

**Study on Measures to Support  
Conservation Efforts for  
Areas Beyond National  
Jurisdiction in the  
Southeast Atlantic Region**



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## Authors

**Shannon Hampton**, International Ocean Institute Southern Africa

**Gustavo Adolfo Castellanos Galindo**, WWF Colombia

**Ben Boteler**, Institute for Advanced Sustainability Studies (IASS)

**Carole Durussel**, Institute for Advanced Sustainability Studies (IASS)

**Leticia Greyling**, International Ocean Institute Southern Africa, Rhodes University:  
Rhodes Business School

**Marie Parramon Gurney**, Skultcha

## Editing

Carole Durussel and Ben Boteler

## Design and Layout

Sabine Zentek

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## List of Abbreviations

<b>ABNJ</b>	Area Beyond National Jurisdiction
<b>ABMT</b>	Area Based Management Tools
<b>ACAP</b>	Agreement on the Conservation of Albatross and Petrels
<b>APEI</b>	Areas of Particular Environmental Interest
<b>BBNJ</b>	Biodiversity Beyond National Jurisdiction
<b>CCSBT</b>	Commission for the Conservation of Southern Bluefin Tuna
<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora
<b>CMS</b>	Convention on Migratory Species
<b>ECF</b>	Ecosystem Approach to Fisheries
<b>EBSA</b>	Ecologically or Biologically Significant Areas
<b>EEZ</b>	Exclusive Economic Zone
<b>EIA</b>	Environmental Impact Assessment
<b>FAO</b>	Food and Agricultural Organisation of the United Nations
<b>IBA</b>	Important Bird and Biodiversity Areas
<b>ICCAT</b>	International Commission for the Conservation of Atlantic Tunas
<b>IMMA</b>	Important Marine Mammal Areas
<b>IMO</b>	International Maritime Organisation
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISA</b>	International Seabed Authority
<b>IUCN</b>	International Union for the Conservation of Nature
<b>IUU</b>	Illegal, Unregulated and Unreported
<b>IWC</b>	International Whaling Commission
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>MCS</b>	Monitoring, Control and Surveillance
<b>MPA</b>	Marine Protected Area
<b>MSP</b>	Marine/Maritime Spatial Planning
<b>PSSA</b>	Particularly Sensitive Sea Areas
<b>RFMO</b>	Regional Fisheries Management Organisations
<b>SEA</b>	Strategic Environmental Assessments
<b>SEAFO</b>	South East Atlantic Fisheries Organisation
<b>TAC</b>	Total Allowable Catch
<b>UNCLOS</b>	United Nations Convention on the Law of the Sea
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>VMS</b>	Vessel Monitoring System

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## Executive summary

Measures to support conservation efforts must put the protection of biodiversity and/or ecological integrity as the primary objective and consider cumulative pressures on the marine environment. This also means including ecological connectivity (e.g., migratory routes of marine species, transboundary impacts of human activities), and climate change impacts in their design and implementation. Moreover, the complexity and dynamic nature of the ocean, including in areas beyond national jurisdiction (ABNJ), requires that conservation efforts acknowledge uncertainty, include options to address it or adapt swiftly to new scientific information, and consider the three-dimensional space of the ocean. This also requires that the best available interdisciplinary scientific and indigenous knowledge provide the basis for the design and implementation of such measures.

It will be essential that measures to support conservation efforts apply mechanisms for cross-sectoral consultation, cooperation, and collaboration, as well as consider appropriate spatial and temporal scales for implementation. They must reflect broad societal goals and consider uneven distribution of socio-economic outcomes resulting from exploitative activities in ABNJ.

Governance and management actions must recognise coupled and diverse social-ecological systems, and the interconnection between ocean health and human wellbeing, including diverse stakeholder considerations in the design and implementation of the measure or approach. It is essential that the design and implementation of measures to support conservation efforts include appropriate means to ensure the regular monitoring, control, and surveillance of human activities as well as the compliance and enforcement of the laws and regulations in place.

States are familiar with legal instruments, such as those under the United Nations Convention on the Law of the Sea (UNCLOS), United Nations Food and Agricultural Organisation

(FAO), International Maritime Organisation (IMO) conventions, International Seabed Authority (ISA), and management measures adopted by the Regional Fisheries Management Organisations (RFMOs). They have developed governance structures and capacity to support their implementation. The recommendation in this context would be for States to support the consolidation and further development of measures to support conservation efforts with the aim to ensure that they integrate their approach with considerations for ecological connectivity, biodiversity protection, ecosystem-based integrated ocean management and climate change implications for the conservation and management of biodiversity in ABNJ. To be effective, any measures to support conservation efforts proposed for ABNJ in the Southeast Atlantic region must consider the socio-economic and political realities of the countries whose Exclusive Economic Zones border these areas. In this sense, it is important to note the important role that the fishing sector has historically played and continues to play for most economies of this region.

The proposed Biodiversity Beyond National Jurisdiction (BBNJ) Instrument in negotiation at the United Nations, will be fundamental for establishing the legal basis for developing and implementing cross-sectoral measures to support conservation efforts in ABNJ. The way in which the proposed BBNJ Instrument is integrated and how the link to existing conservation and sustainable use measures established under existing management organisations is made will determine the effectiveness of the possible measures to support current and future conservation efforts. In this regard, it is particularly important for the Southeast Atlantic region how existing RFMOs will be able to interact with the proposed BBNJ Instrument.

Considering the capacity (technological, experience, financial, logistical) challenges of many of the countries in the Southeast Atlantic, it is important that measures to support conservation

efforts under existing international treaties or legal mechanisms be integrated, practical, and cost-effective.

The different legal status of the water column and the deep seabed beyond national jurisdiction and the different legal provisions in place represent a challenge for the development of a coherent, comprehensive, and integrated approach to the conservation and sustainable use of biodiversity in ABNJ. Lack of uniformity in compliance among flag States and the lack of monitoring and enforcement mechanisms in ABNJ jeopardise the achievement of an integrated approach for conservation and sustainable use of marine biodiversity in these vast areas of ocean. The wide array of existing instruments can be used to improve conservation of biodiversity in ABNJ through improved monitoring and enforced compliance. This remains the responsibility of individual flag States, but at present there is limited reporting of vessels and minimum follow up action by flag or port States.

### Key Messages:

- Biodiversity in ABNJ continues to be at risk from anthropogenic activities, particularly fisheries and climate change but with emerging technologies there is increased risk of deep seabed mining or oil and gas exploitation becoming a reality in ABNJ. The cumulative pressures already placed upon marine biodiversity in ABNJ suggests that measures are increasingly required to protect and sustainably manage marine ecosystems.
- Area Based Management Tools (ABMTs) related to e.g., shipping and deep-sea mining exist but are currently not applied within ABNJ in the Southeast Atlantic region. A proactive and precautionary approach should be taken by implementing ABMTs in advance of negative impacts from anthropogenic activities.
- No marine protected areas (MPAs) or MPA networks have been established in ABNJ in the Southeast Atlantic region but the identification of areas that have biological and

ecological importance could form the basis of where MPAs could be designated in future (e.g., Ecologically or Biologically Significant Areas, Key Biodiversity Areas, Important Bird and Biodiversity Areas, Important Marine Mammal Areas etc.) and the BBNJ treaty could provide a framework for this.

- Given that fishing is the dominant activity taking place in ABNJ in the Southeast Atlantic region, RFMOs have a key role to play in protecting marine ecosystems and managing resources in a sustainable way. An ecosystem approach to fisheries needs to acknowledge that fish are not just resources but are part of marine ecosystems. Fisheries management plans should therefore consider interactions amongst species and habitats.
- Innovative measures to support conservation efforts should be considered, including mobile MPAs and adaptive management – to account for environmental changes caused by climate change, ecosystem regime shifts, changes in technology, and cumulative impacts of anthropogenic impacts.
- Cross-sectoral cooperation is vital to the successful conservation and management of biodiversity in ABNJ. This includes the recognition of measures to support conservation efforts as implemented in one sector to be respected and implemented in other sectors active in the same area or region.
- Monitoring, control and surveillance (MCS) needs to be effectively designed and implemented to ensure measures to support conservation efforts to make progress towards agreed upon conservation objectives. This includes the implementation of novel technology and capacity development to make sure that skills are available within the Southeast Atlantic region to use the technology, analyse results, develop legal frameworks and adequate compliance mechanisms in the case of illegal activities. Consistent enforcement and implementation will make it easier for industry to be compliant.



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- Measures to support conservation efforts need to be underpinned by financial mechanisms and meaningful capacity development in the region. Capacity development needs to happen at institutional level, but also include technical capacity and the development of individual capacity. Mechanisms for knowledge sharing and exchange, and co-learning should be established within the Southeast Atlantic region (through workshops, joint learning, conferences, university exchanges, etc.)
  - Transparent, science-based decision making needs to be implemented in a consistent way with input from relevant decision-making bodies and stakeholders. Any measures to support conservation efforts that are implemented should have clear objectives and a management plan in place. An evaluation mechanism should be established to monitor the effectiveness of measures to support conservation efforts implemented in the Southeast Atlantic region. Similarly, requirements for environmental impact assessments (EIAs) should be transparent, consistent, and undertaken by external experts.
  - Mechanisms that are fair and unbiased should be established for conflict resolution. An independent body could be responsible for establishing and reviewing these mechanisms. This would be important in the context of EIAs and MCS.
  - Channels for effective communication with stakeholders should be established. Stakeholders should include, among others, private sector, States, global, regional and sectoral bodies, science and research organisations, and civil society, including indigenous and local communities.
  - An integrated, ecosystem-based ocean management approach is crucial to facilitate and ensure effective implementation of measures to support conservation efforts.

# 1. Introduction

Marine Areas Beyond National Jurisdiction (ABNJ) are those areas of the ocean for which no one nation has sole responsibility for management, and where all nations need to act collectively as stewards of ocean health for current and future generations. In all, ABNJ make up about 50 % of the surface of our planet and comprise around 64 % of the surface of the ocean.

ABNJ have not been spared from anthropogenic impacts and global threats associated with biodiversity loss and climate change. Ecosystems on land and in coastal waters are intrinsically linked to ABNJ through ecological features, physical ocean processes and migration of marine species. This ecological connectivity means that coastal waters and the livelihoods they support could be critically impacted by activities taking place in ABNJ, and vice versa.

Maintaining healthy and productive ocean ecosystems, including in ABNJ, is crucial for human wellbeing. Effective conservation efforts are essential to build the resilience of marine ecosystems and to ensure the conservation of marine biodiversity and protection of the marine environment. It is important to consider conservation efforts within and beyond national jurisdiction together and understand the ocean as a whole ecosystem, also considering its connection to land. Currently less than 2 % of ABNJ are designated as marine protected areas (MPAs), making them the least-protected biomes on the planet<sup>1</sup>.

Exacerbating this challenge is the fragmented nature and lack of coordination in ocean governance, making it difficult to achieve ecosystem-based integrated management, assess cumulative impacts on the ocean, and implement effective conservation and sustainable use of marine biodiversity. The UN Convention on the Law of the Sea (UNCLOS) provides a global legal framework governing the uses of the ocean

and it is complemented by several regional and sectoral agreements regulating activities, such as fisheries, shipping, or mining. However, there is also limited coordination and cooperation among the numerous agencies and organisations at the regional and global level that play a role or have a mandate in ocean management in ABNJ.

