover Photo: Matt Howard (248418)/Unsplash

Contents

Acronyms	4
Executive summary	5
1. Introduction	6
2. Overview of area-based management tools (ABMTs)	8
2.1. Single-sector management tools	8
2.2. Cross-sectoral management tools	8
<i>Marine protected areas (MPAs)</i>	8
<i>Marine spatial planning (MSP)</i>	10
3. High seas management in practice: selected examples	11
3.1. Fisheries management	11
3.2. Cooperation in the North-East Atlantic	13
3.3. The Sargasso Sea	14
3.4. The Southern Ocean	15
4. Initial indications for advancing area-based management tools	17
4.1. Start with a strong foundation of principles and obligations	19
4.2. Build on consensus, support existing efforts, and fill in the gaps	19
4.3. Empower the CoP	20
4.4. Learn by doing and avoid “paper parks”	21
4.5. Develop a strong scientific infrastructure	22
4.6. Don’t delay in establishing monitoring and compliance mechanisms	23
<i>Monitoring, control and surveillance (MCS)</i>	23
<i>Compliance</i>	24
4.7. Cooperate both within and outside the BBNJ agreement	24
Annex 1. Existing ABMTs applicable to ABNJ	26
References	27
About the STRONG High Seas Project	32

Acronyms

ABMT	Area-based management tool	IMO	International Maritime Organisation
ABNJ	Areas beyond national jurisdiction	IOC-UNESCO	UNESCO's Intergovernmental Oceanographic Commission
AIS	Automatic identification systems	KRZ	Krill Research Zone
APEI	Areas of Particular Environmental Interest	LSMPA	Large-scale marine protected area
ATBA	Areas To Be Avoided	MCS	Monitoring, control and surveillance
ATS	Antarctic Treaty System	MEA	Multilateral environmental agreement
BBNJ	Marine biodiversity beyond national jurisdiction	MEPC	Marine Environment Protection Committee
BMUV	The German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection	MiCO	Migratory Connectivity in the Ocean
CBD	Convention on Biological Diversity	MoU	Memorandum of Understanding
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources	MPA	Marine protected areas
CHM	Clearing-house mechanism	MSP	Marine spatial planning
CMS	Convention for the Conservation of Migratory Species	MSY	Maximum sustainable yield
CoP	Conference of Parties	NAFO	North Atlantic Fisheries Organization
EBM	Ecosystem-based management	NEAFC	North East Atlantic Fisheries Commission
EBSA	Ecologically or Biologically Significant Marine Area	OBIS	Ocean Biogeographic Information System
EIA	Environmental impact assessment	PROG	Partnership for Regional Ocean Governance
GEF	Global Environment Facility	PSSA	Particularly Sensitive Sea Areas
GFW	Global Fishing Watch	UNGA	United Nations General Assembly
GPZ	General Protection Zone	UNEA	United Nations Environment Assembly
IASS	Institute for Advanced Sustainability Studies	UNFA	United Nations Fish Stocks Agreement
ICCAT	International Commission for the Conservation of Atlantic Tunas	RFMO	Regional fisheries management organisation
ICES	International Council for the Exploration of the Seas	SA	Special Area
IDDRI	Institute for Sustainable Development and International Relations	SDG 14	Sustainable Development Goal 14
IGC	Intergovernmental conference	SEA	Strategic environmental assessments
IKI	International Climate Initiative	SEAFO	South East Atlantic Fisheries Organisation
ILBI	International legally binding instrument	SPRFMO	South Pacific Regional Fisheries Management Organisation
ISA	International Seabed Authority	SRZ	Special Research Zone
		UNCLOS	United Nations Convention on the Law of the Sea
		VME	Vulnerable marine ecosystem

Executive summary

Biodiversity in the deep and distant waters of marine areas beyond national jurisdiction (ABNJ) provide critical ecosystem services that are increasingly threatened by growing exploitation of marine resources, climate change, ocean acidification, and pollution. In 2017, the UN General Assembly (UNGA) initiated negotiations for the development of an international legally binding instrument (ILBI) on the conservation and sustainable use of marine biodiversity in ABNJ. This instrument

will be based on a package of elements, one of which being area-based management tools (ABMTs) including marine protected areas (MPAs). This report provides some initial indications as to how the international community can make pragmatic moves to build on existing governance frameworks, consolidate progress made in the negotiations to date, and lay a foundation for the effective deployment of ABMTs and MPAs.

1. Introduction

Marine areas beyond national jurisdiction (ABNJ)¹ represent approximately half of the Earth's surface and host a significant proportion of its biodiversity. These deep and distant waters provide critical ecosystem services that are threatened by increasing exploitation of marine resources, climate change, ocean acidification, and pollution (Jouffray *et al.*, 2020; Ramirez-Llodra *et al.*, 2011; Weatherdon *et al.*, 2016). Further threats are on the horizon as scientific discoveries and technological developments make it possible to exploit resources in ABNJ, such as seabed minerals, that were previously inaccessible (Gerber and Grogan, 2018; KA Miller, 2018; Levin *et al.*, 2020).

In 2017, the UN General Assembly (UNGA) initiated negotiations for the development of an international legally binding instrument (ILBI) on the conservation and sustainable use of marine biodiversity in ABNJ (BBNJ). These negotiations take place against the backdrop of Sustainable Development Goal 14 (SDG 14), which commits States to protecting 10% of the ocean by 2020, and ongoing discussions regarding a post-2020 biodiversity framework under the auspices of the Convention on Biological Diversity (CBD), including a potential 30x30 target for marine protection.²

These international legal and policy efforts, complemented by a wide range of other activities (see Box 1), demonstrate that there is significant political will to strengthen the conservation and management of high seas biodiversity, however there is currently no global mechanism for the designation and coordination of MPAs and other ABMTs in ABNJ. Filling this gap in the law of the sea framework is a core component of the BBNJ negotiations.³

Four meetings of an intergovernmental conference (IGC) were planned to negotiate the instrument. Three negotiating sessions, held at the UN headquarters in New York, took place between September 2018 and August 2019 and the fourth, originally scheduled for March 2020 but postponed because of the pandemic, took place in March 2022.⁴ A fifth and final session is planned for August 2022.

This report provides some initial indications as to how the international community can make pragmatic moves to consolidate progress made in the negotiations to date, lay a foundation for effective management tools, and kickstart implementation of a treaty once it is agreed. The report builds on previous STRONG High Seas research and publications that have explored: lessons learned from regional organisations and initiatives;⁵ ecosystem-based management (EBM);⁶ impact assessments;⁷ monitoring, control

- 1 Under the United Nations Convention on the Law of the Sea (UNCLOS, 10 December 1982, entered into force 16 November 1994, 1833 UNTS 3), ABNJ is defined as comprising two distinct areas. The "High Seas" is the water column beyond national jurisdiction, while "the Area" is the "seabed and ocean floor and subsoil thereof".
- 2 I.e. 30% of marine areas to be protected by 2030. For further discussion, see Schumm R., Rochette J., Rankovic A. (2021). Giving greater attention to the ocean in the development and implementation of the Post-2020 Global Biodiversity Framework. IDDRI, Study N°04/21.
- 3 The negotiations are structured around a "Package Deal" of key topics, namely: (i) marine genetic resources, including issues relating to the sharing of benefits linked to their exploitation; (ii), measures such as area-based management tools (ABMTs), including marine protected areas (MPAs); (iii) environmental impact assessments; and (iv) capacity building and the transfer of marine technology.
- 4 This report is based on the draft text of the negotiations published in November 2019: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N19/372/88/PDF/N1937288.pdf?OpenElement>. The President of the BBNJ negotiations, Mrs. Rena Lee, will publish a new version of the draft text after this report is published ahead of IGC 5, potentially planned for August 2022.
- 5 Bueno M., P., 'The Role of Regional Cooperation in Strengthening High Seas Governance: Conceptual Framework and Key Recommendations', STRONG High Seas Project, 2021.
- 6 Gjerde, K. and Wright, G., "Towards Ecosystem-based Management of the Global Ocean: Strengthening Regional Cooperation through a New Agreement for the Conservation and Sustainable Use of Marine Biodiversity in Areas Beyond National Jurisdiction", STRONG High Seas Project, 2019.
- 7 Gjerde, K.M., Wright, G., and Durussel, C., Strengthening high seas governance through enhanced environmental assessment processes: A case study of mesopelagic fisheries and options for a future BBNJ treaty, STRONG High Seas Project, 2021.

and surveillance (MCS);⁸ and compliance mechanisms.⁹ This report therefore aims to be a reflection on the state of play and lessons learned from selected examples.

Section 2 provides an overview of existing ABMTs, first introducing various sector-specific tools before highlighting cross-sectoral tools, specifically MPAs and marine spatial planning (MSP). Section 3 provides short introductions to some ongoing high seas management efforts, selected to highlight a diverse

range of organisations, lessons learned and challenges that may provide helpful insights for the BBNJ agreement. Section 4 provides some initial indications as to how States can provide a solid foundation for effective ABMTs through a new treaty, strengthen and support existing organisations and initiatives, and ensure that the future instrument can be as effective and operational as possible right from the first Conference of Parties (CoP).

Box 1. Global momentum for strengthening management of high seas biodiversity

- International legally binding instrument (ILBI) under negotiation
- Significant efforts by many States to advance the BBNJ agreement negotiations during the extended pause of formal in-person negotiations¹⁰
- Ambitious targets on ocean conservation expected in the CBD post-2020 biodiversity framework
- Recent proposals by States to develop high seas MPAs¹¹
- Growing interest in expanding the mandates of Regional Seas organisations¹²
- A range of large international projects and partnerships underway¹³

8 Cremers, K., Wright, G., Rochette, J., "Strengthening Monitoring, Control and Surveillance in Areas Beyond National Jurisdiction", STRONG High Seas Project, 2020.

9 Bouvet, M., Wright, G., Kachelriess, D., Cremers, K., Rochette, J. "Ensuring effective implementation of a high seas biodiversity treaty: Lessons learned and options for an implementation and compliance committee", STRONG High Seas Project, 2022.

10 President of the BBNJ negotiations, Ms. Rena Lee, organised online inter-sessional negotiations and various civil society actors, such as the High Seas Alliance, organised informal opportunities for negotiators to advance on the treaty text.

11 Colombia, Costa Rica, Ecuador and Panama take the first step towards creating the largest transboundary marine biosphere reserve; <https://en.unesco.org/news/colombia-costa-rica-ecuador-and-panama-take-first-step-towards-creating-largest-transboundary>.

12 In 2016, States at the United Nations Environment Assembly (UNEA) adopted a resolution that encouraged parties to Regional Seas conventions to consider the possibility of increasing the regional coverage of those instruments in accordance with international law". In 2017, the Scientific and Technical Advisory Panel of the Global Environment Facility (GEF) recommended that the GEF supports the development of area-based management tools (ABMTs) in ABNJ and enhance the capacity of relevant bodies to "act as platforms for integrated conservation and management of ABNJ that are adjacent to their existing regional mandates" (Ringbom and Henriksen, 2017). A number of regional bodies are themselves investigating such expansion.

13 The FAO/GEF Common Oceans program (<http://www.fao.org/in-action/commonoceans/en/>) and the STRONG High Seas project (<https://www.prog-ocean.org/our-work/strong-high-seas/>)

2. Overview of area-based management tools (ABMTs)

2.1. Single-sector management tools

The prevailing approach to conservation and sustainable use at the global level is sectoral and several international organisations already have area-based management tools (ABMTs) at their disposal, such as:

- The International Maritime Organisation (IMO) can identify Particularly Sensitive Sea Areas (PSSA) that, for recognised ecological, socio-economic or scientific reasons, could be vulnerable to damage by international maritime activities.¹⁴ No PSSAs have been designated in ABNJ.
- The International Seabed Authority (ISA) can designate Areas of Particular Environmental Interest (APEI) and preservation reference zones.¹⁵ The ISA has designated nine APEIs in the Clarion-Clipperton Zone (North Central Pacific).¹⁶
- Regional fisheries management organisations (RFMOs) can use a range of fisheries-specific management tools to protect or restore the stocks they manage. Pursuant to UNGA resolutions,¹⁷ non-tuna RFMOs are required to close vulnerable marine ecosystems (VMEs) to fishing where there is a risk of significant adverse impacts from bottom fishing. RFMOs have made significant progress in recent years,

though performance is mixed and there remain significant challenges in implementing ecosystem-based management (see Section 3.1).

2.2. Cross-sectoral management tools

Marine protected areas (MPAs)

The widely cited IUCN guidelines define an MPA as:¹⁸

“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

The international community has committed, in numerous global forums and declarations, to establish a network of MPAs covering a significant percentage of the global ocean. SDG14 requires protection of a representative 10% of the world’s ocean by 2020 but scientific research suggests that at least 30% is necessary to sustain ocean health and integrity (O’Leary *et al.*, 2016). As such, many NGOs, States and other stakeholders are calling for a goal of 30% coverage by 2030 to be included in the post-2020 agenda for biodiversity currently being negotiated under the auspices

14 IMO, Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs) (2005) A.982(24), <http://www.imo.org/en/OurWork/Environment/PSSAs/Documents/A24-Res.982.pdf>. PSSAs are designated by non-legally binding resolutions from the IMO Marine Environment Protection Committee (MEPC) and therefore have no immediate effect. Associated protective measures may subsequently be adopted to protect the area.

15 ISA, 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 (2013) ISBA/19/C/17, §V.31.6, <http://www.imo.org/en/OurWork/Environment/PSSAs/Documents/A24-Res.982.pdf>.

16 ISA, Decision of the Council relating to an environmental management plan for the Clarion-Clipperton Zone (2012) ISBA/18C/22, <http://www.isa.org.jm/files/documents/EN/18Sess/Council/ISBA-18C-22.pdf>.

17 In particular UNGA Resolution 61/105 on 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 (2006) A/RES/61/105, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N06/500/73/PDF/N0650073.pdf>.

18 Guidelines for applying the IUCN Protected Areas Categories to MPAs (2012) Best Practice Protected Area Guidelines Series No.19, <https://www.iucn.org/content/guidelines-applying-iucn-protected-area-management-categories-marine-protected-areas>

of the Convention on Biological Diversity (CBD).¹⁹ For States to meet this goal, it will be necessary to establish MPAs in ABNJ.

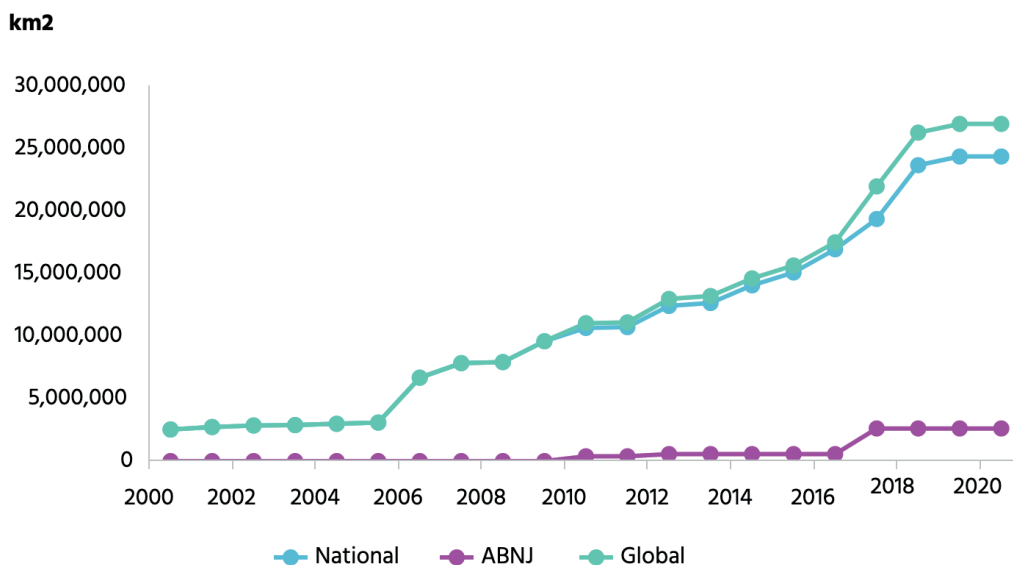
There has been an increasing trend for the establishment of large-scale MPAs (LSMPAs) (i.e. >100,000 km²) in recent years. LSMPAs can comprise diverse and biologically connected ecosystems, are well suited to protect

migratory species and accommodate range shifts due to climate change²⁰ and other factors, often providing strong protection from human stressors (O’Leary *et al.*, 2018a). Research has demonstrated the potential of LSMPAs for the protection and recovery of pelagic and benthic habitats and species (Ceccarelli and Fernandes, 2017; O’Leary *et al.*, 2018a).

Box 2. MPAs: key figures²¹

- 7.7% of the ocean is subject to some form of protection; 2.8% is fully or highly protected from fishing impacts. Less than 1% of the high seas is protected.
- 36 very large MPAs account for over 72% of global MPA coverage.
- There are approximately 11,000 small MPAs, accounting for 0.3% of the global total.
- The Ross Sea MPA alone accounts for 16% of the global total (see Section 3.4).
- Over half of the total global protected area is included within large-scale MPAs that have been implemented relatively recently by States in their overseas territories.

Figure 1. Growth in MPA Coverage



Source: UNEP-WCMC (2021)²²

19 Schumm R, Rochette J, Rankovic A. (2021). Giving greater attention to the ocean in the development and implementation of the Post-2020 Global Biodiversity Framework. IDDRI, Study N°04/21

20 E.g. by enhancing natural carbon storage, providing a buffer to acidification, and ensuring that carbon remains sequestered in seafloor sediments (Roberts *et al.*, 2017).

21 See <http://www.mpatlas.org/map/mpas/> (accessed 21 January 2022).

22 UNEP-WCMC and IUCN (2021) Protected Planet: The World Database on Protected Areas (WDPA) and World Database on Other Effective Area-based Conservation Measures (WD-OECM) [On-line], May 2021, Cambridge, UK: UNEP-WCMC and IUCN. Available at: <https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas>.

Marine spatial planning (MSP)

Marine spatial planning is (Ehler and Douvere, 2006):

“a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that are usually specified through a political process.”

Over the last decade, MSP has emerged as a tool for advancing toward integrated and ecosystem-based ocean management. Around 70 countries and territories are undertaking MSP processes, ranging from those in the early stages of establishing a mandated authority and funding arrangements, to advanced plans that are already undergoing cycles of review and revision (see Figure 2).²³

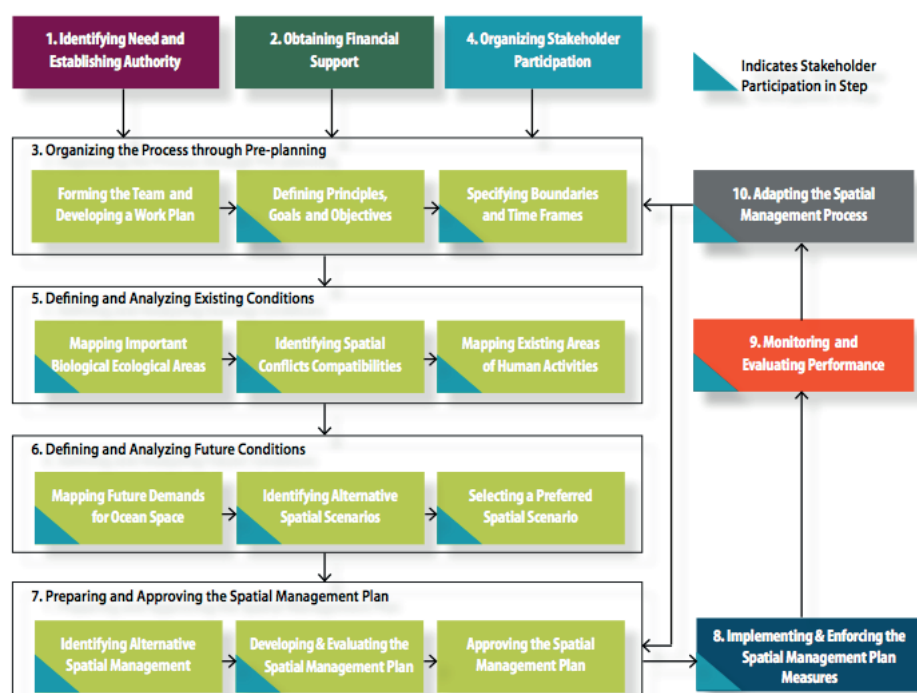
The uptake of MSP is being supported and facilitated by a range of guidance documents and initiatives, including: CBD guidance;²⁴ an EU Directive requiring all EU coastal States to develop MSP;²⁵ and a Joint Roadmap set out by UNESCO’s Intergovernmental Oceanographic Commission (IOC-UNESCO) and the European Commission, which led to the establishment of an International MSP forum and the MSPglobal Initiative, as well as further international guidance.²⁶

MSP has not been explicitly discussed in detail in the context of the BBNJ negotiations but provisions already

included in the draft text could support its development in the future, e.g. (Wright *et al.*, 2018a):

- MSP at the national level is generally led by an authority with the mandate to oversee planning and implementation – in ABNJ, a future CoP, or an *ad hoc* body established by the CoP, could fulfill this role;
- MSP requires significant investment in the collation and generation of scientific knowledge and data (including understanding of where human activities take place. This could be facilitated by a scientific/technical body and a clearing-house mechanism; and
- MSP involves coordination and cooperation across a range of sectors, institutions and stakeholders, a key objective of the BBNJ agreement.

Figure 2: Indicative MSP process



Source: Ehler and Douvere, 2009

²³ <https://www.mspglobal2030.org/msp-roadmap/msp-around-the-world/>

²⁴ Marine Spatial Planning in the Context of the Convention: A study carried out in response to CBD COP 10 decision X/29 (2012) CBD Technical Series No. 68, <https://www.cbd.int/doc/publications/cbd-ts-68-en.pdf>.

²⁵ EU Directive 2014/89/EU.

²⁶ MSPglobal: international guide on marine/maritime spatial planning, <https://unesdoc.unesco.org/ark:/48223/pf0000379196>; <https://www.mspglobal2030.org/about/>

3. High seas management in practice: selected examples

3.1. Fisheries management

The UN Fish Stocks Agreement (UNFSA) provides a framework for cooperation on management of straddling and highly migratory fish stocks. The agreement requires States, individually and through RFMOs, to assess and manage fish stocks, as well as the impacts of fisheries on non-target species and ecosystems. States are also obliged to: minimize bycatch; develop data collection and research programmes; adopt plans to ensure the conservation of affected species and protect habitats of special concern; and protect biodiversity in the marine environment. In their efforts to implement the provisions of the UNFSA, States have cooperated through RFMOs to implement a range of management measures, including limitations on fish effort and catches and gear types.

Deep-sea fisheries in ABNJ have been a particular focus at the UNGA and other forums. In 2006, the UNGA adopted a resolution²⁷ that required States to take specific actions to protect vulnerable marine ecosystems (VMEs) from the serious adverse impacts of bottom fisheries in ABNJ,²⁸ including closure of areas to bottom fishing activities where there is likely to be significant adverse impacts to VMEs (Gianni *et al.*, 2016; Wright *et al.*, 2018).