At the global level, there are several ongoing UN processes that work towards strengthening ocean governance and the conservation of marine biodiversity, including in ABNJ. These include:

- the negotiations for a legally binding instrument under the UN for the conservation and sustainable use of marine biodiversity in ABNJ (BBNJ negotiations);
- the development of the Post-2020 Global Biodiversity Framework under the Convention on Biological Diversity (CBD) to provide a 30-year timeline for reducing pressures on terrestrial and marine biodiversity, promoting their sustainable use, and safeguarding their ecosystem functions;
- the implementation of actions to achieve Sustainable Development Goal (SDG) 14 on ocean and marine resources and other ocean-related SDGs to holistically address current global challenges facing sustainability;
- discussions on linking ocean and climate within the (UNFCCC) Paris Agreement framework and nature-based solutions; and
- the start of the UN Decade of Ocean Science for Sustainable Development (2021–2030) to reverse the decline in ocean health and the UN Decade on Ecosystem Restoration.

<sup>1</sup><https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas>

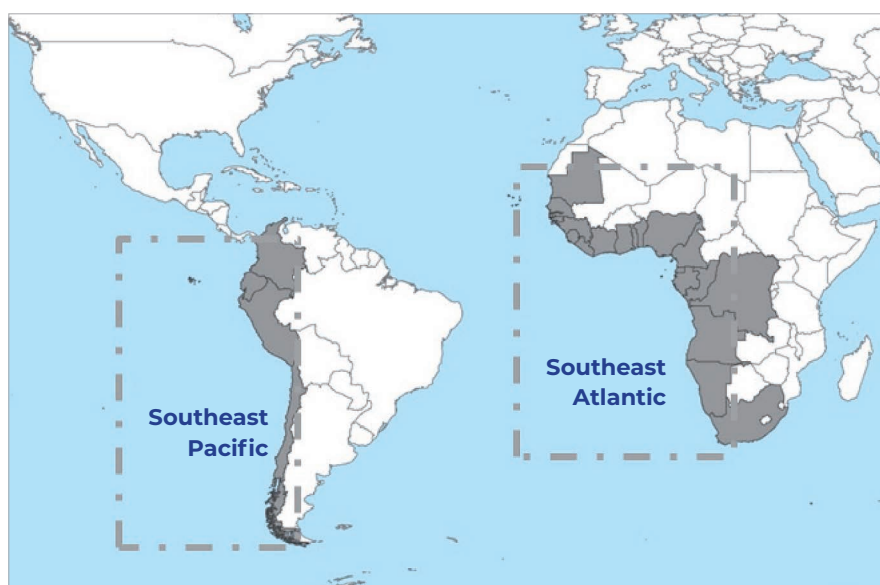
The African Union has developed the African Integrated Maritime Strategy (AIMS 2050) which works towards the sustainable development of the African maritime domain and acknowledges the importance of the inherent connectivity of our ocean spaces. The AIMS supports marine conservation, in the context of its blue economy development and encourages States to give full support to the regional conventions that support environmental sustainability, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on Biological Diversity (CBD), the Environmental Initiative of African Union Development Agency – NEPAD and the Nairobi and Abidjan Convention<sup>2</sup>. Although AIMS does not deal directly with ABNJ, in the Southeast Atlantic region, member States of the Abidjan Convention have recognised the importance of conserving and sustainably using marine biodiversity in ABNJ and have thereby adopted resolutions through their Conference of the Parties (COP) to take further action to this effect by notably strengthening scientific capacities and improving evidence-based decision-making.

The global COVID-19 pandemic has, since the beginning of 2020, highlighted the complexity of human-nature interactions and raised urgent

questions about the capacity of society to not only prevent future pandemics but also to find creative ways to build back a more sustainable world to transform the way humans interact with nature. In this respect, ocean protection and the sustainable use of marine biodiversity are necessary to support ecological resilience.

## 1.1 Objective of this report

The objective of this report is to provide recommendations towards the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction of the Southeast Atlantic region. This includes considerations for proposing new or expanding existing measures to support conservation efforts as well as utilizing other resources, which support the development of or underpin efforts for increasing and improving conservation of marine biodiversity in ABNJ. This report focuses specifically on the Southeast Atlantic, which is characterised by high biological productivity, supported by important oceanic currents. For this report, the Southeast Atlantic is loosely defined as the Eastern side of the South Atlantic Ocean, between Mauritania and South Africa (see Figure 1) and corresponds roughly to the FAO fishing areas 34 and 47.



**Figure 1: Focal regions of the STRONG High Seas project<sup>3</sup>**

<sup>2</sup> AU 2012. 2050 Africa's Integrated Maritime Strategy Version 1.0. [https://wedocs.unep.org/bitstream/handle/20.500.11822/11151/2050\\_aims\\_strategy.pdf](https://wedocs.unep.org/bitstream/handle/20.500.11822/11151/2050_aims_strategy.pdf)

<sup>3</sup> Image credit: ESRI (2008): *World countries 2008*. ESRI Data & Maps.

## 1.2 Scope of this report

In this report, measures to support conservation efforts are any legally binding or non-legally binding policies or practices adopted by a legal convention or by a management organisation that contributes to the conservation and sustainable use of marine biodiversity, the rehabilitation and restoration of degraded marine ecosystems, or the recovery of threatened marine species in ABNJ. Measures could focus on the ecosystem, species or genetic levels and can take different approaches, such as restricting access through temporal or spatial limits (e.g., a protected area), creating output controls (e.g., limiting the number of marine species removed), or creating input controls (e.g., banning certain types of destructive practices). They can be comprehensive by considering marine biodiversity and/or cumulative pressures on an area or sector pressures stemming from specific human activities.

There exist numerous informative resources which support conservation efforts across their identification, design, establishment, and implementation stages. Some resources can be used to indicate where conservation efforts are needed and point to potential priorities for management. These could focus on areas which have been identified for their significance to a single species or groups of species, such as Important Bird and Biodiversity Areas (IBAs) and Important Marine Mammal Areas (IMMAs) or be more comprehensive by including a wider range of ecological and biological consideration (e.g., Ecologically or Biologically Significant Marine Areas, EBSAs). These resources are relevant to support conservation efforts, while they do not confer any formal protection on their own. The data and information included in such resources largely stem from the scientific community and/or other forms of knowledge (e.g., expert and, ideally, indigenous traditional knowledge).

There also exist other options which could broadly support the planning and implementation of measures by supporting the integration of different information sources and boosting cross-sectoral processes, including in ABNJ. For example, Marine Spatial Planning (MSP) could

be applied to support decision-makers to understand ecological, economic, and social interests and can help to prioritise management decisions. While such tools are commonly applied within coastal waters, to date there has been little use of these tools in ABNJ. Other options include Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs), which are core tools for ensuring precaution in the expansion of existing and development of new activities and can reveal the range of potential effects of an activity on multiple components of an ecosystem, including direct, indirect, and cumulative effects, and possible ways to mitigate such impacts.

Other important aspects linked to the development, implementation, and enforcement of measures to support conservation efforts include capacity building, financial mechanisms, monitoring, control and surveillance, and stakeholder engagement and involvement. Furthermore, linking measures to support conservation efforts within and beyond national jurisdictions is of paramount importance to ensure that ecological connectivity is considered, and ecosystem-based integrated management is achieved.

## 1.3 How to read this report

This report was written by researchers within the STRONG High Seas project based on a literature review of academic articles, stakeholder knowledge and experience gathered through workshops held within each of the focal regions of the project, as well as expert opinion. This report was reviewed by multiple experts to cross check findings and ensure robust results.

This report is part of a series of reports covering issues of ocean governance with a focus on the Southeast Pacific and Southeast Atlantic. Further reports by the STRONG High Seas project cover topics such as the legal and institutional framework of ABNJ, ecological baselines, socio-economic importance of ABNJ, recommendations for stakeholder engagement and capacity building in ocean governance in these two regions.



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After this introductory chapter, Chapter 2 provides an overview of key considerations for developing measures to support conservation efforts in the Southeast Atlantic including a review of existing efforts in the region, while Chapter 3 provides recommendations for proposing new or expanding existing measures

to support conservation efforts as well as other resources or options, which underpin efforts for increasing and improving conservation of BBNJ. Chapter 4 provides a conclusion and outlook to link the assessment to ecosystem-based integrated ocean management as well as wider considerations for ocean governance.

## 2. Developing measures to support conservation efforts in ABNJ of the Southeast Atlantic

This chapter provides a first step towards considering and developing measures to support conservation efforts in ABNJ of the Southeast Atlantic. Section 2.1 provides a brief overview of important considerations for pursuing conservation efforts in the region including key biodiversity components, major pressures stemming from human activities, and the socio-economic importance of BBNJ. Section 2.2 takes stock of existing efforts as well as options to pursue conservation within ABNJ of the Southeast Atlantic.

### 2.1 Considerations for developing measures to support conservation efforts

The following section provides a summary of the key reports published to date by the STRONG High Seas project and key considerations drawn from their findings.<sup>4</sup> This is provided to help ensure that recommendations for conservation efforts offered in Chapter 3 consider the specific ecological characteristics and socio-economic realities of the region.

#### 2.1.1 Key biodiversity components<sup>5</sup>

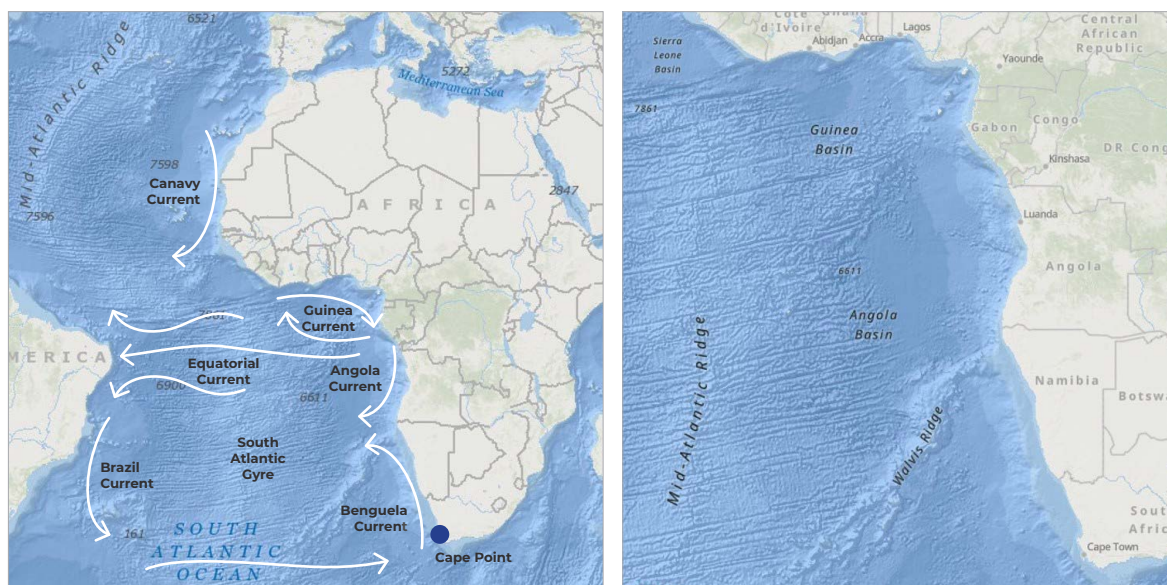
The Southeast Atlantic is characterised by various topographical and oceanographic features, such as the Mid-Atlantic Ridge, which form a variety of habitats that support biodiversity in the region. The Mid-Atlantic Ridge is associated

with several active hydrothermal fields and the formation of various valleys and basins. These heterogeneous seafloor habitats are known for their benthic diversity. The Canary Current supports the upwelling of nutrient-rich, cold oceanic waters off the Canary Islands, leading to abundant pelagic and demersal fishery resources in the area. The Benguela Current carries cold, nutrient-rich water along the African coast from Cape Point in the south to the Angola-Namibia border in the north (see Figure 2). It has a high level of primary productivity and is among the most productive currents in the world. These currents create important ecosystems that are habitat to a variety of commercially important species, as well as threatened and highly migratory species.