States have been cooperating through RFMOs in many regions to work towards implementing an ecosystem-based approach to fisheries management, which accounts for impacts

on non-target species and associated ecosystems, as well as on target stocks (Garcia *et al.*, 2003; Heenan *et al.*, 2015). Recent reviews have found that tuna RFMOs, for example, have improved with regards to research and monitoring, and now have many of the foundational elements in place for implementing an ecosystem approach to fisheries management, however they have proven slow to agree and implement the necessary management measures (Juan-Jordá *et al.*, 2018; Pons *et al.*, 2018a).

Non-tuna RFMOs are taking action to conduct impact assessments and close VMEs to fishing, though performance is highly variable and significant gaps remain in the implementation of the provisions of the UNFSA and the UNGA resolutions on bottom fisheries (Gianni *et al.*, 2016; Wright *et al.*, 2015).

As flag States are ultimately responsible for the development of management measures and compliance with these measures, the performance of RFMOs is highly dependent on national interests and external factors (Fischer, 2020; Pons *et al.*, 2018a).²⁹ Participation and influence of developing coastal States is often limited (Fischer, 2020)³⁰ and members frequently act counter to the advice of RFMO scientific bodies (Galland *et al.*, 2018; Gianni *et al.*, 2016; Wright *et al.*, 2015). Even RFMOs that exemplify best practices “still exhibit compliance shortfalls” because they “cannot be expected to completely prevent or eliminate infractions by its members” (Koehler, 2018).

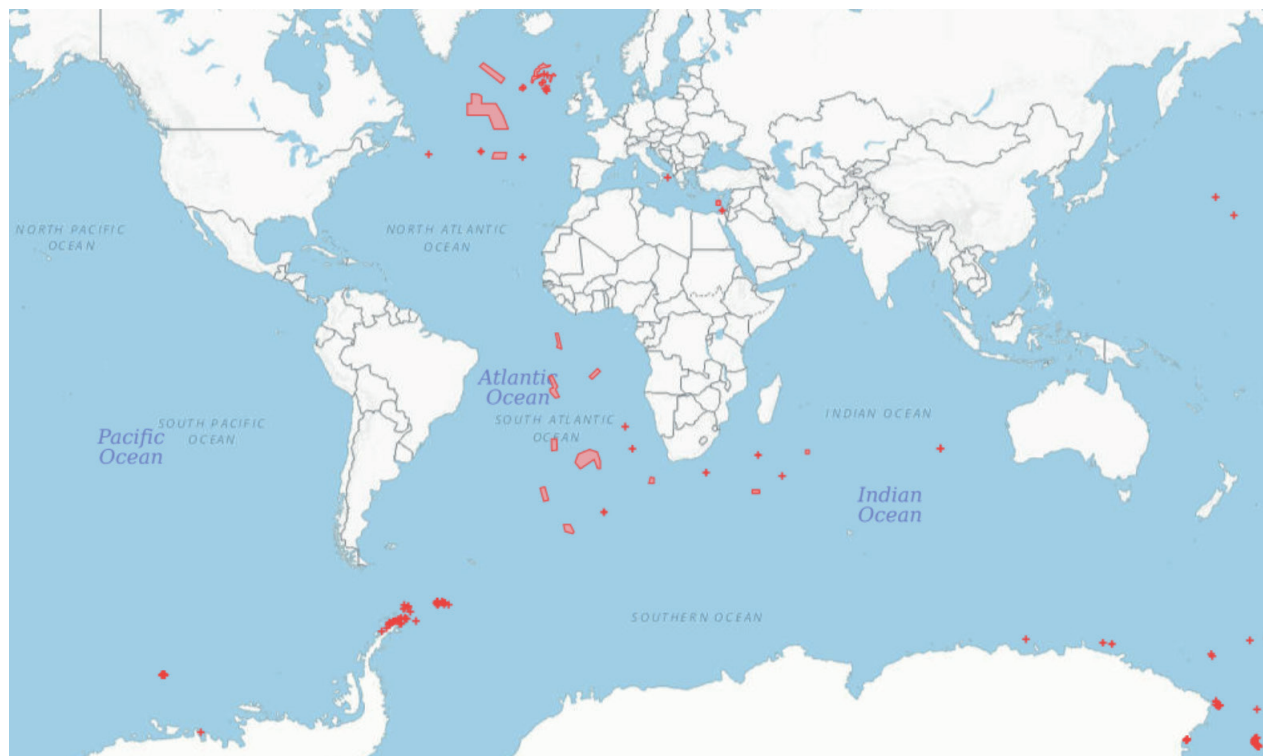
27 United Nations General Assembly. Resolution 61/105 (2006), Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments.

28 The FAO International Guidelines for the Management of Deep-Sea Fisheries in the High Seas (2009) provide guidance on identifying VMEs and significant adverse impacts. The FAO Guidelines call for consideration of: uniqueness or rarity; functional significance; fragility; life-history traits of component species that make recovery difficult; and structural complexity. The Guidelines note that vulnerability concerns the “likelihood that a population, community, or habitat will experience substantial alteration from short-term or chronic disturbance, and the likelihood that it would recover and in what time frame”. Ardron *et al.* (2014) have also developed a systematic process for identifying VMEs.

29 I.e. RFMOs tend to engage less in research, management and enforcement where there is a greater number of member countries, greater economic dependency on the resources, lower mean per capita gross domestic product, a greater number of fishing vessels, and smaller vessels.

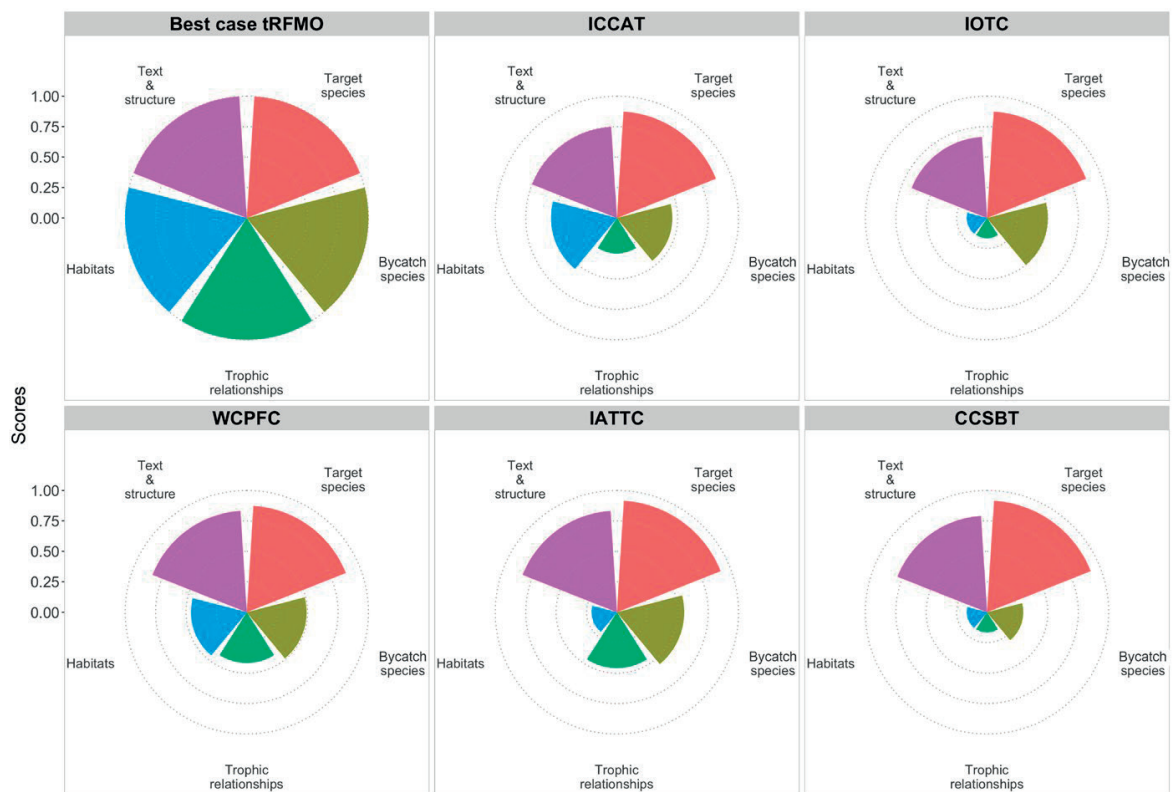
30 Despite the potentially significant impacts of high seas fishing on ecosystems and species within their national waters (Popova *et al.*, 2019).

Figure 3. Vulnerable marine ecosystems closed to protect against significant adverse impacts from bottom trawling



Source: FAO. <https://www.fao.org/in-action/vulnerable-marine-ecosystems/vme-database/en/vme.html> (accessed 14 December 2021);

Figure 4. Progress of tuna RFMOs in implementing an ecosystem-based approach to fisheries management



Source: Juan-Jordá et al., 2018

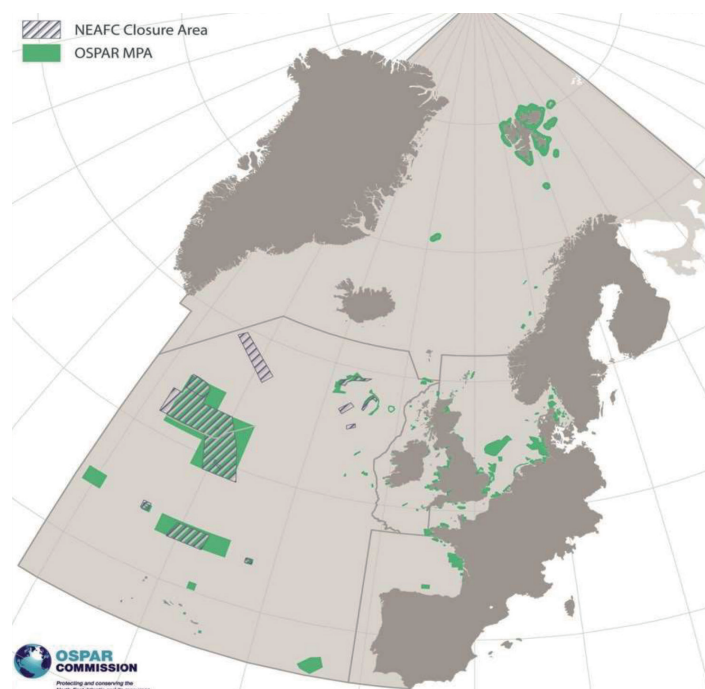
3.2. Cooperation in the North-East Atlantic

The OSPAR Commission, a Regional Seas Programme, has designated MPAs in the ABNJ of the north Atlantic³¹ and the North East Atlantic Fisheries Commission (NEAFC) has identified VMEs and instated bottom fisheries closures³² in similar areas (See Figure 5). The two organisations worked in parallel on their own designation processes, maintaining regular exchange and receiving scientific advice from the International Council for the Exploration of the Seas (ICES). Sharing this source of scientific information has proven helpful in facilitating cooperation (NEAFC and OSPAR, 2015).³³

In order to further their collaboration and coordinate activities relating to the management of these areas, in 2014, OSPAR and NEAFC developed a formal mechanism for cooperation,³⁴ the Collective Arrangement.³⁵ This builds upon an earlier memorandum of understanding (MoU) between the parties and invites other competent authorities to join,³⁶ with the aim of becoming a “collective and multilateral forum composed of all competent entities addressing the management of human activities in this region.”³⁷

Areas of cooperation include the exchange of information and data, notification of any proposed activities, cooperation with regard to environmental impact assessments (EIAs) and strategic environmental assessments (SEAs). Formal annual meetings have since been held, bringing together the secretariats of both organisations, representatives of Contracting Parties, observers from other competent international organisations,³⁸ and NGOs.