Seabed benthic habitats support rich and diverse ocean communities and are some of the largest reservoirs of biomass and non-renewable resources (marine minerals); host microbial processes that are essential for biogeochemical cycles and are an important carbon sink. Most of the deep-sea ocean floor, including in the Southeast Atlantic, is vast, relatively flat expanses of abyssal seafloor (e.g., Cape Verde Plain and Angola Plain), interspersed with features such as hydrothermal vents, ridges (e.g., Mid-Atlantic Ridge and the Walvis Ridge), seamounts and guyots (i.e., undersea mountains with a flat top) – see Figure 2.

<sup>4</sup> Available at: <https://www.prog-ocean.org/our-work/strong-high-seas/>.

<sup>5</sup> A complete overview of biodiversity components in ABNJ relevant for the Southeast Atlantic can be found in Boteler et al. 2019. 'Ecological Baselines for the Southeast Atlantic and Southeast Pacific: Status of Marine Biodiversity and Anthropogenic Pressures in Areas Beyond National Jurisdiction', STRONG High Seas Project, 2019. Available at: <https://www.prog-ocean.org/our-work/strong-high-seas/strong-high-seas-resources/>



**Figure 2: Schematic of major oceanographic currents in the Southeast Atlantic and zoomed in to show some of the key benthic features, including Walvis Ridge, Angola Basin, Mid-Atlantic Ridge and Guinea Basin. (Source: Basemap powered by Esri and available here: <https://www.arcgis.com/apps/mapviewer>)**

The seabed in ABNJ (referred to as ‘the Area’) provides a unique habitat for a variety of fragile deep-sea species and communities and it is also highly rich in mineral deposits formed over extremely long timescales. The Southeast Atlantic deep-ocean basin is mainly characterised by deep seafloor and contains areas of geological importance with marine mineral resources. However, knowledge about the exact location of deposits remains limited due to the vast extent of deep-ocean basins and the limited number of surveys conducted. Knowledge gaps also remain regarding the complex ecological and biogeochemical processes and interactions between geological features and biological systems in the deep ocean.

The Atlantic comprises diverse oceanographic systems, including the North Atlantic Gyre, the Eastern Tropical Atlantic, the South Atlantic Subtropical Gyre, and the Sub Antarctic Atlantic system. The influence of West African coastal waters and coastal dynamics on ABNJ is especially relevant because coastal organic matter and nutrients enhance food webs in ABNJ. The Southeast Atlantic is rich in marine megafauna and is thus an area of specific concern in terms of conservation. Of the 37 species of marine

mammals found in the Southeast Atlantic, four are considered Endangered, three Vulnerable, 13 Least Concern, and 17 as Data Deficient, according to the categorisations of the International Union for the Conservation of Nature (IUCN). Similarly, one turtle species – the Hawksbill – is considered Critically Endangered, one – the Green – is considered Endangered, and the three others – the Loggerhead, the Olive Ridley, and the Leatherback – are considered Vulnerable (Polidoro et al., 2017).

The IUCN Red List Index for seabirds demonstrates that they have the worst status of all birds. Most seabirds exhibit highly migratory lifestyles and spend significant time in ABNJ (Beal et al., 2020). Due to the distances they travel, seabirds are more prone to be exposed to various threats, including from climate change and fishing fleets – particularly since they are frequently competing with fishers for prey. Much is unknown about indirect pressures on seabirds, such as reduced fish stocks from fisheries or how climate change might disrupt migration patterns or food availability, particularly for tropical species and non-breeding life stages (Orgeret and Pistorius, 2022).

### 2.1.2 Major pressures and threats on biodiversity<sup>6</sup>

According to the 2019 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (IPCC, 2019), the global ocean has continually warmed since 1970 and absorbed more than 90% of the excess heat in the climate system, with the rate of ocean warming doubling since 1993. Climate scenarios for the Southeast Atlantic indicate with relatively high levels of certainty that significant ocean warming will take place in the region. It is predicted that most of the fish and invertebrates in the Southeast Atlantic will shift northwards 52.1 kilometres on average per decade between 2005 and 2050 with knock-on implications for fisheries (Cheung et al., 2010). Food webs are expected to change (Le Borgne et al., 2011), but it is not clear what the nature and impacts of these changes would be on fisheries and biodiversity.

While climate change is likely to be the biggest threat to biodiversity, fishing is the most significant human activity taking place in ABNJ in terms of pressure on marine biodiversity and most fish stocks in ABNJ are maximally or overly exploited. (Seas Around Us, 2019). In the Southeast Atlantic, fishing is predominantly done by purse seines and longlines, causing limited disturbance or destruction of the seabed. In the Southeast Atlantic, four areas of biological interest are especially important for fish: the Convergence Zone of the Canary Islands-Guinea currents, the Equatorial Tuna Production Area, the Walvis Ridge, and the Subtropical Convergence Zone.

Physical disturbance and destruction of the seabed are caused by deep-sea fishing (bottom trawling), the laying of underwater cables, and potentially deep-sea mining (currently in the exploration phase as no exploitation licenses have been issued). Underwater cables are minimally distributed throughout the Southeast Atlantic, compared to other ocean spaces. Several areas in ABNJ of the Southeast Atlantic contain marine mineral resources, creating potential for destructive deep-sea mining for short-term gains.

And because we know that species and ecosystems found in these deep-sea habitats grow slowly and over long time scales, (Donovano et al., 2017), if mining were to be allowed in these areas, the ecological impacts would likely be severe and long-lasting (Miller et al., 2018).

A range of activities introduce anthropogenic energy – including sound, light, heat, and radioactive energy – into the marine environment. There is increasing evidence of the negative impact of underwater noise on marine fauna (Merchant, 2019; Williams et al., 2015). Main activities generating underwater noise in ABNJ are related to maritime transport, including cargo shipping, fishing, or passenger vessels, and military exercises, as well as potential future oil and gas exploration and exploitation. In addition to noise, maritime transport introduces a risk of the transportation of species to new areas where they could become invasive. Colonisation of new species is unlikely to be detected at an early stage and difficult to manage once species are established. Transport and arrival of invasive species to ABNJs in the Southeast Atlantic can occur through transport via ships, either in the form of hull fouling or by transport of larvae or eggs in ballast water or by transport on floating debris, also called “rafting”. The risk of invasive species is also increased as a result of changing climate and increased marine debris.

Pollution is a major threat to marine biodiversity – about 80% of pollutants stem from land-based activities (e.g., marine debris, nutrient and chemical run off), while other sources include marine activities such as shipping (e.g., oil leaks or spills) and fishing (e.g., debris, such as lost nets) (Jambeck et al., 2018; Paul, 2021). There is evidence that there are areas of concentrated debris in the South Atlantic Gyre however, there is generally little information on pollution levels in the Southeast Atlantic.

While it is essential to review and assess pressures individually to clearly present evidence, pressures must also be considered cumulatively. Cumulative pressures on the marine environ-

<sup>6</sup> A complete overview of biodiversity components in ABNJ relevant for the Southeast Atlantic can be found in Boteler et al., 2019. ‘Ecological Baselines for the Southeast Atlantic and Southeast Pacific: Status of Marine Biodiversity and Anthropogenic Pressures in Areas Beyond National Jurisdiction’, STRONG High Seas Project, 2019. Available at: <https://www.prog-ocean.org/our-work/strong-high-seas/strong-high-seas-resources/>



ment from human activities affect ecosystems in complex ways, and combinations of pressures can lead to negative environmental effects that exceed their individual effects. There are significant uncertainties associated with the evolution of ecosystems over time and space, especially because of incomplete knowledge about biological connectivity, natural system feedbacks, and climate change (Dewitte et al. 2021). This justifies a precautionary approach to developing activities in the Southeast Atlantic ABNJ until their environmental impacts are better understood and conservation and capacity building efforts to reduce inequalities in technological and scientific capacities in the Southeast Atlantic region are increased.

### **2.1.3 Socio-economic importance of biodiversity beyond national jurisdiction<sup>7</sup>**

The primary activities undertaken in the ABNJ of the Southeast Atlantic region include fishing, maritime transport, maritime security, and the laying of submarine cables. Emerging activities in ABNJ include deep-sea mining, particularly along the Mid-Atlantic ridge. Declining fish stocks in territorial waters, including Exclusive Economic Zone (EEZ), means many fisheries are moving their activities further offshore. Yet, most countries in the Southeast Atlantic do not have the required capacity and means (vessels, fuel, and equipment) to operate in ABNJ. Only 5 of 22 countries in the region are fishing actively in ABNJ. Fish resources from the adjacent ABNJ are mainly caught by European (France, Spain) and Asian (Japan, Taiwan) vessels, which rely heavily on subsidies in sustaining an otherwise non-profitable economic activity. Illegal, Unreported and Unregulated (IUU) fishing is a critical issue that affects fisheries in the region and one of the greatest threats to marine ecosystems. IUU fishing causes disproportionate socio-economic impacts on small-scale fishers and the coastal communities whose livelihoods depend on them, as well as on the wider economy.

The current lack of supporting evidence on the nature and scale of the commercial interest in Marine Genetic Resources (MGR) means that the commercial potential of MGRs from ABNJ is largely still speculative. Deep-sea mining, exploration operations are not currently likely in the region and would require significant investments in equipment and capacities and are unlikely to be undertaken by companies based within the region.

The implications of the connectivity between activities in ABNJ and the adjacent EEZs are not only oceanographic and ecological, but also socio-economical with evidence that coastal livelihoods can be severely impacted by ABNJ activities. For this reason, discussions on the management of ABNJ are complementary to the mandate and actions under the Abidjan Convention. The loss of biodiversity reduces the ecosystem's ability to provide goods and services, which in turn leads to the loss of economic benefits and affects human well-being. This increases the interest of some countries in the region to conserve biodiversity.

## **2.2 Components for developing measures to support conservation efforts**

This section provides an overview of types of measures to support conservation efforts as well as resources to underpin such efforts. Combined with section 2.1 this provides a basis for offering recommendations on developing measures in Chapter 3.

Recommendations need to be considered in terms of existing legal instruments – the United Nations Convention on the Law of the Sea<sup>8</sup> (UNCLOS) lays down principles, rules and regulations and norms for governing the uses of the ocean. This framework forms “the international basis upon which to pursue the protection and sustainable development of marine and coast-

<sup>7</sup> A complete overview of the socioeconomic importance of ABNJ in the Southeast Atlantic can be found in Spiteri et al., 2021. 'Study on the Socio-Economic Importance of Areas Beyond National Jurisdiction in the Southeast Atlantic Region'. STRONG High Seas, 2021. Available at: <https://www.prog-ocean.org/our-work/strong-high-seas/strong-high-seas-resources/>

<sup>8</sup> *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, ATS 31 (entered into force 16 November 1994) ('UNCLOS'). A historical overview of the development of UNCLOS and related regimes and principles can be found, for instance here: <https://worldoceanreview.com/en/wor-1/law-of-the-sea/a-constitution-for-the-seas/> (accessed: December 2018).

al environment and its resources”<sup>9</sup>. It has been widely ratified (168 Parties) and some of the provisions in UNCLOS reflect customary international law and are therefore applicable to both Parties and non-Parties of UNCLOS (UNGA 1992). There are also sectoral and cross-sectoral measures to support conservation efforts in ABNJ.

### 2.2.1. Sectoral measures to support conservation efforts in ABNJ

#### 2.2.1.1 Maritime transport

Maritime transport is regulated by several instruments under the International Maritime Organisation (IMO), the key ones regarding the protection of the marine environment include (see Table 1):

- The International Convention on the Prevention of Pollution from Ships (MARPOL)
- The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) and its Protocol

- International Convention for the Control and Management of Ships’ Ballast Water and Sediments (Ballast Water Management Convention or BWM Convention)<sup>10</sup>.

The United Nations Convention on Biological Diversity (CBD) also addresses the impacts to biodiversity resulting from shipping in the marine environment – it encourages Parties and other relevant stakeholders to take appropriate measures within their competencies to avoid, minimize and mitigate the potential significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity including from maritime transport (COP 12 Decision XII/23).

Colonisation by non-native or alien invasive marine species can represent an important threat to ecosystems in ABNJ, and they are unlikely to be detected in an early stage. Arrival of non-native species in ABNJ of the Southeast Atlantic could occur by ship-based transport, either as hull fouling or through the transport of larvae or eggs in the ballast water (MacIsaac et al., 2016) or

**Table 1: Overview of measures to support conservation efforts related to maritime transport**

Name	Application in the region	Objectives	Comments
<b>IMO’s Particularly Sensitive Sea Areas (PSSAs)</b>	None in the ABNJ of the Southeast Atlantic	A PSSA is an area that needs special protection because of its significance for recognised ecological or socio-economic or scientific reasons and which could be vulnerable to damage by international shipping activities. At the time of designation of a PSSA, an associated protective measure, which meets the requirements of the appropriate legal instrument establishing such measure, must have been approved or adopted by the IMO to prevent, reduce, or eliminate the threat or identified vulnerability. To date, the IMO has designated 14 PSSAs.	They are designated by the IMO following the submission of an application by a Member Government – or group of Member Governments – and an assessment process based on the Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas.  Its designation does not introduce legally binding requirements – protective measures such as special reporting, routing, or discharge measures, would need to be introduced and approved separately.

<sup>9</sup> See especially: United Nations Food and Agriculture Organisation, *Code of Conduct for Responsible Fisheries* (1995); United Nations Food and Agriculture Organisation, ‘International Plan of Action for the Management of Fishing Capacity’ (1999); United Nations Food and Agriculture Organisation, ‘International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries’ (1999); United Nations Food and Agriculture Organisation, ‘International Plan of Action for the Conservation and Management of Sharks’ (1999); United Nations Food and Agriculture Organisation, ‘International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing’ (2001).

<sup>10</sup> *International Convention for the Control and Management of Ships’ Ballast Water and Sediments*, opened for signature 13 February 2004 (entered into force 8 September 2017). See also: *International Convention for the Safety of Life at Sea*, opened for signature 1 November 1974, 1184 UNTS 2 (entered into force 25 May 1980); *International Convention on Oil Pollution Preparedness, Response and Co-operation*, opened for signature 30 November 1990, ATS 12 (entered into force 13 May 1995).

Name	Application in the region	Objectives	Comments
<b>IMO's MARPOL Special Areas</b>	There are no Special Areas declared in ABNJ of the Southeast Atlantic.	Defines certain sea areas as “special areas” in which, for technical reasons relating to their oceanographic and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required. Under the Convention, these special areas are provided with a higher level of protection than other areas of the sea. Six different types of ‘special areas’ exist, relating to different types of pollution including sewage and emissions.	Among the flag State’s duties is the requirement to ensure that the master, officers, and crews of its flag vessels are fully conversant with and observe the applicable international regulations concerning the prevention, reduction, and control of marine pollution [UN, 1982/1994, Article 94 (4)(c)].

by transport on floating debris, also called “rafting” (Rech et al., 2021). IMO is working to address this through the BWM Convention and hull fouling guidelines<sup>11</sup>.

### 2.2.1.2 Deep-Sea Mining

The International Seabed Authority (ISA) regulates activities associated with deep sea-mining in the Area – as established under Part XI of UNCLOS and the 1994 Agreement relating to the implementation of Part XI of UNCLOS<sup>12</sup>. The ISA is also in the process of developing Regional Environmental Management Plans (REMPs) for areas within ABNJ. REMP, led by the ISA, aim to balance resource development and the protection of ecosystems at a regional scale. They are instruments that spell out goals, guidelines, and specific management measures particular to a specific region where exploration or mining could occur. REMP can be considered as spatial planning, whereby the main protection measure offered is the designation of Areas of Particular Environmental Interest (APEIs) located within the region but outside current areas of mining interests. Efforts are ongoing to estab-

lish a REMP for the Mid-Atlantic Ridge, second to the REMP for the Clarion-Clipperton Fracture Zone (CCZ)<sup>13</sup>.

In 2000 the ISA adopted “Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area”<sup>14</sup>. Similar regulations covering prospecting and exploration for polymetallic sulphides and cobalt-rich ferromanganese crusts were then approved. Regulations for exploitation activities are still under development (ISA, 2018). The regulations provide a basis for monitoring and protecting the marine environment in the Area by imposing obligations on the entities involved in prospecting or (future) exploitation. Obligations include assessment, reporting and monitoring of their activities and the development of oceanographic and environmental baseline studies (Regulations 31 and 32).

The practical mechanisms required to give effect to these regulations in the exploitation phase are still being developed. However, the process includes the development of Regional Environmental Management Plans, which identify APEIs.

<sup>11</sup> <https://www.glofouling.imo.org/>

<sup>12</sup> UNCLOS, art. 137; United Nations General Assembly, *Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982*, GA Res 48/263, 48th sess, Agenda Item 36, A/RES/48/263 (17 August 1994). See: [http://www.un.org/depts/los/convention\\_agreements/texts/unclos/closindxAgree.htm](http://www.un.org/depts/los/convention_agreements/texts/unclos/closindxAgree.htm).

<sup>13</sup> ISBA/18/C/22 [https://isa.org.jm/files/documents/isa-18c-22\\_0.pdf](https://isa.org.jm/files/documents/isa-18c-22_0.pdf)

<sup>14</sup> <https://www.isa.org.jm/files/documents/EN/Regs/PN-en.pdf>

**Table 2: Overview of measures to support conservation efforts related to deep-sea mining**

Name	Application in the region	Objectives	Comments
<b>Regional environmental management plans (REMPs)</b>  <a href="https://www.iosa.org/jm/minerals/environmental-management-plan-clarion-clipperton-zone">https://www.iosa.org/jm/minerals/environmental-management-plan-clarion-clipperton-zone</a>	There are no REMPs in ABNJ of the Southeast Atlantic.	<p>REMPs are developed to provide the ISA with 'proactive area-based and other management tools to support informed decision-making that balances re-source development with conservation', a 'clear and consistent mechanism to identify [and protect] particular APEIs' and help to 'meet globally agreed goals and targets' (ISA Website).</p> <p>They are used as a tool to address the cumulative impacts of deep seabed mining in regions where mining exploration contracts have been issued (Lodge et al., 2014).</p>	To date, the only REMP has been established in the Clarion-Clipperton Zone in the Northern Pacific Ocean. The ISA is further working on the development of REMPs on the Northern Mid-Atlantic Ridge and in the Western Pacific. Furthermore, it is considering the development of REMPs in other existing and future deep seabed mining contract areas in the Indian Ocean and the South Atlantic (Christiansen et al., in review).
<b>Areas of Particular Environmental Interest (APEIs)</b>	There are no APEIs in ABNJ of the Southeast Atlantic.	<p>APEIs are described as: "Areas thought to be representative of the full range of habitats, biodiversity and ecosystem structure and function within a defined management area that are closed to potential mining activities in order to protect and preserve the marine environment" (ISA, 2011).</p> <p>Protection of the deep seabed – juxtaposed with the high seas regime applicable to the water column in ABNJ, is Part XI of UNCLOS which designates the non-living resources of the deep seabed beyond national jurisdiction as the common heritage of mankind and subjects them to a supranational management regime administered by the International Seabed Authority (ISA).</p>	APEIs are a legally binding management mechanism in this sector. To date, the only APEIs which have been designated are in the Clarion Clipperton Fracture Zone in the Central Pacific Ocean, adopted in 2012 – nine areas of environmental interest were identified. Their identification was based on various principles including: Common heritage of mankind; precautionary approach; protection and preservation of the marine environment; prior environmental impact assessment; conservation and sustainable use of biodiversity; and transparency (ISA, 2012). APEIs are supposed to be reviewed every 2–5 years (ISBA/17/LTC/7 Part VII section C).

### 2.2.1.3 Fishing

Fishing is the most common activity in Areas Beyond National Jurisdiction and, as such, the sustainable management of fishing activities is crucial to the functioning of the ecosystems that support biodiversity beyond national jurisdiction. The United Nations Food and Agricultural Organisation (FAO) has adopted various binding and voluntary instruments, including agreements, codes of conducts and plans of action that encourage sustainable management and discourage IUU fishing, including:

➤ The 1993 FAO Compliance Agreement<sup>15</sup> to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas.

➤ The 1995 United Nations Fish Stocks Agreement<sup>16</sup> (UNFSA) allows for States to cooperate through Regional Fisheries Management Organisation and Arrangements (RFMOs/RFMAs) which develop and implement fisheries management measures.

➤ FAO's Code of Conduct for Responsible Fisheries (1995).

➤ The 1999 International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity).

➤ The 1999 International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA-Seabirds).

<sup>15</sup> Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, opened for signature 29 November 1993, ATS 26 (entered into force 24 April 2003).

<sup>16</sup> RFMOs have a management mandate and a Secretariat operating under a governing body of member States, whereas Arrangements have no management authority and no formal institutional structure. See: <http://www.fao.org/fishery/topic/16800/en> (accessed: December 2018).