Figure 5. OSPAR MPA network and NEAFC VME closures



OSPAR and NEAFC have demonstrated that, despite a lack of an overarching legal framework for the conservation and sustainable use of marine biodiversity in ABNJ of the North-East Atlantic, coordination and cooperation between competent international organisations in ABNJ can be advanced. While this is promising, it has proved “time- and labour-intensive, particularly in the global bodies, IMO and ISA, to move such an idea forward, with organisations’ different levels of technical scrutiny and sometimes complex and mutually incompatible annual meeting cycles” (Freestone *et al.*, 2014).

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

32 Ibid.

33 Note that NEAFC relies wholly on the ICES advice and does not conduct additional scientific work, whereas ICES is not necessarily the sole source of scientific information for OSPAR.

34 NEAFC and OSPAR Commission, ‘The process of forming a cooperative mechanism between NEAFC and OSPAR’ (2015) 196 UNEP Regional Seas Reports and Studies.

35 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.

36 Organisations that are invited to join meetings under the collective arrangement include e.g. the International Seabed Authority (ISA), the International Maritime Organization (IMO) and the International Commission for the Conservation of Atlantic Tunas (ICCAT). <https://www.ospar.org/about/international-cooperation/collective-arrangement>

37 OSPAR, Collective Arrangement, <https://www.ospar.org/about/international-cooperation/collective-arrangement>.

38 For example, the most recent meeting, held in May 2019, was attended by FAO, HELCOM, ICCAT, ICES, NAMMCO and UNEP. <https://www.ospar.org/meetings/archive/collective-arrangement>.

3.3. The Sargasso Sea

The Sargasso Sea covers approximately 2 million square nautical miles within the North Atlantic Subtropical Gyre around the islands of Bermuda, most of which is in ABNJ. The diverse and productive Sargasso Sea is a unique ecosystem facing a range of pressures due to human activities (Freestone *et al.*, 2014). The Sargasso Sea Commission was established pursuant to the Hamilton Declaration (2014), a non-binding political declaration adopted and signed by 9 governments (Reese, 2017).³⁹ The Commission is mandated to exercise a stewardship role for the ABNJ surrounding the island of Bermuda working through existing legal agreements and competent management bodies established according to UNCLOS.

The successes of the Commission include: recognition of the Sargasso Sea as an “Ecologically or Biologically Significant Marine Area” (EBSA) under the CBD;⁴⁰ a recommendation from the International Commission for the Conservation of Atlantic Tunas (ICCAT) to use the area as a case study for an ecosystem-based approach to fisheries management;⁴¹ listing of European Eel for protection under the Convention for the Conservation of Migratory Species (CMS);⁴² and recognition of seamounts as VMEs by the North Atlantic Fisheries Organization (NAFO), resulting in closure to bottom fishing and prohibition of certain mid-water trawling gear.⁴³

The Commission is now finalising a Sargasso Sea Stewardship Plan – the first of its kind for ABNJ – and is considering a range of sectoral conservation and management actions, including: recognition of the Sargasso Sea as a UNESCO World Heritage Site; regulation of tuna fishing activities that could have adverse impacts on the marine environment through

ICCAT; regulation of navigation through IMO, possibly through the designation of a PSSA and associated protective measures; coordination and cooperation with ISA with respect to mining activities; and initiation of coordination and cooperation with relevant actors.

While favourable conditions have enabled the establishment of the Commission and the development of a clear and ambitious work programme,⁴⁴ the considerable challenges of working with existing organisations with a mandate in ABNJ has only allowed for modest advancements in terms of concrete conservation and management measures. The Commission notes that its experience underlines the need for a new instrument for BBNJ, with key lessons learned including (Freestone and Gjerde, 2016):

- There is a lack of common principles, criteria and evidentiary standards for conservation measures, which hinders efforts to develop comprehensive management;
- Most international sectoral bodies are not applying basic principles agreed in key international legal and policy instruments, including the precautionary principle and ecosystem approach;
- There is no mechanism to consider cumulative impacts from different activities or to account for the effects of climate change.

39 Bermuda, Azores, Bahamas, British Virgin Islands, Canada, Cayman Islands, Monaco, the UK and the US.

40 Decision XI/17 on Marine and Coastal Biodiversity: Ecologically or Biologically Significant Marine Areas (2012) UNEP/CBD/COP/DEC/XI/17.

41 See Resolution by ICCAT on Ecosystems that are Important and Unique for ICCAT Species (2016).

42 Appendix II covers migratory species that have an unfavourable conservation status and that require international agreements for their conservation and management, as well as those that have a conservation status, which would significantly benefit from international cooperation that could be achieved by an international agreement. The Convention encourages the Range States to species listed on Appendix II to conclude global or regional Agreements for the conservation and management of individual species or groups of related species. See CMS, ‘Appendix I & II of CMS’ <<http://www.cms.int/en/page/appendix-i-ii-cms>>.

43 See FAO, ‘Vulnerable Marine Ecosystems Database - New England Seamounts’ <<http://www.fao.org/figis/pdf/fishery/vme/23646/167810/en?title=VME-DB>>.

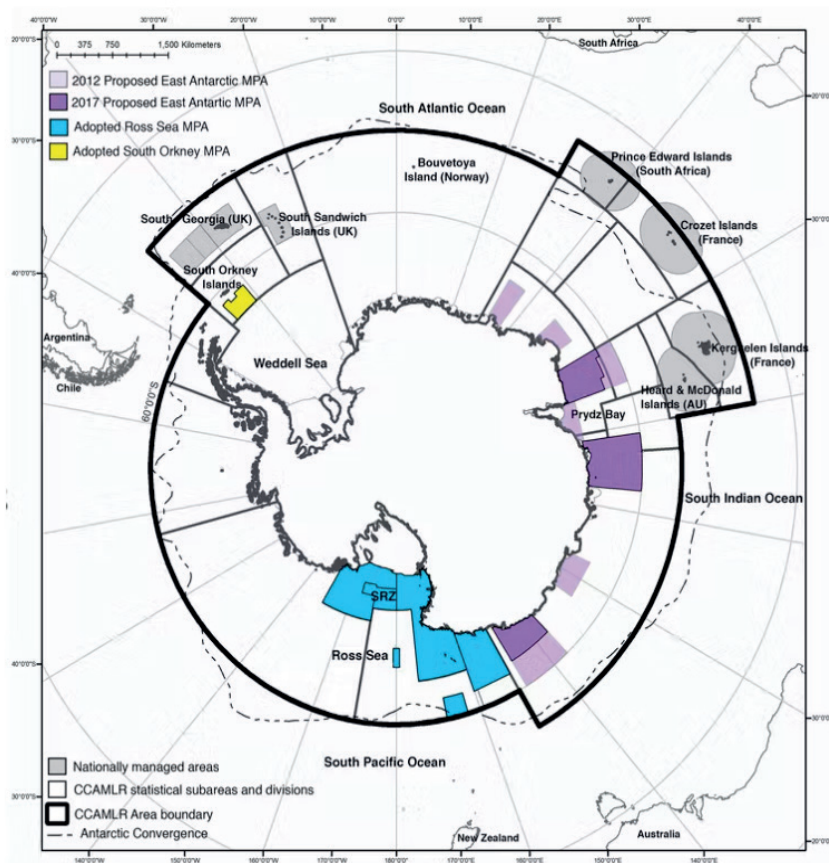
44 See Sargasso Sea Commission, ‘Work Programme Priorities (2016-2018)’ <http://www.sargassoseacommission.org/storage/documents/MOS_SSC_2016_2_Doc.1_Work_Programme_2016-2018_revised.1.pdf>.

3.4. The Southern Ocean

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)⁴⁵ is a key component of the broader Antarctic Treaty System (ATS), an international legal framework for the conservation and management of the Southern Ocean. At the time of its adoption, CCAMLR was the first international organisation to explicitly incorporate an ecosystem approach in its fisheries management mandate and is often cited as an example of best practice in this regard (Everson, 2017; Österblom and Olsson, 2017).

Parties to CCAMLR have adopted a wide range of conservation measures (Everson, 2017; Österblom and Olsson, 2017) and agreed to develop a representative system of MPAs based on the best available science.⁴⁶ Parties adopted a measure in 2011 which provided a framework for creating a network of MPAs and identified nine planning domains.⁴⁷ Parties have since designated the South Orkney Islands Southern Shelf MPA (2009)⁴⁸ and the world's largest MPA in the Ross Sea (2016).⁴⁹

Figure 6. Established and proposed Antarctic MPAs*



* General Protection Zones are closed to all commercial fishing. Fishing in the two research zones allows for limited research fishing, strictly controlled by CCAMLR under advice from the Commission's Scientific Committee and approved by consensus.

Source: Brooks (2017) <https://theconversation.com/why-are-talks-over-an-east-antarctic-marine-park-still-deadlocked-86681>.

⁴⁵ The Antarctic Treaty was signed in Washington on 1 December 1959 and entered into force on 23 June 1961. The Treaty is supplemented by the Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 1991 – Madrid Protocol), and two additional conventions dealing with the Conservation of Antarctic Seals (London 1972) and the Conservation of Antarctic Marine Living Resources (Canberra 1980). A further Convention on the Regulation of Antarctic Mineral Resource Activities (Wellington 1988) was negotiated but never entered into force; it has now been superseded by the Madrid Protocol.

⁴⁶ See <https://www.ccamlr.org/en/science/marine-protected-areas-mpas>.

⁴⁷ See <https://www.ccamlr.org/en/measure-91-04-2011>.

⁴⁸ See <https://www.ccamlr.org/en/measure-91-03-2009>.

⁴⁹ See <https://www.ccamlr.org/en/measure-91-05-2016>.

The Ross Sea MPA aims to protect large-scale ecosystem processes, conserve biodiversity, protect marine life and areas of ecological importance, and promote science, research and monitoring. In order to reach consensus amidst differing national interests and positions, the MPA is divided into three zones—a General Protection Zone (GPZ), a Special Research Zone (SRZ), and a Krill Research Zone (KRZ)—each allowing/restricting certain activities. Fishing is largely prohibited, with a few exceptions, and must be conducted in accordance with CCAMLR's other conservation measures. The Ross Sea MPA will remain in force until 2052, at which point it shall be reviewed and may be renewed or modified.

CCAMLR's achievements to date have been widely lauded as an example of how ABNJ can be protected through international cooperation at the regional level however, progress toward the designation of new MPAs, and ultimately an interconnected network has stalled as the 24 members have been unable to reach consensus (Everson, 2017; Nilsson *et al.*, 2016). In October 2021, at the 40th annual meeting of the Commission, members once again failed to make progress on Southern Ocean MPAs for the fifth consecutive year.⁵⁰

Commentators have noted that changing national interests and political considerations have led to a shift in the dynamic of CCAMLR discussions (Brooks, 2013; Brooks *et al.*, 2016; Everson, 2017; Nilsson *et al.*, 2016), with Parties beginning to “disregard the best available science, distort the foundational rules of their convention, break trust, and threaten the integrity of one of the world's most well-regarded science-based multinational governance efforts” (Brooks *et al.*, 2016). Thus, even best-practice MPA development processes are insufficient to achieve consensus for adopting a proposal amidst the realpolitik of national interests and geopolitical dynamics.

50 Pew, Efforts to Expand Southern Ocean Protections Stall at CCAMLR, October 29, 2021. <https://www.pewtrusts.org/en/about/newsroom/press-releases-and-statements/2021/10/29/efforts-to-expand-southern-ocean-protections-stall-at-ccamlr>.

4. Initial indications for advancing area-based management tools

1. Start with a strong foundation of principles and objectives.
2. Build on consensus, support existing efforts, and fill in the gaps.
3. Empower the CoP.
4. Learn by doing and avoid “paper parks”.
5. Develop a strong scientific infrastructure.
6. Don't delay in establishing monitoring and compliance mechanisms.
7. Cooperate both within and outside the BBNJ agreement.

These indications are summarised in the following table and discussed in further detailed below.