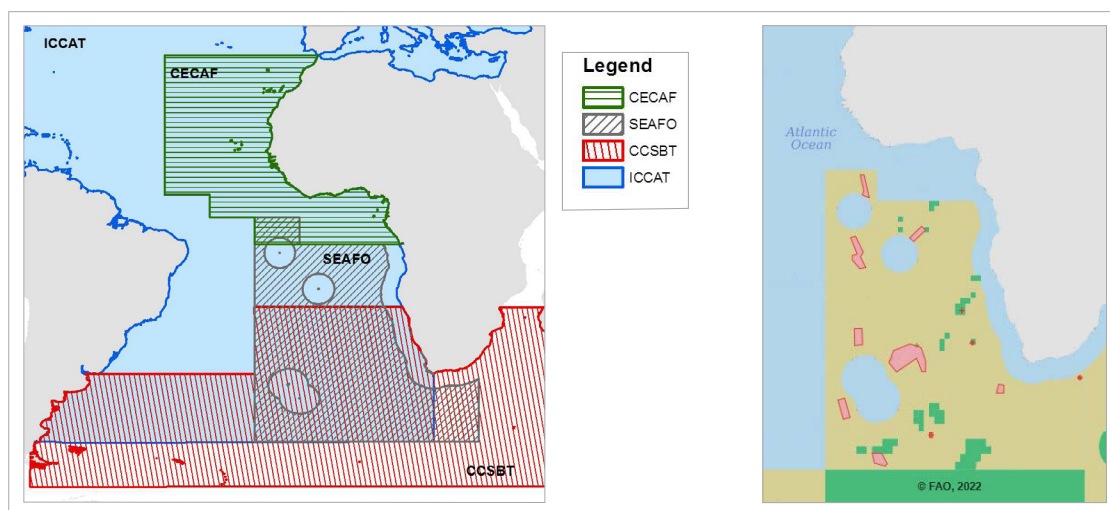


- The 1999 International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).
- The 2001 International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU).
- The 2009 Food and Agricultural Organisations Port States Measures Agreement<sup>17</sup> targets Illegal, Unregulated and Unreported fishing, as well as various binding and voluntary agreements, codes of conducts and plans of action.
- FAO's 2009 International Guidelines for the Management of Deep-sea Fisheries in the High Seas.

Regional Fisheries Management Conventions apply to specified regions or fisheries and generally empower their operative bodies – Regional Fisheries Management Organisations (RFMOs) – to focus on management and conservation of fishery resources. An RFMO is an intergovernmental body made up of countries that share a practical and/or financial interest in managing and conserving fish stocks in a particular region.

These include coastal states, whose waters are home to at least part of an identified fish stock, and “distant water fishing nations” (DWFN), whose fleets travel to areas where a fish stock is found. Despite the abundance of RFMOs, management of high seas fisheries is far from complete with regards to spatial coverage and coverage of fish stocks.

Conventions provide explicitly for their RFMOs to designate or recommend designation of special areas for protection and scientific study, or to declare closed areas to conserve fish stocks, thus setting a precedent for agreements to prohibit certain activities within a discrete area. RFMOs have updated their legal mandate and scope to include ecosystem-based management and biodiversity protection, as called for by the UN Fish Stocks Agreement. RFMOs of relevance for the Southeast Atlantic include the Commission for the Conservation of Southern Bluefin Tuna (CCSBT – Table 3), the International Commission for the Conservation of Atlantic Tunas (ICCAT – Table 4), the South-East Atlantic Fisheries Organisation (SEAFO – Table 5), and the advisory body – Fishery Committee for the Eastern Central Atlantic (CECAF), see Figure 3.



**Figure 3: RFMOs with relevance to the Southeast Atlantic Region ABNJ including CECAF (Green stripe), SEAFO (Grey stripe), CCSBT (Red stripe) and ICCAT (blue) on the left and on the right, SEAFO identified VMEs in red and bottom fishing grounds in green. (Source: <http://www.fao.org/in-action/vulnerable-marine-ecosystems/vme-database/en/vme.html>)**

<sup>17</sup> Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, opened for signature 22 November 2009 (entered into force 5 June 2016).

### **Commission for the Conservation of Southern Bluefin Tuna (CCSBT)**

The Commission for the Conservation of Southern Bluefin Tuna (CCSBT) is responsible to manage and conserve (including optimum utilisation) of southern bluefin tuna (SBT) throughout its distribution which includes ABNJ in the region. Southern bluefin tuna is a high value species, primarily sold on the Japanese Sashimi market. South Africa is the only country in the Southeast Atlantic region that is a member of the CCSBT. The fish are mostly caught using longlines, except in Australia where purse seines

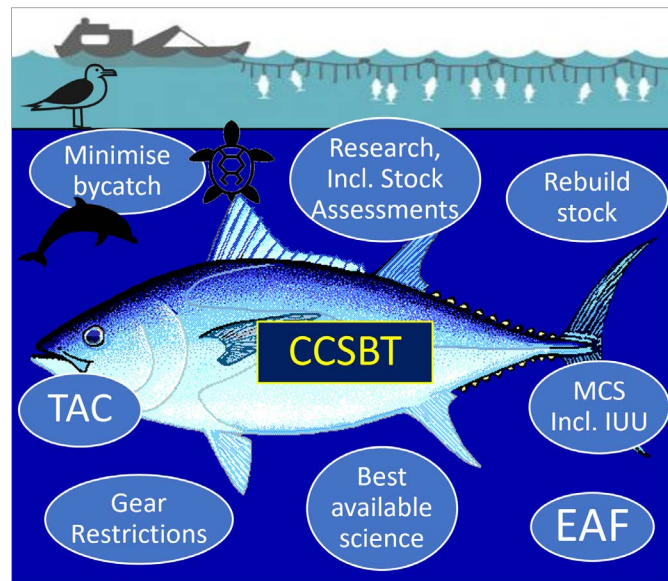
are used, and fish are frequently transferred to mariculture facilities.

The commission's responsibilities are outlined in the table below. The last independent performance review was carried out in 2014, covering the period from 2009–2013, by Garcia and Koeher but it is anticipated that the next review will be available soon, in the meantime, information about the successfulness of the management measures are inferred from the reporting of the members of the CCSBT at the 27<sup>th</sup> Annual Meeting of the Commission in October 2020.

**Table 3: Measures established by Regional Fisheries Management Organisation – CCSBT**

Measures	Examples of Resolutions and their Objective	Comments
<b>Research, including stock assessments and use of best available science</b>	<u>Resolutions on research activities</u> : developing scientific research program to improve stock assessments, set TACs and identify important avenues for future research.	Processes of stock assessment and data collection still require continuous improvement. New processes and instruments might need to be considered to plan for climate change impacts. The Report of the 2020 Annual meeting of the CCSBT highlighted the need for improved communication about the scientific research being conducted ( <u>CCSBT 2020</u> ) – improved communication of the science underpinning management plans is likely to improve buy-in from stakeholders. Understanding fishing impacts on ecosystem and perturbations from climate change are going to require investment in long-term and multi-disciplinary research.
<b>MCS – including of IUU and Port and Flag State Monitoring</b>	Various resolutions to monitor fishing activities, vessel monitoring and compliance with conservation and management measures including for example Resolutions on: <ul style="list-style-type: none"> <li>➤ <u>Minimum Standards for Inspections in Port</u>;</li> <li>➤ <u>Record of Vessels Authorised to Fish for Southern Bluefin Tuna</u>;</li> <li>➤ <u>Vessel Monitoring System (VMS)</u>;</li> <li>➤ <u>Implementation of a CCSBT Catch Documentation Scheme</u>;</li> <li>➤ <u>Establishing a Program for Transshipment by Large-Scale Fishing Vessels</u>;</li> </ul>	There still is a need to improve monitoring, compliance, and performance assessment. The effectiveness of the various resolutions to prevent IUU fishing and improve monitoring, control and surveillance is discussed in detail in the STRONG High Seas Report on this topic.

Measures	Examples of Resolutions and their Objective	Comments
<b>MCS – including IUU and Port and Flag State Monitoring</b>	<ul style="list-style-type: none"> <li>➤ <u>Establishing a List of Vessels Presumed to have Carried Out Illegal, Unreported and Unregulated Fishing Activities For Southern Bluefin Tuna;</u></li> <li>➤ <u>Actions Plans to ensure Compliance with Conservation and Management Measures;</u> and</li> <li>➤ <u>Establishment of a Record of Authorised Farms.</u></li> </ul>	
<b>Set Total Allowable Catch (TAC) with goal of rebuilding stock</b>	<p>Resolutions on:</p> <ul style="list-style-type: none"> <li>➤ <u>Total Allowable Catch and Future Management of Southern Bluefin Tuna;</u></li> <li>➤ <u>Allocation of the Global Total Allowable Catch;</u> and</li> <li>➤ <u>Limited Carry-forward of Unfished Annual Total Available Catch of Southern Bluefin Tuna.</u></li> </ul>	<p>Southern bluefin tuna are depleted and although there are some signs of recovery from 5.5% of original biomass in 2011 to 13% in 2017 the Total Allowable Catch was set with the goal of rebuilding the stock to 20% of initial biomass by 2035. The stock rebuilding and continued stock assessment is crucial. Compliance with the TAC also needs to be improved – some countries reported over-catch in 2019/2020 and this could hamper the rebuilding of the stock (CCSBT, 2020).</p>
<b>Ecosystem Approach to Fisheries including minimising bycatch</b>	<ul style="list-style-type: none"> <li>➤ <u>Recommendation to Mitigate the Impact on Ecologically Related Species of Fishing Southern Bluefin Tuna;</u></li> </ul> <p>Resolutions on:</p> <ul style="list-style-type: none"> <li>➤ <u>Reporting all Sources of Mortality of Southern Bluefin Tuna;</u></li> <li>➤ <u>Aligning CCSBT's Ecologically Related Species measures with those of other tuna RFMOs;</u> and</li> <li>➤ <u>On large-scale driftnet fishing.</u></li> </ul>	<p>There is also a need to improve the application of the Ecosystem Approach and a transparent system of penalties for non-compliance. The 2020 annual meeting reported that there is a need for improvement regarding the level of seabird and shark bycatch in the fishery, this is despite certain mitigation measures being implemented (CCSBT, 2020) – this suggests the need for improved mitigation and compliance of all parties to decrease bycatch of seabirds, sharks, and other species. It is also resolved that there should be cooperation and consistency with other tuna RFMOs regarding conservation and management measures, including those to mitigate bycatch (of seabirds, cetaceans, turtles, thresher sharks, whale sharks and other sharks caught in association with tuna fisheries. The use of large-scale driftnets has been prohibited in the High Seas.</p>



**Figure 4: A non-exhaustive summary of conservation and sustainable management measures associated with the RFMO, CCSBT. The CCSBT focuses on sustainable management of Southern Bluefin Tuna (pictured). (Author: Dr. Shannon Hampton, IOI-SA)**

### ***The Fishery Committee for the Eastern Central Atlantic (CECAF)***

The Fishery Committee for the Eastern Central Atlantic (CECAF) is responsible to promote the sustainable utilisation of the **living marine resources in the Eastern Central Atlantic** by the proper management and development of the fisheries and fishing operations. This includes ABNJ in the region, but the emphasis is on small pelagic fish, artisanal fishing, and demersal fishing in EEZs. The Committee is an advisory body, and their responsibilities include:

- Promote, encourage and coordinate research including the collection, interchange, dissemination and analysis or study of statistical, biological, environmental and socio-economic data and other marine fishery information;
- Establish the scientific basis for regulatory measures leading to the conservation and management of marine fishery resources;
- Make appropriate recommendations and provide advice for the adoption of regulatory measures;

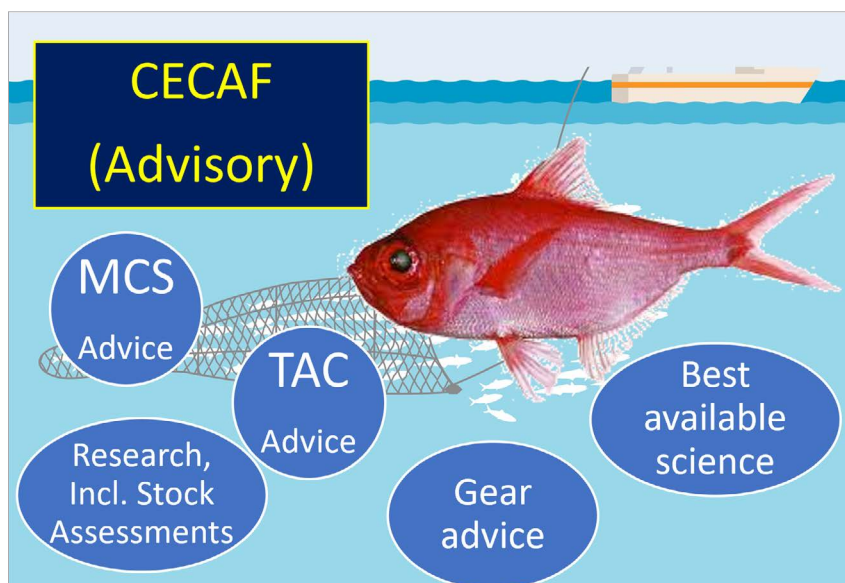
➤ Monitoring, control and surveillance;

➤ Promote and encourage the utilisation of the most appropriate fishing craft, gear and techniques; and

➤ Promote communication among and with competent institutions within the sea area and related collaboration.