Table 1. Initial indications for advancing area-based management tools

	When	Who	How	Lessons from other instruments and processes
Strong foundation of principles and obligations	Final session of the negotiations	Negotiators	Remove brackets from current provisions so the BBNJ agreement has clear principles and objectives that focus on conservation and sustainable use, ecosystem-based management, precaution and cooperation Apply general principles to all aspects of the agreement Require Parties to pursue and align measures in other bodies	UNCLOS Article 192 places a general duty on States but lacks specific obligations to operationalise this duty Conservation is at the heart of CCAMLR, which has seen success in designating MPAs More recent RFMOs include modern environmental principles in their conventions The Sargasso Sea Commission has struggled to make progress on management owing to differing principles/objectives across diverse bodies
Build on consensus and support existing efforts	Final session of the negotiations Post-adoption	Negotiators CoP Parties to existing relevant instruments and bodies Civil society Scientific community	Agree on a robust BBNJ agreement that advances the vision of UNCLOS and supports the work of existing bodies Invite and encourage competent management bodies to provide details of their activities and ABMTs to the CoP Participate actively in scientific processes and bodies and take decisions based on the latest scientific advice	A broad consensus on many foundational issues can be seen in UNCLOS, CBD and UNFSA Regional Seas, RFMOs, and other organisations have already developed relevant tools, processes and expertise, but often cannot reach their full potential due to a lack of political and financial support
Empower the CoP	Final session of the negotiations First CoP	Negotiators Parties	Empower the CoP to adopt decisions establishing measures, endorsing existing measures, and taking complementary action where existing measures are insufficient to meet conservation goals. Provide for majority voting where consensus is unattainable Establish operating procedures	CCAMLR has seen progress towards its MPA network stalled by a lack of consensus Absence of majority voting has delayed development of critical treaty infrastructure in a number of instruments

	When	Who	How	Lessons from other instruments and processes
Learn by doing and avoid “paper parks”	Post-adoption	CoP Civil society Scientific community	Be cognisant that MPAs in ABNJ are a novel undertaking and that lessons drawn from national experience may not be directly applicable Propose a range of ABMTs and MPAs, e.g., protecting both discrete features and large ecosystem-scale areas Stakeholders, the scientific community and Parties need to work together to further develop research and understanding of MPAs	Existing literature on MPAs provides mixed conclusions regarding effectiveness and best practice Existing use of high-seas ABMTs, and particularly MPAs, is limited, so there is little experience to draw on
A strong scientific infrastructure	Final session of the negotiations First CoP Post-adoption	Negotiators Parties CoP Civil society Scientific community	Develop a scientific body that draws on and supports existing efforts and organisations to connect the best available science to management decisions Fill gaps in the Ocean Biogeographic Information System (OBIS) and bolster the global ocean observing system Use the clearing-house mechanism to promote the research and cooperation needed to fill data gaps and promote open data and interoperability	OSPAR & NEAFC efforts are supported by a well-established, independent scientific body Advancement of scientific knowledge is a central tenet of CCAMLR The CBD EBSA process has demonstrated the power of regional cooperation on scientific research
Monitoring and compliance mechanisms	Final session of the negotiations First CoP Post-adoption	Negotiators Parties Civil society Industry	Reinforce flag State obligations on MCS in the BBNJ agreement text and ensure the principles of cooperation and coordination, transparency and reporting are applied throughout the agreement. Specify that a clearing-house mechanism will also serve as a platform to share best MCS practices, exchange data on MCS activities, and match capacity building needs in relation to MCS tools and methods for assessment. Require States parties to include a MCS strategy in ABMT/MPA proposals that considers the possible technological tools and institutional capacity available to ensure compliance with any proposed measures or management plan. Adopt treaty provisions that directly establish a dedicated Implementation and Compliance Committee	Compliance with any provision of the law of the sea ultimately depends on flag States and the Parties to relevant agreements. Treaties that do not directly establish compliance mechanisms often face long or even indefinite delays to establishment. Compliance mechanisms in many environmental treaties have worked best when they are non-adversarial, transparent and consultative, with a focus on assisting countries to meet their obligations
Cooperate within and outside the agreement	Pre-adoption/ongoing First CoP Post-adoption	Parties CoP Civil society Scientific community	Make best efforts to cooperate with other Parties in good faith, collaborating on ABMT/MPA proposals and striving for consensus. Establish tailor-made and context-specific regional platforms through which all stakeholders can cooperate towards harmonised and integrated management	CCAMLR's notable successes were underpinned by a commitment to meeting the objectives of the agreement and joint development of proposals A range of platforms for facilitating cooperation have been established and, by providing relevant actors a much-needed space for dialogue and exchange, they hold much promise for strengthening cooperation. However, these initiatives are often ad hoc, informal, or short-term.

4.1. Start with a strong foundation of principles and obligations

A strong foundation of key principles and obligations is critical, thus certain provisions should not be diluted in pursuit of the ideal of full consensus and wide ratification. A BBNJ agreement can advance ABMTs by providing:

- Clear principles and objectives that focus on conservation and sustainable use, ecosystem-based management and precaution;
- An explicit obligation to cooperate to establish ABMTs to conserve marine biodiversity in ABNJ, building on existing obligations to cooperate for conservation contained in UNCLOS,⁵¹ the CBD,⁵² and the UNFSA;⁵³
- A complementary obligation requiring States to promote the development of ABMTs through existing competent international organizations.⁵⁴

Without such obligations, the BBNJ agreement will not meaningfully shift priorities to include biodiversity conservation and sustainable use, nor will it create the necessary impetus to ensure that Parties to existing bodies adopt relevant measures (Gjerde and Wright, 2018).

4.2. Build on consensus, support existing efforts, and fill in the gaps

While the process toward a BBNJ agreement has been a long and winding road, the core needs and ways forward can be distilled into three simple precepts:

1. Build on longstanding provisions, points of consensus and good practice established in a wide range of existing instruments and initiatives;
2. Support existing frameworks and management bodies to effectively fulfil their mandates; and
3. Fill in the gaps in the framework to ensure that high seas biodiversity is conserved and sustainably used.

The new BBNJ agreement could, for example, build on: the IUCN definition of MPAs (in particular by clarifying that MPAs aim to achieve long-term conservation of nature);⁵⁵ and the detailed criteria and process for identifying areas that could warrant protection and possible management measures set out by the CBD EBSA process.⁵⁶

Existing bodies already conduct a wide range of activities that contribute to management in ABNJ and this should be supported through the new BBNJ agreement. For example, RFMOs already have extensive infrastructure in place that could provide data to support EBM and MCS of other human activities, such as monitoring MPAs. However, RFMOs currently only exercise their management over a small number of target species, so the BBNJ agreement could fill in this gap by providing a means to manage the rest of the marine biodiversity within RFMO areas. A BBNJ CoP could also support the efforts of initiatives such as the Sargasso Sea Commission by taking measures where there is no other competent management body that can do so.

51 Article 197 requires Parties to cooperate on a global basis and, as appropriate, on a regional basis “in formulating international rules, standards and recommended practices and procedures... for the protection and preservation of the marine environment.”

52 Article 5 obliges Parties to cooperate for the conservation and sustainable use of biodiversity in ABNJ, both directly and where appropriate, through competent international organizations.

53 Article 5 requires Parties to adopt measures to ensure long-term sustainability of fish stocks, based on the best scientific evidence available and a precautionary approach. It also requires Parties to undertake environmental assessments, adopt conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, and protect biodiversity in the marine environment.

54 An instructive example is provided by Clark, (2020): “if the scientific advisory body identified that a series of seamounts critical to the ecosystem functioning of that particular area were vulnerable to the cumulative impacts of multiple anthropogenic activities, the decision-making body might call upon Parties to the BBNJ Agreement to pursue measures to mitigate that threat in their capacity as Member States to other relevant sectoral organizations. If Nation A were a party to both the BBNJ Agreement and a sectoral governance organization responsible for controlling an activity likely to damage those seamounts, Nation A could be obliged to support management measures within that sectoral governance organization that would mitigate or prevent potential damage to those seamounts.”

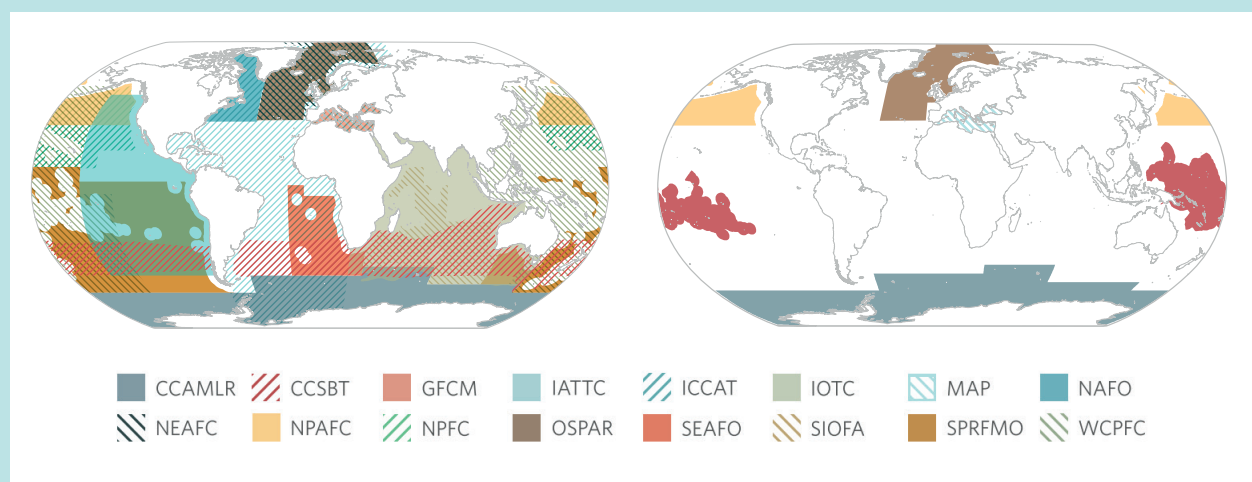
55 Cf. Other ABMTs can have a variety of objectives, such as obtaining maximum sustainable yield (MSY) in a fishery or avoiding shipping accidents in sensitive areas in the case of PSSAs.

56 CBD Decision COPIX/20.

Box 3.

Organizations with regulatory authority

Organizations with primary conservation mandate



Most organizations with a mandate to implement binding management measures in ABNJ are concerned with fisheries management (left). Although they could take measures regarding the broader ecosystem, this is not their primary mandate or focus. Very few organizations with a high seas mandate are focused primarily on conserving the marine environment (right). A BBNJ agreement could bridge this gap.

Source: (Pew, 2017)

4.3. Empower the CoP

In order to support existing efforts and fill in the gaps in the existing framework, the BBNJ agreement will need to empower the Conference of Parties (CoP) to take decisions efficiently and effectively, thereby enabling Parties to understand the current state of play and take action to conserve biodiversity. A competent CoP can also provide future-proofing for a treaty that seeks to protect a rapidly changing ocean by giving it enough flexibility to develop *ad hoc* bodies and guidance, e.g. on innovative ABMTs like dynamic closures and migratory corridors (Dunn *et al.*, 2016; Ortuño Crespo *et al.*, 2020). The CoP should also be empowered to be as proactive as possible in raising and addressing new activities or threats that are not currently managed by an existing body, such as mesopelagic fisheries (Wright *et al.*, 2020).

The current draft treaty text gives the CoP the mandate to establish arrangements that will be of crucial importance for the functioning of the future regime, including the establishment of the secretariat, the specific modalities

of the clearing-house mechanism, the funding mechanisms, and procedures to promote compliance. However, caution must be taken as the process to take decisions on these matters can slow down the operationalisation of the treaty. In this regard, it is crucial that a commitment to consensus decision-making is complemented by voting rules that allow States Parties to make progress where efforts to achieve consensus have stalled.

In terms of its specific powers, the CoP should be mandated to:

- Adopt decisions that endorse existing ABMTs and MPAs, thereby making measures that currently apply only to limited parties applicable to all Parties to the BBNJ agreement;
- Invite competent management bodies to provide details of their activities and ABMTs to the CoP, thereby providing Parties with a complete picture of the current management landscape and helping to identify areas where the BBNJ agreement can provide support;

- Adopt measures where there is currently no competent management body; and
- Adopt complementary ABMTs/MPAs where existing measures covering an area are insufficient to meet conservation goals.⁵⁷

4.4. Learn by doing and avoid “paper parks”

Given the significant global protection targets and the focus on MPAs, it can be assumed that both Parties and stakeholders will seek to propose MPAs without delay once an appropriate legal and institutional infrastructure is in place.

Scientific research has already been undertaken to identify significant areas, both as part of the EBSA process and by researchers seeking to identify areas that can be protected with low opportunity cost (The Pew Charitable Trusts, 2020). The long history of MPA practice in States’ national waters can provide some initial indications to guide designation and implementation on the high seas. Research suggests that MPAs tend to fail due to (Agardy *et al.*, 2011):

- Small size or poor design;
- Inappropriate planning or management;
- Degradation of the unprotected surrounding ecosystems;
- Causing more harm than good through displacement and unintended consequences of management; and
- The creation of an illusion of protection when in fact no protection is occurring.

Conversely, conservation benefits are maximized when MPAs are (Edgar *et al.*, 2014): no take, well-enforced, old (>10 years), large (>100km²), and isolated by deep-water or sand.

IUCN’s Global Conservation Standards suggest some essential characteristics that an MPA must have (IUCN WCPA, 2018):

- Conservation focused with nature as the priority;
- Defined goals and objectives which reflect these conservation values;
- Suitable size, location, and design that deliver the conservation values;
- Defined and fairly agreed boundary;
- Management plan or equivalent, which addresses the needs for conservation of the MPA’s major values and achievement of its social and economic goals and objectives; and
- Resources and capacity to effectively implement MPAs.

The designation of globally applicable legally binding MPAs in ABNJ will, by its nature, be a novel undertaking. While there has been considerable debate and research regarding the effectiveness of MPAs, it will not be immediately clear how this translates to the ABNJ context.

For example, many large MPAs have been criticized as being merely “paper parks” (Agardy *et al.*, 2016; Álvarez-Fernández *et al.*, 2020; Claudet *et al.*, 2021; Lemieux *et al.*, 2019), i.e. areas of low conservation value designated to meet global targets or areas designated without providing meaningful protections. However, it can also be argued that such designations are a first step that demonstrates political will and provides the foundation upon which further detail and protections can be built (O’Leary *et al.*, 2018a). It could be “better to have an MPA which is not ideal in the ecological sense but which meets the primary objective than to strive vainly to create the ‘perfect MPA’”.⁵⁸ Experience with CCAMLR, RFMOs and other organisations demonstrates how such processes are shaped by external factors and political considerations (Brooks *et al.*, 2019; Jayaram, 2022; Pons *et al.*,

⁵⁷ E.g. Parties to a RFMO could adopt an area-based management measure for a targeted fish species that does not address the impacts on associated species or the wider ecosystem. Parties to the BBNJ agreement could propose and adopt complementary measures to ensure that these impacts are accounted for.

⁵⁸ <https://www.iucn.org/sites/dev/files/import/downloads/mpaguid.pdf>

2018b) and it could take some time for these dynamics to fully emerge in the ABNJ context.

There are no simple “one size fits all” recommendations. Parties could start small, building the trust and science base needed to protect a discrete feature of high conservation value and low exploitation, such as a remote seamount that is not currently subject to fishing. At the other end of the spectrum, Parties could think big, aiming to protect a large ecosystem or feature from significant threats that are not currently being managed effectively by the existing patchwork of competent organisations, e.g. the Sargasso Sea.

In all cases, stakeholders, the scientific community and Parties to the future BBNJ agreement will need to learn by doing and work together to further develop research and understanding of MPAs, in particular to (Penleton *et al.*, 2017):

- promote MPAs in situations where they are an appropriate conservation tool,
- avoid overselling their benefits and underselling the potential risks,
- improve the effectiveness of MPAs during the implementation process and after establishment (Agardy, 2018; Ban *et al.*, 2012; Obura, 2018); and
- understand the relative costs and benefits of MPA establishment, compared with or in conjunction with other approaches.

4.5. Develop a strong scientific infrastructure

Management of natural resources relies on the collection, analysis and operationalisation of data as actionable and accessible scientific knowledge. This workflow, from data collection to knowledge transfer across the science-policy interface, determines what the best available science is for any given management or policy decision.

A strong scientific infrastructure is at the heart of the most successful conservation efforts and will be especially important for ABNJ, where our knowledge is limited by the high cost of sampling such diverse environments and variables at great distances from shore under extreme conditions.⁵⁹ This lack of knowledge makes it challenging to propose and designate ABMTs/MPAs and develop effective management plans. Priorities in this regard include filling in the significant data gaps in the Ocean Biogeographic Information System (OBIS) and bolstering the global ocean observing system. To be useful for management and policy-making, data must not only be readily available, but it must also be comparable and interoperable. This requires the application of harmonised standards to data collection, storage, and analysis.

A scientific body established under a new treaty could provide guidance regarding opportunities and gaps in the framework for delivering best available science and facilitate coordination across regional and sectoral bodies. Many existing organisations are supported by dedicated scientific bodies, so the new agreement will need to draw on and support this expertise, building capacity, facilitating exchange, and connecting the best available science to management decisions. The negotiations will conclude at an opportune moment, as UN Member States are at the beginning of the UN Decade on Ocean Science for Sustainable Development that creates momentum for ocean stakeholders to invest resources and efforts in the scientific understanding of the ocean.⁶⁰

A clearing-house mechanism (CHM) has been proposed for the BBNJ agreement but details are currently limited and the current draft text does not explicitly link the mechanism to ABMTs. This would be a missed opportunity as the CHM could promote the research and cooperation needed to fill data gaps and promote open data and interoperability (Bax *et al.*, 2016; Cremers *et al.*, 2020b).

⁵⁹ OBIS assessments clearly demonstrate how data availability decreases by orders of magnitude with distance from shore and depth (Webb *et al.*, 2010).

⁶⁰ <https://en.unesco.org/ocean-decade>

Box 4. Ongoing scientific projects relevant for the development of effective high seas management

The **COVERAGE** platform combines publicly available information from RFMOs, electronic tagging datasets, and automatic identification systems (AIS) to provide habitat analysis for highly migratory species, tuna catch forecasts, bycatch mitigation, ABMTs and ecosystem-based management.⁶¹

Global Fishing Watch (GFW), already experienced in collating and processing data on fishing vessel movements, has developed the Marine Manager, which provides historical and near- to real-time data on fishing activities and ecological data.⁶² This can assist management authorities in effectively managing large-scale marine areas with smaller budgets and help identify areas that may benefit from additional management.

The **Migratory Connectivity in the Ocean** (MiCO) system⁶³ seeks to fill a major knowledge gap regarding global migratory routes and connected areas for migratory species by providing actionable information conveying connectivity among “nodes” (aggregations of areas used for a particular activity, e.g. feeding or nesting) and “corridors” (routes animals use between nodes). This knowledge will be directly fed into ongoing management processes and could play a critical role in informing conservation efforts of migratory species in ABNJ.

4.6. Don't delay in establishing monitoring and compliance mechanisms

The effectiveness of MCS and compliance mechanisms are critical factors in deciding whether ABMTs and MPAs will realise their conservation and management objectives (Rowlands *et al.*, 2019) but the focus of the negotiations has primarily been on the core substantive elements and critically important questions regarding implementation have received limited attention.

Monitoring, control and surveillance (MCS)

While the BBNJ agreement won't resolve longstanding compliance issues, such as flags of convenience,⁶⁴ it could set out modalities for ensuring that MCS is a central part

of the overall ABMT/MPA framework and provide pathways for reinforcing monitoring and enforcement capacities (Cremers *et al.*, 2020a).⁶⁵ MCS could play a role in the development of ABMT proposals, their implementation, and the monitoring/review of whether they perform in accordance with their objectives (Cremers *et al.*, 2020a; Dunn *et al.*, 2018)

This is especially relevant in relation to large MPAs, because their vastness and remoteness can make surveillance tools impractical or expensive to implement (Rowlands *et al.*, 2019; Singleton and Roberts, 2014). However, the decreasing costs of new MCS tools (e.g. satellite technology) and the development of international partnerships, is opening up new possibilities and making effective MCS more viable and cost-effective (Ceccarelli and Fernandes, 2017; Cremers *et al.*, 2020a; O'Leary *et al.*, 2018b). How these potentially

61 <https://geoblueplanet.org/wp-content/uploads/2020/12/EO-for-tuna-5-Tsontos.pdf>

62 <https://globalfishingwatch.org/marine-manager-portal/>

63 See <https://mico.eco/>

64 In ABNJ, flag States are responsible for the control of vessels flying their flag but commitment to the elimination of non-compliance varies. Ineffective exercise of flag State responsibility allows the State to exercise their rights to exploit resources without investing in the due diligence required to ensure compliance with international rules (Barrett, 2011, pp. 47 & 127). In some cases, vessels with no genuine connection to the flag State are registered in exchange for a fee and the flag State subsequently exercises limited control or oversight (Ford and Wilcox, 2019; Witbooi, 2014). These so-called 'flags of convenience' are attractive to vessel operators as they reduce vessel operating costs by applying lax requirements regarding MCS, safety, insurance and training (Liddick, 2014). In the fisheries context, vessels may be flagged to States that are not members of a RFMO, making it difficult to ensure compliance.

65 E.g. RFMOs already have infrastructure in place for MCS of fisheries that could potentially provide data to support ecosystem-based management and provide oversight of MPAs. A more complete text could catalyse the provision of "adequate resources for follow-up, through patrols, and correspondence with flag States and fisheries management organisations" (Rowlands *et al.*, 2019).

transformative developments and unprecedented transparency will meld with international legal provisions remains to be seen.

The draft BBNJ agreement text on ABMTs includes some provisions on MCS⁶⁶ but it does

not yet cohere into a meaningful complement to existing MCS frameworks. As a substantial portion of the draft text remains in brackets, there is still time to further develop the MCS provisions (see Box 5).

Box 5. Proposals to strengthen monitoring, control and surveillance through a new instrument

1. Reinforce MCS flag state obligations in the text and ensure the principles of cooperation and coordination, transparency and reporting are applied throughout the BBNJ agreement.
2. Specify that a clearing-house mechanism will also serve as a platform to share best MCS practices, exchange data on MCS activities, and match capacity building needs in relation to MCS tools and methods for assessment.
3. Require States parties to include a MCS strategy in ABMT/MPA proposals that considers the possible technological tools and institutional capacity available to ensure compliance with any proposed measures or management plan.

Compliance

A robust compliance mechanism, which typically takes the form of a dedicated compliance committee, can bring a range of benefits to States Parties. These include providing advice, assistance and tools, and the provision of a cost-effective and non-confrontational alternative to dispute resolution procedures. Such provisions also contribute to the overall functioning and development of a convention, facilitating the work of the CoP and building a community of practice that can provide a flexible and adaptable source of expertise and support as needed.

Experience with other agreements provides two critical lessons learned for the development of a BBNJ compliance mechanism:

1. Postponing establishment until after the adoption of a treaty can result in a long or even indefinite delay. Many modern multi-lateral environmental agreements (MEAs) therefore establish compliance committees (or equivalent mechanisms) in the text of the instrument itself, rather than relying on subsequent CoP decisions.