As noted in the Report of the 22<sup>nd</sup> Session of CECAF (FAO, 2020), the Secretariat has limited financial and human capacity to support its members timeously and effectively. A more sustainable and inclusive funding approach needs to be developed for CECAF. The strength of CECAF is based on its ability to function effectively as a network (McCarthy and Chimatiro, 2019). Capacity development programs that focus on fisheries statistics and data collection and their applications will support West African member states in developing appropriate fisheries management systems (McCarthy and Chimatiro, 2019).





**Figure 5: A non-exhaustive summary of Conservation and Sustainable use measures associated with CECAF – a fisheries advisory body. CECAF focuses on research for the sustainable management of all species in its area, including the most common high seas commercial species, alfoncino (pictured) and associated bycatch. (Author: Dr. Shannon Hampton, IOI-SA)**

*The International Commission for the Conservation of Atlantic Tunas (ICCAT)*

The International Commission for the Conservation of Atlantic Tunas (ICCAT) is responsible

to manage and conserve **tunas and tuna-like species in the whole of the Atlantic Ocean** including ABNJ in the region.

**Table 4: Measures established by Regional Fisheries Management Organisation – ICCAT**

Measures	Recommendations	Comments
<b>Management Recommendations for Tropical Tunas including: Bigeye Tuna, Yellowfin Tuna, Skipjack Tuna</b>	<p><b>Recommendations by ICCAT:</b></p> <p>Concerning the Implementation of an Atlantic Ocean Tropical Tuna Tagging Programme</p> <ul style="list-style-type: none"> <li>➤ To replace Recommendation 16-01 by ICCAT on a Multi-Annual Conservation and Management Program for Tropical-Tuna;</li> <li>➤ To establish an Ad Hoc Working Group on Fish Aggregating Devices (FADs); and</li> <li>➤ On the prohibition of discards of Tropical Tunas caught by Purse Seiners.</li> </ul>	<p>Given the continued uncertainties around the stock assessments and declines in certain species, continued research will support improved decision making, particularly considering changes that could occur because of climate change. It is important to recognise that the management and population of one species can impact others, thus understanding the stock status, impact of TAC changes, and gear use is essential. This would be aided by increased observer coverage on vessels, cooperative research programs and transparent data sharing. Where the TAC is exceeded, it is important to adapt management accordingly including adjusting TAC and decreasing juvenile bycatch. This should be regularly revisited as a part of the management plan. MCS and data</p>

Measures	Recommendations	Comments
<b>Management Recommendations for Tropical Tunas including: Bigeye Tuna, Yellow-fin Tuna, Skipjack Tuna</b>		availability could be improved through increased observer coverage on vessels and at ports. The responsible monitoring and use of biodegradable and non-entangling FADs would be an improvement however, the use of FADs results in changes of fish schooling behaviour and bycatch of juveniles and as such should be limited.
<b>Management Recommendations for Swordfish</b>	Recommendation by ICCAT amending the Recommendation for the Conservation of South Atlantic Swordfish Rec 16-04.	A continuation of the precautionary approach and conservative TACs for the South Atlantic swordfish, in the absence of reliable stock assessments and overfishing, is important. Observer coverage and cooperative research programs should be improved, and fishing of juveniles avoided. The possible impacts of climate change on the fishery will be difficult to mitigate for if the fishery is not well understood. Recommendations from the Mediterranean swordfish, including ban on gillnets, could be considered for this population.
<b>Management recommendations for Albacore</b>	Recommendation by ICCAT on the Southern Albacore Catch Limits for the Period 2017 – 2020.	A continuation of the precautionary approach and conservative TACs and a limit on Total Effort – as controlled by total number of vessels. Where the albacore population needs to recover, there are recommendations to maintain fishing effort below Maximum Sustainable Yield (MSY) to rebuild stock. It is acknowledged that there has been a delay in updating management recommendations because of the COVID pandemic.
<b>Management Recommendations for Bluefin Tuna</b>	<p><b>Recommendations by ICCAT:</b></p> <ul style="list-style-type: none"> <li>➤ On Bluefin Tuna Farming;</li> <li>➤ An interim Conservation and Management Plan for Western Atlantic Bluefin Tuna; and</li> <li>➤ Concerning the Atlantic-Wide Research Programme for Bluefin Tuna.</li> </ul> <p><b>Resolutions by ICCAT:</b></p> <ul style="list-style-type: none"> <li>➤ On Fishing Bluefin Tuna in the Atlantic Ocean;</li> <li>➤ On Concerning Atlantic Bluefin Tuna Scientific Research on Stock Origin and Mixing; and</li> <li>➤ On development of Initial Management Objectives for Eastern and Western Bluefin Tuna.</li> </ul>	<p>Careful monitoring of the number of fish and the vessels involved in Bluefin tuna farming is recommended.</p> <p>There has been a shift in fishing effort and while it appears there is mixing throughout the range, additional research of the population structure is welcomed. It would be important to consider the degree of mixing and nature of the population structure in developing the management plans for this mixed population – and if necessary, develop a stock-by-stock management strategy including rebuilding of overfished stocks.</p>

Measures	Recommendations	Comments
<b>Management recommendations and resolutions for Billfishes</b>	<b>Recommendation by ICCAT on:</b> <ul style="list-style-type: none"> <li>➤ Management Measures for the Conservation of Atlantic Sailfish;</li> <li>➤ Improvement of Compliance Review of Conservation and Management Measures regarding Billfish caught in the ICCAT Convention Area; and</li> <li>➤ To establish rebuilding programs for blue marlin and white marlin/ roundscale spearfish.</li> </ul>	Recommendations to rebuild overfished blue marlin and white marlin are promising however, given the slow recovery of the species and unpredictable implications of climate change, fishing should be conservative, and effort should be made to improve data records of all sectors of the fishery. The current measures are due to be reviewed in 2022.
<b>Management recommendations and resolutions for by-catch species</b>	<b>Resolution by ICCAT on:</b> <ul style="list-style-type: none"> <li>➤ Cooperation with the FAO regarding study on the status of stocks and bycatches of shark species;</li> <li>➤ The shark fishery Recommendations by ICCAT on:</li> <li>➤ Reducing Incidental By-Catch of Seabirds in Longline Fisheries; and</li> <li>➤ The By-Catch of Sea Turtles in ICCAT Fisheries.</li> </ul>	<p>While, globally, there are signs of recovery of certain tuna species because of management measures, the IUCN report at least a third of shark species are at risk of extinction – sharks are incidental bycatch in certain tuna fisheries. ICCAT has specific recommendations for various shark species including: Thresher sharks, Atlantic Shortfin Mako sharks, Oceanic Whitetip sharks, Hammerhead sharks, Silky sharks, Porbeagle, North Atlantic blue shark, South Atlantic blue shark. Improved reporting and data sharing are crucial.</p> <p>Where possible, bycatch should be released without harm and research should be conducted to improve gear selectivity and identify areas that should be avoided because of their importance to certain life stages of bycatch species.</p>

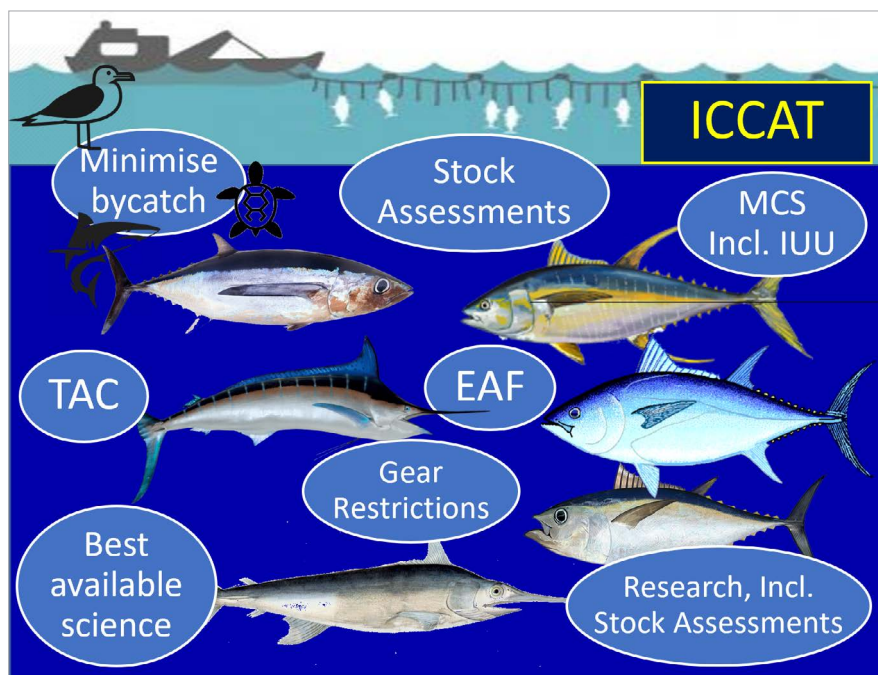
- Research – collect, compile, analyse and disseminate statistical information relating to the current conditions and trends of the tuna fishery resources of the Convention area, recommend studies and investigations, and publish and disseminate reports.
- Study and appraise information concerning measures and methods to maintain the populations of tuna and tuna-like fishes in the Convention area at levels which will permit the maximum sustainable catch, and which will ensure the effective exploitation of these fishes in a manner consistent with this catch.
- Compliance management.

After strong criticism of ICCAT, between 2006 and 2012, ICCAT and its members determined to consider science more strongly and embark on a significant reform, improving its efficiency. ICCAT has the potential to be effective in the Southeast Atlantic. The fundamentals of ICCAT are generally sound; however, based on previous performance reviews, one of the weakest points of ICCAT is the lack of compliance enforcement and failure to provide accurate fishery data by many Contracting Parties, Cooperating non-Contracting Parties, Entities and Fishing Entities (CPCs).

Rules and recommendations, which are often not binding on CPCs, are not uniformly imple-

mented (FAO, 2009). It is essential for the CPC to improve implementation of and adherence to the rules and recommendations of ICCAT and the adoption of robust MCS processes to ensure its efficiency (FAO, 2009). It is also important for ICCAT to continue and scale up its efforts to

adopt the ecosystem approach in a more formal and systematic manner (ICCAT, 2019) this is of particular importance for bigeye tuna which are currently over-exploited and could be a future concern for yellowfin tuna which are nearly fully exploited in the South Atlantic (ICCAT, 2019).