2. Compliance mechanisms should be non-adversarial, transparent and consultative, with a focus on assisting countries to meet their obligations. The mechanism should nonetheless allow for stronger measures to be taken in certain cases.

The current draft provisions would require the CoP to “consider and adopt cooperative procedures and institutional mechanisms to promote compliance [and] address cases of non-compliance” but there are no indications in the text as to what form these should take. Furthermore, the provisions would empower, rather than require, the CoP to establish a Compliance Committee (and this provision remains in brackets). These provisions could easily be strengthened by explicitly requiring the CoP to establish a compliance mechanism.

4.7. Cooperate both within and outside the BBNJ agreement

It cannot be assumed that a BBNJ agreement will remove the need for consistent ongoing cooperation at various levels of governance. To this end, tailor-made and context-specific regional stakeholder platforms

⁶⁶ I.e. On international cooperation and coordination (Article 15), implementation (Article 20), and monitoring and review (Article 21).

should be established to provide a mechanism through which States, stakeholders and competent regional and global management organisations could cooperate towards harmonised and integrated management of ABNJ. Such platforms could give relevant

actors a much-needed space for dialogue and exchange on implementation challenges within a region, facilitating dialogue and exchange that could lead to improved cooperation and integrated management.

Annex 1. Existing ABMTs applicable to ABNJ

Agreement/body	Area-based management tools in ABNJ	Usage
Agreement relating to the implementation of Part XI of the UNCLOS, 1994 (establishing the International Seabed Authority)	Areas of Particular Environmental Interest (APEI); preservation reference zones ⁶⁷	9 APEIs in the Clarion-Clipperton Zone (North Central Pacific) ⁶⁸
International Convention for the Prevention of Pollution From Ships, 1973 (as modified by the Protocol of 1978)	Special Areas (SAs)	2 SAs in ABNJ (Mediterranean and Antarctic)
International Maritime Organization	Particularly Sensitive Sea Areas (PSSAs) ⁶⁹	None designated in ABNJ
International Convention for the Safety of Life at Sea, 1974	Areas To Be Avoided (AT-BAs)	None designated in ABNJ
International Convention for the Regulation of Whaling, 1946	Sanctuaries	Two established: Indian Ocean (1979) and Southern Ocean (1994)
Convention for the Protection of the World Cultural and Natural Heritage, 1972	World heritage sites	None designated in ABNJ
Regional Fisheries Management Organisations/Arrangements (non-tuna)	Fisheries closures (pursuant to UNGA resolutions)	Fisheries closures established in the North-East Atlantic (NEAFC), North-West Atlantic (NAFO), and South-East Atlantic (SEAFO); “footprint” approach in South-east Pacific (SPRFMO) effectively closes Convention Area.

⁶⁷ ISA. 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. 2013; ISBA/19/C/17; Section V.31.6.

⁶⁸ ISA. Decision of the Council relating to an environmental management plan for the Clarion-Clipperton Zone. 2012. ISBA/18C/22. <http://www.isa.org.jm/files/documents/EN/18Sess/Council/ISBA-18C-22.pdf>.

⁶⁹ IMO. Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs), 2005; A.982(24)

References

- Agardy, T. (2018). Justified ambivalence about MPA effectiveness 75, 1183–1185. <https://doi.org/10.1093/icesjms/fsx083>
- Agardy, T., Claudet, J., Day, J.C. (2016). 'Dangerous Targets' revisited: Old dangers in new contexts plague marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems* 26, 7–23. <https://doi.org/10.1002/aqc.2675>
- Agardy, T., di Sciara, G.N., Christie, P. (2011). Mind the gap: Addressing the shortcomings of marine protected areas through large scale marine spatial planning. *Marine Policy* 35, 226–232. <https://doi.org/10.1016/j.marpol.2010.10.006>
- Álvarez-Fernández, I., Freire, J., Naya, I., Fernández, N., Sánchez-Carnero, N. (2020). Failures in the design and implementation of management plans of Marine Protected Areas: An empirical analysis for the North-east Atlantic Ocean. *Ocean and Coastal Management* 192, 105178. <https://doi.org/10.1016/j.ocecoaman.2020.105178>
- Ardron, J., Clark, M., Penney, A. (2013). A systematic approach towards the identification and protection of vulnerable marine ecosystems. *Marine Policy* 1–9. <https://doi.org/10.1016/j.marpol.2013.11.017>
- Ban, N.C., Cinner, J.E., Adams, V.M., Mills, M., Almany, G.R. (2012). Recasting shortfalls of marine protected areas as opportunities through adaptive management. <https://doi.org/10.1002/aqc.2224>
- Barrett, S. (2011). *Why Cooperate? The Incentive to Supply Global Public Goods*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199211890.001.0001>
- Bax, N., Harden-Davies, H., Thiele, T., Halpin, P., Dunn, D. (2016). Open Data : enabling conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Nereus Programme.
- Brooks, C.M. (2013). Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas. *Polar Journal* 3, 277–300. <https://doi.org/10.1080/2154896X.2013.854597>
- Brooks, C.M., Crowder, L.B., Curran, L.M., Dunbar, R.B., Ainley, D.G., Dodds, K.J., Gjerde, K.M., Sumaila, U.R. (2016). Science-based management in decline in the Southern Ocean. *Science* 354, 185 LP – 187.
- Brooks, C.M., Crowder, L.B., Österblom, H., Strong, A.L. (2019). Reaching consensus for conserving the global commons: The case of the Ross Sea, Antarctica. *Conservation Letters* 1–10. <https://doi.org/10.1111/conl.12676>
- Ceccarelli, D.M., Fernandes, L. (2017). The value of offshore marine protected areas for open ocean habitats and species. report to the MACBio projec.
- Ceccarelli, D.M., Fernandes, L. (2017). The value of offshore marine protected areas for open ocean habitats and species.
- Clark, N.A. (2020). Institutional arrangements for the new BBNJ agreement: Moving beyond global, regional, and hybrid. *Marine Policy* 104143. <https://doi.org/10.1016/j.marpol.2020.104143>
- Claudet, J., Loiseau, C., Pebayle, A. (2021). Critical gaps in the protection of the second largest exclusive economic zone in the world. *Marine Policy* 124, 104379. <https://doi.org/10.1016/j.marpol.2020.104379>
- Cremers, K., Wright, G., Rochette, J. (2020a). Strengthening Monitoring, Control and Surveillance in Areas Beyond National Jurisdiction. STRONG High Seas Project. <https://doi.org/10.2312/ias.2018.015>
- Cremers, K., Wright, G., Rochette, J., Gjerde, K., Harden-Davies, H. (2020b). A preliminary analysis of the draft high seas biodiversity treaty.
- Dunn, D.C., Jablonicky, C., Crespo, G.O., McCauley, D.J., Kroodsma, D.A., Boerder, K., Gjerde, K.M., Halpin, P.N. (2018). Empowering high seas governance with satellite vessel tracking data. *Fish and Fisheries* 19, 729–739. <https://doi.org/10.1111/faf.12285>
- Dunn, D.C., Maxwell, S.M., Boustany, A.M., Halpin, P.N. (2016). Dynamic ocean management increases the efficiency and efficacy of fisheries management. *Proceedings of the National Academy of Sciences of the United States of America* 113, 668–673. <https://doi.org/10.1073/pnas.1513626113>
- Edgar, G.J., Stuart-Smith, R.D., Willis, T.J., Kininmonth, S., Baker, S.C., Banks, S., Barrett, N.S., Becerro, M. a, Bernard, A.T.F., Berkhout, J., Buxton, C.D., Campbell, S.J., Cooper, A.T., Davey, M., Edgar, S.C., Försterra, G., Galván, D.E., Irigoyen, A.J., Kushner, D.J., Moura, R., Parnell, P.E., Shears, N.T., Soler, G., Strain, E.M. a, Thomson, R.J. (2014). Global conservation outcomes depend on marine protected areas with five key features. *Nature* 506, 216–20. <https://doi.org/10.1038/nature13022>

- Ehler, C., Douvère, F. (2009). Marine spatial planning: A Step-by-Step Approach toward ecosystem-based Management. UNESCO-IOC.
- Ehler, C., Douvère, F. (2006). Visions for a Sea Change: Report of the First International Workshop on Marine Spatial Planning.
- Everson, I. (2017). Designation and management of large-scale MPAs drawing on the experiences of CCAMLR. *Fish and Fisheries* 18, 145–159. <https://doi.org/10.1111/faf.12137>
- Fischer, J. (2020). How transparent are RFMOs? Achievements and challenges. *Marine Policy* 104106. <https://doi.org/10.1016/j.marpol.2020.104106>
- Ford, J.H., Wilcox, C. (2019). Shedding light on the dark side of maritime trade – A new approach for identifying countries as flags of convenience. *Marine Policy* 99, 298–303. <https://doi.org/10.1016/j.marpol.2018.10.026>
- Freestone, D., Gjerde, K. (2016). Lessons from the Sargasso Sea: Challenges to the conservation and sustainable use of marine biodiversity beyond national jurisdiction.
- Freestone, D., Johnson, D., Ardron, J., Morrison, K.K., Unger, S. (2014). Can existing institutions protect biodiversity in areas beyond national jurisdiction? Experiences from two on-going processes. *Marine Policy* 49, 167–175. <https://doi.org/10.1016/j.marpol.2013.12.007>
- Galland, G.R., Nickson, A.E.M., Hopkins, R., Miller, S.K. (2018). On the importance of clarity in scientific advice for fisheries management. *Marine Policy* 87, 250–254. <https://doi.org/10.1016/j.marpol.2017.10.029>
- Garcia, S.M.M., Zerbi, A., Aliaume, C., Do Chi, T., Lasserre, G. (2003). The Ecosystem Approach to Fisheries, FAO Fisheries Technical Paper. FAO, Rome. <https://doi.org/10.1111/j.1467-2979.2010.00358.x>
- Gerber, L.J., Grogan, R.L. (2018). Challenges of operationalising good industry practice and best environmental practice in deep seabed mining regulation. *Marine Policy* 114, 103257. <https://doi.org/10.1016/j.marpol.2018.09.002>
- Gianni, M., Fuller, S.D., Currie, D.E.J., K., S., Goldsworthy, L., Pike, B., Weeber, B., Owen, S., Friedman, A. (2016). How much longer will it take? A ten-year review of the implementation of United Nations General Assembly resolutions 61/105, 64/72 and 66/68 on the management of bottom fisheries in areas beyond national jurisdiction. Deep Sea Conservation Coalition.
- Gjerde, K., Wright, G. (2018). Towards Ecosystem-based Management of the Global Ocean: Strengthening Regional Cooperation Conservation and Sustainable Use of Marine Biodiversity in Areas Beyond National. STRONG High Seas project. <https://doi.org/10.2312/iass.2019.055>
- Heenan, A., Pomeroy, R., Bell, J., Munday, P.L., Cheung, W., Logan, C., Brainard, R., Yang Amri, A., Aliño, P., Armada, N., David, L., Rivera-Guieb, R., Green, S., Jompa, J., Leonardo, T., Mamauag, S., Parker, B., Shackeroff, J., Yasin, Z. (2015). A Climate-Informed, Ecosystem Approach to Fisheries Management. *Marine Policy* 57, 182–192. <https://doi.org/10.1016/j.marpol.2015.03.018>
- IUCN WCPA (2018). Applying IUCN’s Global Conservation Standards to Marine Protected Areas (MPA): Delivering effective conservation action through MPAs, to secure ocean health & sustainable development.
- Jayaram, D. (2022). Geopolitics, Environmental Change and Antarctic Governance: A Region in Need of a Transformative Approach to Science Diplomacy, in: Khare, N. (Ed.), *Assessing the Antarctic Environment from a Climate Change Perspective: An Integrated Approach*. Springer International Publishing, Cham, pp. 1–17. https://doi.org/10.1007/978-3-030-87078-2_1
- Jouffray, J., Blasiak, R., Norström, A.V., Österblom, H., Nyström, M. (2020). The Blue Acceleration: The Trajectory of Human Expansion into the Ocean. *One Earth* 2, 43–54. <https://doi.org/10.1016/j.oneear.2019.12.016>
- Juan-Jordá, M.J., Murua, H., Arrizabalaga, H., Dulvy, N.K., Restrepo, V. (2018). Report card on ecosystem-based fisheries management in tuna regional fisheries management organizations. *Fish and Fisheries* 19, 321–339. <https://doi.org/10.1111/faf.12256>
- KA Miller, K.T.P.J.D.S. (2018). An overview of seabed mining including the current state of development, environmental impacts and knowledge gaps. *Front. Mar. Sci.* 4, 418.
- Koehler, H. (2018). Tuna RFMO Compliance Assessment Processes: A Comparative Analysis to Identify Best Practices. International Seafood Sustainability Foundation, Washington, DC.
- Lemieux, C.J., Gray, P.A., Devillers, R., Wright, P.A., Dearden, P., Halpenny, E.A., Groulx, M., Beechey, T.J., Beazley, K. (2019). How the race to achieve Aichi Target 11 could jeopardize the effective conservation of biodiversity in Canada and beyond. *Marine Policy* 99, 312–323. <https://doi.org/10.1016/j.marpol.2018.10.029>