**Figure 6: A non-exhaustive summary of conservation and sustainable management measures associated with the RFMO – ICCAT. ICCAT focuses on sustainable management of yellowfin tuna, albacore tuna, bigeye tuna, swordfish, billfishes and bluefin tuna (pictured) and associated bycatch. (Author: Dr. Shannon Hampton, IOI-SA)**

### ***The Southeast Atlantic Fisheries Organisation (SEAFO)***

The Southeast Atlantic Fisheries Organisation (SEAFO) is responsible to ensure the long-term conservation and sustainable use of **all living marine resources in the Southeast Atlantic**

**Ocean**, and to safeguard the environment and marine ecosystems in which the resources occur. The Commission's responsibilities are outlined in the table below. It should be noted that the most recent available independent performance review was done in 2016 and there are likely to have been changes in the subsequent years.

**Table 5: Measures established by Regional Fisheries Management Organisation – SEAFO**

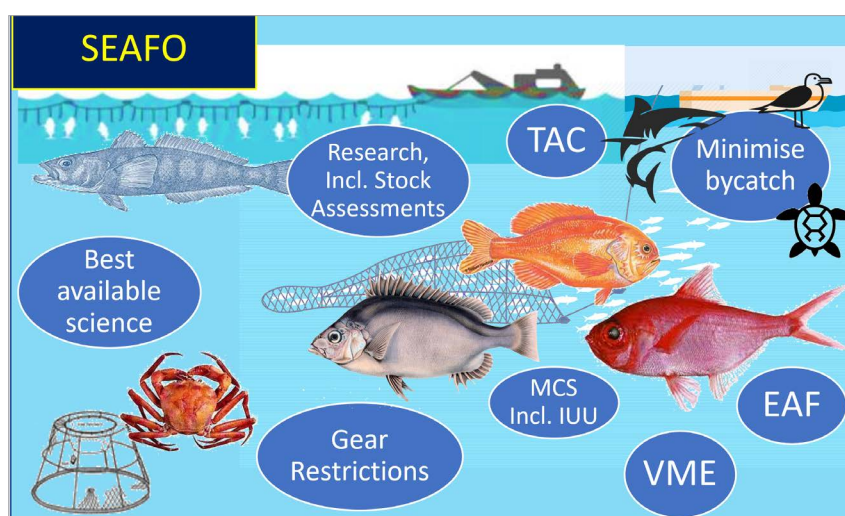
Measures	Examples of Resolutions and their Objective	Comments
<b>VME</b>	<p><u>Measure on Bottom Fishing Activities and VMEs (CM30-15).</u></p> <p>The FAO developed the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas in 2008 and developed an <u>FAO VME Portal and DataBase</u>. It is noted that other activities – such as mining, cable-laying etc. – can also impact on VMEs. Legal status as it relates to the regulation of specific activities, especially fishing.</p>	<p>VMEs are groups of species, communities, or habitats that could be vulnerable to impacts from fishing activities and typically include benthic communities associated with seamounts, hydrothermal vents, deep-sea trenches, and submarine canyons, as well as oceanic ridges – such as cold-water corals and sponge fields. The concept emanated because of global concern about the adverse effects of bottom fisheries. Once a VME is designated and significant adverse impacts assessed, the guidelines encourage specific conservation and management measures.</p> <p>SEAFO: 12 Vulnerable Marine Ecosystem (VME) areas closed to fishing to all or selected gear. This represents 505 000 km<sup>2</sup> or 3.2% of the SEAFO Convention Area. availability could be improved through increased observer coverage on vessels and at ports. The responsible monitoring and use of biodegradable and non-entangling FADs would be an improvement however, the use of FADs results in changes of fish schooling behaviour and bycatch of juveniles and as such should be limited.</p>
<b>Set TAC</b>	<p><u>Total Allowable Catch (TAC) (CM-TAC-01 (2020):</u> Adopt annual total allowable catch (TACs) for orange roughy (bycatch allowance only), Patagonian toothfish, southern boarfish, pelagic armourhead and deep-sea red crab.</p>	<p>Stock assessments are used to set TACs and are considered transparent. The fishing effort is generally considered low in the region (2016).</p>
<b>Ecosystem considerations and reduce bycatch</b>	<p><u>Reducing Incidental By-Catch of Seabirds (CM25/12)</u> in line with IPOA on seabirds, vessels are expected to use tori poles or bird scaring devices and lines should be set at night. Lines should be weighted.</p> <p><u>Reduce Sea Turtle Mortality in SEAFO Fishing Operations (CM14/09)</u> in line with the Code of Conduct for Responsible Fisheries, all interactions with turtles and gears should be recorded and turtle mortality avoiding wherever possible.</p> <p><u>Conservation of Sharks (CM04/06)</u> where possible, non-targeted sharks should be released live. Shark catches are to be recorded.</p> <p><u>Recommendation – Banning of Deep-water Shark Catches (Rec01/08).</u></p>	<p>Contracting Parties are, under Article 3, expected to minimise harmful impact on the marine environment as a whole and protect marine biodiversity. While the measures in place might be adequate under low fishing effort, should there be increased commercial interest in the area, efforts would need to be improved.</p> <p>SEAFO recommends adhering to all international best practice, including FAO's Code of Conduct for Responsible Fisheries, IPOA – Seabirds and IPOA – Sharks. This includes continuing to collect data and conduct research on ecosystem considerations and bycatch mitigation. More work needs to be done to ensure gear is more selective and bycatch is reduced.</p>
<b>Best available science and research</b>	<p>The principles of SEAFO incorporate the precautionary approach and use of best available science.</p>	<p>Although stock assessments have been prepared for target species, more work on ecosystem assessments was recommended in the previous review (2016). The 2016 review highlighted that the extent</p>



Measures	Examples of Resolutions and their Objective	Comments
<b>Best available science and Research</b>		of fisheries resources in the area was not well known, which highlights the need for ongoing research and coordinated efforts. Understanding fishing impacts on ecosystem and perturbations from climate change are going to require investment in long-term, multidisciplinary research.
<b>Gear Restrictions</b>	<u>Recommendation on Banning of Gillnets (Rec 1/2009).</u>	Measures in place to retrieve lost gear as quickly as possible and if that is not possible, to report all lost gear.
<b>MCS including IUU</b>	IUU Fishing list ( <a href="#">2016</a> , <a href="#">2017</a> , <a href="#">2018</a> , <a href="#">2019</a> , <a href="#">2020</a> ). Prohibition of transshipment at sea. Vessels to be fitted with VMS and vessel location device. Scientific observers on all vessels operating in the SEAFO region.	The System of Observation, Inspection, Compliance and Enforcement is considered as effective. The 100% scientific observer coverage is promising. Improvements are required in process following infringements – as indicated in the 2016 Review.

The area covered by SEAFO is characterised by deep water, with less than 2% of the area thought to be shallower than 2000m which results in limited commercial fisheries interest in the area. This influences fisheries effort which is predominately limited to Valdivia Bank, Discovery Seamounts and Meteor Seamounts. Most SEAFO fish resources are found in deep waters (greater than 500 m depth) and tend to be slow grower, long-lived, late-matured and therefore could be vulnerable to over-exploitation in the future. Their biological and ecological dynamics are not well known, and there are no good

historical time series. SEAFO conducts a stock status report and is considering developing an ecosystem status report to identify the criteria for ecosystem impacts concerning habitats and bycatch (SEAFO 2016). More regular and transparent reporting on the uptake of management measures and compliance within the fishing industry would build stakeholder trust in the effectiveness of SEAFO's measures – while fishing intensity remains on the low side, it is an opportunity to 'establish best practice reporting and reviewing mechanisms.



**Figure 7: A non-exhaustive summary of conservation and sustainable management measures associated with the RFMO, SEAFO. SEAFO focuses on sustainable management of Patagonian toothfish, deep-sea red crab, alfonsino, orange roughy and pelagic armourhead (pictured) and associated bycatch. (Author: Dr. Shannon Hampton, IOI-SA)**

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#### 2.2.1.4 Cross-sectoral measures to support conservation efforts

Several global agreements might be considered regarding establishing measures to underpin conservation efforts in ABNJ. The Convention on Migratory Species (CMS), an agreement that focuses primarily on protecting migratory species by protecting their habitats, is relevant through its subsidiary agreements for the protection of several marine species, including cetaceans and turtles. The International Whaling Commission (IWC) provides for the international regulation of whaling and the management of whale stocks and has two whale sanctuaries in force (in the Southern Ocean and Indian Ocean), and one being proposed in the South Atlantic Ocean. The Agreement on the Conservation of Albatrosses and Petrels (ACAP) strives to conserve albatrosses and petrels by coordinating international activities to mitigate threats to their populations.

A marine protected area is known as a geographically defined, legally recognised, managed space whose ecological values are conserved over the long term through sufficient size, protecting nature and associated ecosystem and cultural services. Both the IUCN and the CBD have developed the elements of this definition to a great extent, establishing management categories and governance types of protected areas (Dudley, 2008 and Borrini-Feberayend, 2013), with biodiversity conservation as a central element of these areas.

The IUCN categorised specific types of marine protected areas in order to provide greater scope with respect to what is and is not a marine protected area, since there are area-based measures that result in positive conservation outcomes, despite not necessarily having been created for that purpose, such as: locally managed marine areas; fisheries management areas or private protected areas. A new scheme for categorizing marine protected areas according to their degree of protection and stage of establishment was recently published (Gorud-Couvert et al., 2021).

A network of Marine Protected Areas is a collection of individual marine protected areas operat-

ing cooperatively and synergistically, at various scales, and with a range of protection levels, to fulfil ecological aims more effectively and comprehensively than individual sites could. (IUCN World Commission on Protected Areas, 2017). ABMTs and MPAs are not an antidote to all environmental threats, especially external and/or exogenous pressures such as climate change. MPAs also need appropriate management plans to be effective and that science- and evidence-based decisions are transparent, adequate, and precautionary (Johnson et al., 2018; Roberts et al., 2017).

Currently, 7,65 % of the world's ocean are marine protected areas, including 1,18 % of the high seas (WDPA, 2021). However, the challenges of managing these areas, as well as increasing their coverage to reach the 30 % goal advocated for by certain scientists and conservation groups (e.g. Leary et al., 2016), range from the limited capacity for monitoring and surveillance in remote and large areas (Wilhelm et al., 2014), to the difficulty in establishing responsibilities for the protection of the marine environment beyond national jurisdictions.

MPAs can play a key role in ABNJ. There are 12 high seas MPAs, which were designated under two regional management bodies: two in the Southern Ocean, under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), and ten in the North-East Atlantic, under the jurisdiction of the OSPAR Convention. MPAs seem to provide a more uniform approach to protecting both the water column and underlying bottom, which would improve the effectiveness of both monitoring and biodiversity conservation objectives (De Santo, 2018). However, they are only legally binding for the Parties to the agreement creating the MPAs and its network, which could impact their effectiveness. There are no MPAs in the ABNJ of the Southeast Atlantic.

It is important that a network of MPAs, when established, is also effectively implemented – not all MPAs are equally effective - Edgar et al. (2014) investigated 87 MPAs to show that conservation benefits increased where the MPA was a no-take zone, was well-enforced, older than 10 years and covered a space greater than 100km<sup>2</sup>.