- Levin, L.A., Wei, C.L., Dunn, D.C., Amon, D.J., Ashford, O.S., Cheung, W.W.L., Colaço, A., Dominguez-Carrió, C., Escobar, E.G., Harden-Davies, H.R., Drazen, J.C., Ismail, K., Jones, D.O.B., Johnson, D.E., Le, J.T., Lejzerowicz, F., Mitarai, S., Morato, T., Mulsow, S., Snelgrove, P.V.R., Sweetman, A.K., Yasuhara, M. (2020). Climate change considerations are fundamental to management of deep-sea resource extraction. *Global Change Biology* 26, 4664–4678. <https://doi.org/10.1111/gcb.15223>
- Liddick, D. (2014). The Dimensions of a Transnational Crime Problem: the case of IUU fishing. *Trends in Organized Crime* 17, 290–312. <https://doi.org/10.1007/s12117-014-9228-6>
- NEAFC and OSPAR (2015). On the process of Forming a Cooperative Mechanism Between NEAFC and OSPAR: From the First Contact to a Formal Collective Arrangement (No. 196), UNEP Regional Seas Reports and Studies. UNEP.
- Nilsson, J.A., Fulton, E.A., Haward, M., Johnson, C. (2016). Consensus management in Antarctica's high seas – Past success and current challenges. *Marine Policy* 73, 172–180. <https://doi.org/10.1016/j.marpol.2016.08.005>
- O'Leary, B.C., Ban, N.C., Fernandez, M., Friedlander, A.M., García-Borboroglu, P., Golbuu, Y., Guidetti, P., Harris, J.M., Hawkins, J.P., Langlois, T., McCauley, D.J., Pikitch, E.K., Richmond, R.H., Roberts, C.M. (2018a). Addressing Criticisms of Large-Scale Marine Protected Areas. *BioScience* 68, 359–370. <https://doi.org/10.1093/biosci/biy021>
- O'Leary, B.C., Ban, N.C., Fernandez, M., Friedlander, A.M., García-Borboroglu, P., Golbuu, Y., Guidetti, P., Harris, J.M., Hawkins, J.P., Langlois, T., McCauley, D.J., Pikitch, E.K., Richmond, R.H., Roberts, C.M. (2018b). Addressing Criticisms of Large-Scale Marine Protected Areas. *BioScience* XX, 1–12. <https://doi.org/10.1093/biosci/biy021>
- O'Leary, B.C., Winther-Janson, M., Bainbridge, J.M., Aitken, J., Hawkins, J.P., Roberts, C.M. (2016). Effective Coverage Targets for Ocean Protection. *Conservation Letters* 00, 1–6. <https://doi.org/10.1111/conl.12247>
- Obura, D.O. (2018). Food for Thought On being effective , and the other 90 % 75, 1198–1199. <https://doi.org/10.1093/icesjms/fsx096>
- Ortuño Crespo, G., Mossop, J., Dunn, D., Gjerde, K., Hazen, E., Reygondeau, G., Warner, R., Tittensor, D., Halpin, P. (2020). Beyond static spatial management: Scientific and legal considerations for dynamic management in the high seas. *Marine Policy* 104102. <https://doi.org/10.1016/j.marpol.2020.104102>
- Österblom, H., Olsson, O. (2017). CCAMLR: an ecosystem approach to the Southern Ocean in the Anthropocene, in: Dodds, K., Hemmings, A., Roberts, P. (Eds.), *Handbook on the Politics of Antarctica*. Edward Elgar Publishing.
- Pendleton, L.H., Ahmadi, G.N., Browman, H.I., Thurstan, R.H., Kaplan, D.M., Bartolino, V. (2017). Introduction: Debating the effectiveness of marine protected areas. *ICES Journal of Marine Science*. <https://doi.org/10.1093/icesjms/fsx154>
- Pew (2017). Mapping governance gaps on the high seas.
- Pons, M., Melnychuk, M.C., Hilborn, R. (2018a). Management effectiveness of large pelagic fisheries in the high seas. *Fish and Fisheries* 19, 260–270. <https://doi.org/10.1111/faf.12253>
- Pons, M., Melnychuk, M.C., Hilborn, R. (2018b). Management effectiveness of large pelagic fisheries in the high seas. *Fish and Fisheries* 19, 260–270. <https://doi.org/10.1111/faf.12253>
- Popova, E., Vousden, D., Sauer, W.H.H., Mohammed, E.Y., Allain, V., Downey-Breedt, N., Fletcher, R., Gjerde, K.M., Halpin, P.N., Kelly, S., Obura, D., Pecl, G., Roberts, M., Raitos, D.E., Rogers, A., Samoilys, M., Sumaila, U.R., Tracey, S., Yool, A. (2019). Ecological connectivity between the areas beyond national jurisdiction and coastal waters: Safeguarding interests of coastal communities in developing countries. *Marine Policy* 104, 90–102. <https://doi.org/10.1016/j.marpol.2019.02.050>
- Ramirez-Llodra, E., Tyler, P.A., Baker, M.C., Bergstad, O.A., Clark, M.R., Escobar, E., Levin, L.A., Menot, L., Rowden, A.A., Smith, C.R., Van Dover, C.L. (2011). Man and the Last Great Wilderness: Human Impact on the Deep Sea. *PLoS ONE* 6, e22588.
- Reese, A. (2017). Plans rejected for East Antarctic marine park. *Nature*.
- Ringbom, H., Henriksen, T. (2017). Governance Challenges, Gaps and Management Opportunities in Areas Beyond National Jurisdiction. A STAP Information Paper.
- Rowlands, G., Brown, J., Soule, B., Boluda, P.T., Rogers, A.D. (2019). Satellite surveillance of fishing vessel activity in the Ascension Island Exclusive Economic Zone and Marine Protected Area. *Marine Policy* 101, 39–50. <https://doi.org/10.1016/j.marpol.2018.11.006>

- Singleton, R.L., Roberts, C.M. (2014). The contribution of very large marine protected areas to marine conservation: Giant leaps or smoke and mirrors? *Marine Pollution Bulletin* 87. <https://doi.org/10.1016/j.marpolbul.2014.07.067>
- The Pew Charitable Trusts (2020). A Path to Creating the First Generation of High Seas Protected Areas. Science-based method highlights 10 sites that would help safeguard biodiversity beyond national waters.
- Weatherdon, L. V, Magnan, A.K., Rogers, A.D., Sumaila, U.R., Cheung, W.W. (2016). Observed and projected impacts of climate change on marine fisheries, aquaculture, coastal tourism, and human health: an update. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2016.00048>
- Webb, T.J., Vanden Berghe, E., O'Dor, R. (2010). Biodiversity's big wet secret: the global distribution of marine biological records reveals chronic under-exploration of the deep pelagic ocean. *PloS one* 5, e10223. <https://doi.org/10.1371/journal.pone.0010223>
- Witbooi, E. (2014). Illegal, unreported and unregulated fishing on the high seas: The port state measures agreement in context, *International Journal of Marine and Coastal Law*. Martinus Nijhoff Publishers. <https://doi.org/10.1163/15718085-12341314>
- Wright, G., Ardron, J., Gjerde, K., Currie, D., Rochette, J. (2015). Advancing marine biodiversity protection through regional fisheries management: A review of bottom fisheries closures in areas beyond national jurisdiction. *Marine Policy* 61, 134–148. <https://doi.org/10.1016/j.marpol.2015.06.030>
- Wright, G., Gjerde, K., Finkelstein, A., Currie, D. (2020). Fishing in the Twilight Zone: Illuminating governance challenges at the next fisheries frontier, *IDDRI Study*. IDDRI, Paris.
- Wright, G., Gjerde, K.M., Johnson, D.E., Finkelstein, A., Ferreira, M.A., Dunn, D.C., Chaves, M.R., Grehan, A. (2018a). Marine spatial planning in areas beyond national jurisdiction.
- Wright, G., Rochette, J., Gjerde, K., Seeger, I. (2018b). The Long and Winding Road: negotiating a treaty for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (No. 08), *IDDRI Study, IDDRI Studies*. IDDRI, Paris.

Published by

Institute for Sustainable Development and International Relations (IDDRI)
27 rue Saint-Guillaume
75337 Paris Cedex 07
France

Tel: +33 (0)1 45 49 76 60
Fax: +33 (0)1 45 52 63 45
E-Mail: iddri@iddri.org
www.iddri.org

Contact

STRONG High Seas Project Team at IASS: stronghighseas@iass-potsdam.de

ViSdP

Sébastien Treyer, Executive Director
May 2022



About the STRONG High Seas Project

The STRONG High Seas project is a five-year project that aims to strengthen regional ocean governance for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. Working with the Secretariat of the Comisión Permanente del Pacífico Sur (CPPS; Permanent Commission for the South Pacific) and the Secretariat of the West and Central Africa Regional Seas Programme (Abidjan Convention), the project will develop and propose targeted measures to support the coordinated development of integrated and ecosystem-based management approaches for ocean governance in areas beyond national jurisdiction (ABNJ). In this project, we carry out transdisciplinary scientific assessments to provide decision-makers, both in the target regions and globally, with improved knowledge and

understanding on high seas biodiversity. We engage with stakeholders from governments, private sector, scientists and civil society to support the design of integrated, cross-sectoral approaches for the conservation and sustainable use of biodiversity in the Southeast Atlantic and Southeast Pacific. We then facilitate the timely delivery of these proposed approaches for potential adoption into the relevant regional policy processes. To enable an interregional exchange, we further ensure dialogue with relevant stakeholders in other marine regions. To this end, we set up a regional stakeholder platform to facilitate joint learning and develop a community of practice. Finally, we explore links and opportunities for regional governance in a new international and legally binding instrument on marine biodiversity in the high seas.

Project duration: June 2017 – May 2022

Coordinator: Institute for Advanced Sustainability Studies (IASS)

Implementing partners: BirdLife International, Institute for Sustainable Development and International Relations (IDDRI), International Ocean Institute (IOI), Universidad Católica del Norte, WWF Colombia, WWF Germany

Regional partners: Secretariat of the Comisión Permanente del Pacífico Sur (CPPS), Secretariat of the Abidjan Convention

Website: prog-ocean.org/our-work/strong-high-seas

Contact: stronghighseas@iass-potsdam.de

Partners of the STRONG High Seas project:



International Ocean Institute
African Region