Larger systems of marine protected areas can ensure that connectivity in the environment is guaranteed to achieve far-reaching impacts on the entire marine environment and biodiversity. Large marine protected areas and, above all, networks of marine protected areas, should facilitate the establishment of joint strategies for certain areas, which would undoubtedly not be able to generate the same impacts if managed in isolation. The main characteristic of our ocean is the interconnectivity of marine, coastal, and oceanic ecosystems and this should be reflected in its management. Similarly, environmental changes and regime shifts brought about by climate change could mean that mobile and adaptive MPAs are required in ABNJ (Ortuño-Crespo et al., 2020; Maxwell et al., 2020). In order to be effective, any management measures, including MPAs, would require cross-sector agreement and stakeholder buy-in.

The UNESCO World Heritage Marine Sites could be relevant for protecting sites in ABNJ of cultural importance. Freestone et al. (2016) have taken a quantitative step in identifying possible applications of the principles of the World Heritage Protection Convention to sites of special importance for nature and culture on the high seas, opening the possibility to generate successful management tools for biodiversity in ABNJ. For example, the protection of the Middle Passage on the Atlantic Seabed could memorialise the lives lost on this important slave trade route that has historic cultural relevance (Turner et al., 2020). To date, no sites have been declared within ABNJ, while the Banc d'Arguin National Park within the coastal waters of the EEZ of Mauritania has been designated<sup>18</sup>.

### 2.2.1.5 Coordinating measures to support conservation efforts



































In addition to the measures to support conservation efforts outlined above, there are important global efforts that are needed to deal with issues that are not necessarily originating in ABNJ, but have an impact on ABNJ, including climate change mitigation measures and management of land-based sources of pollution. All such measures should be looked in an integrative manner.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) has recently entered the field of high-seas biodiversity conservation – providing, through its mandate to control trade that impacts listed species status, a strong impetus for bringing together national governments to discuss the options for species management on the high seas (including Marine Protected Areas and other ecosystem protection).

Climate change must be tackled at its root and global emissions must be cut to reach the 1.5°C goal of the Paris Agreement (UNFCCC 2015). Numerous other considerations need to be considered for holistic ocean management, including the protection and restoration of terrestrial and marine ecosystems, precautionary and ecosystem-based management of renewable resource use, and the reduction of pollution and other stressors on the ocean. MPAs and MPA networks can potentially also aid in the challenge of addressing climate change by helping to restore ecosystem health as well supporting carbon uptake and storage (IPCCC, 2019).

Figure 8 below summarises the measures available, although not necessarily in use, to support conservation efforts in ABNJ of the Southeast Atlantic. It highlights the lack of measures to support conservation efforts in the shipping and mining sectors in the region and the lack of any cross-sectoral marine protected areas or protected cultural sites.

<sup>18</sup> See <https://whc.unesco.org/en/list/506>

Measures to Support Conservation Efforts				
Applicability	Sector	Key Actor	Measure and key features	Legal Status
	 Maritime Transport	 INTERNATIONAL MARITIME ORGANIZATION	PSSA → Triggers step to set IMO regulations	Legally binding to signatories of IMO
	 Maritime Transport	 INTERNATIONAL MARITIME ORGANIZATION	MARPOL Special → Pollution Management	Legally binding to signatories of IMO
	 Deep Seabed Mining	 INTERNATIONAL SEABED AUTHORITY	APEI → Area Based Management Tools	Legally binding to signatories of UNCLOS
	 Deep Seabed Mining	 INTERNATIONAL SEABED AUTHORITY	REMPs → Monitoring and protection obligations	Legally binding to signatories of UNCLOS
	 Fishing	 FAO	VME → No bottom fishing	Legally binding to signatories of RFMO
	 Fishing	ICCAT, CCSBT, SEAFO	RFMOs → Various Conservation and Management Measures	Legally binding to signatories of RFMOs
	 Fishing	 CITES	Appendix I,II, → Control trade of listed species	Legally binding to signatories of CITES
	 Cross-Sectoral	States	MPA/MPA Networks → Various levels of protection	Legally binding to States who have ratified it
	 Cross-Sectoral	 UNESCO	Marine World Heritage Sites → Protection of culturally important marine sites	Legally binding to States signatory to World Heritage Site Convention
	 Cross-Sectoral	 CMS	CMS Ap. I, II. Resolutions → Habitat and species protection	Legally binding to signatories of CMS
	 Cross-Sectoral	 IWC	IWC → Conservation and Management of whales	Legally binding to signatories of IWC
	 Cross-Sectoral	 ACAP	ACAP → Conservation of Albatross and Petrels	Legally binding to signatories of ACAP

**Figure 8: A non-exhaustive summary of relevant and potentially applicable measures that support conservation efforts, the sectors and key actors involved in each, their regulatory framework and whether they are in use in ABNJ in the Southeast Atlantic (where the measure is in place, it is represented by an icon of Africa) (Author: Dr. Shannon Hampton, IOI-SA)**

Figure 8 above highlights measures as implemented through various sectors and organisations, but measures to support conservation ef-

forts need to adequately incorporate the needs of ecosystems and be appropriate to the pressures they face. Each of these measures is either

too specific regarding the threats it is supposed to prevent or control, or too general to tackle key pressures identified at a more local level. It is therefore necessary to promote the integration of the aims and actions of the existing measures and ensure they address all relevant key pressures identified. There is no one-size-fits-all approach. The effectiveness of conservation measures will depend on a number of different key factors and, with regard to implementation in ABNJs, the following should be taken into account:

- Need to improve cooperation and complementarity between different legal instruments and institutions to facilitate a more integrated approach across the options available to support conservation efforts (Warner, 2014).
- Need to develop a shared long-term vision for priority areas to create a management approach that integrates different measures towards a common goal and objectives.


➤ Need to facilitate an integrated multi-tool approach across instruments and institutions to support their complementarity and effectiveness.

➤ Need for comprehensive research that generates information and data for ABNJ to support the effectiveness of conservation efforts while improving scientific knowledge to protect BBNJ and identifying changes over time (De Santo, 2018).

➤ Need for compliance and enforcement controls to support the effectiveness of legal instruments and institutions toward conservation goals (Warner, 2014).

Table 6 below summarises key pressures on habitats and animal groups (biodiversity components) and potential measures to support conservation efforts. These options for mitigation will be expanded on in Chapter 3.

**Table 6: Linking biodiversity components and key pressures in the Southeast Atlantic to potential measures to support conservation efforts**

Biodiversity components	Key pressures	Measures to support conservation efforts
 <p><b>Seabed habitats</b> (Benthic)</p> <p><b>Hydrothermal vents</b> are located along the Mid-Atlantic Ridge, which is divided into the Northern Mid-Atlantic Ridge (with 8 active-confirmed, 13 active-inferred and 15 inactive hydrothermal vents) and Southern Mid-Atlantic Ridge (with 4 active-confirmed and 4 active-inferred hydrothermal vents).</p> <p><b>Seamounts</b> are ubiquitous within the Southeast Atlantic, however a higher concentration of them has been predicted at the Mid-Atlantic Ridge, the Walvis Ridge, and the Guinea Rise. The FAO Areas</p>	<p>Physical disturbance and destruction of the seabed are a result of:</p> <ul style="list-style-type: none"> <li>➤ <b>Physical smothering</b></li> <li>➤ <b>Removal of habitat</b></li> <li>➤ <b>Disturbance</b></li> <li>➤ <b>Sediment resuspension</b></li> <li>➤ <b>Organic loading</b></li> <li>➤ <b>Toxic contamination or plume formation</b></li> </ul> <p>It results from human activities such as:</p> <ul style="list-style-type: none"> <li>➤ <b>Fishing – in particular bottom trawling and to a lesser extent, the setting of traps/pots</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Vulnerable Marine Ecosystems (VMEs)</b></li> <li>➤ <b>Fisheries measures</b> – including gear restrictions</li> <li>➤ <b>Restrictions on deep-sea mining</b> or Areas of Particular Environmental Interest (APEIs)</li> <li>➤ <b>Marine Protected Areas (MPAs)</b> (including networks)</li> <li>➤ <b>Climate change mitigation measures</b></li> <li>➤ <b>Waste management</b> from land-based sources and abandoned fishing gear</li> </ul>



Biodiversity components	Key pressures	Measures to support conservation efforts
<p>47 and 34 have 5.4 % and 20.1% of the world's seamounts, respectively – more than a quarter (25.4%) of the world's seamounts.</p> <p><b>Abyssal Plains</b> make up most of the benthic habitat, including the Cape Verde and Angola Plains.</p>	<p>➤ <b>Laying of submarine cables for communication purposes (negligible)</b></p> <p>➤ <b>Offshore prospecting and mining activities</b></p> <p><b>Climate change affects the physical-chemical environment</b> of benthic habitats and species distribution.</p> <p>The introduction of non-native species transported by ships or plastic rafting could be a threat to the unique biodiversity of the Southeast Atlantic seafloor.</p>	
 <p><b>Water column habitats</b> (pelagic)</p> <p>The Southeast Atlantic comprises diverse oceanographic systems. These include:</p> <ul style="list-style-type: none"> <li>➤ The North Atlantic Subtropical Gyre (NASG)</li> <li>➤ The Eastern Tropical Atlantic</li> <li>➤ The South Atlantic Subtropical Gyre (SASG)</li> <li>➤ The Sub Antarctic Atlantic system</li> </ul> <p>The water column variables in this region, as well as the position of convergent zones, translate into food web structures, fisheries productivity, and habitats for megafauna.</p>	<p>One of the main pressures to water column habitats is pollution, including:</p> <ul style="list-style-type: none"> <li>➤ <b>Hazardous chemicals (e.g., heavy metals, pesticides)</b></li> <li>➤ <b>Nutrients (e.g., ammonia, nitrates, nitrites, and phosphates)</b></li> <li>➤ <b>Suspended solids</b></li> <li>➤ <b>Microbiological contaminants (e.g., bacteria and viruses)</b></li> <li>➤ <b>Hydrocarbons</b></li> <li>➤ <b>Marine litter (primarily plastics and ghost gear).</b></li> <li>➤ <b>Invasive species</b></li> </ul> <p>The main sources of marine pollution stem from:</p> <ul style="list-style-type: none"> <li>➤ <b>Maritime transport</b></li> <li>➤ <b>Offshore prospecting and mining activities</b></li> <li>➤ <b>Land-based activities</b></li> <li>➤ <b>Dumping of waste at sea</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Preventing discharges and pollution from ships</b> (MARPOL)</li> <li>➤ <b>Particularly Sensitive Sea Areas</b> (PSSAs)</li> <li>➤ <b>Regulations on chemical use</b></li> <li>➤ <b>Waste management</b> from land-based sources and minimising ghost gear</li> <li>➤ <b>Marine Protected Areas</b> (MPAs) (including networks)</li> <li>➤ <b>Adaptive management approaches</b></li> <li>➤ <b>Climate change mitigation measures</b></li> <li>➤ <b>Ballast water management implementation</b></li> </ul>

Biodiversity components	Key pressures	Measures to support conservation efforts
	<p><b>Climate change</b> is of great concern and trophic webs are expected to change within the ocean. Species and communities could shift into new areas as their habitats and feeding grounds are impacted. The risk of invasive species also increases with changes in climate.</p>	
 <p><b>Fish</b> (pelagic)</p> <p>In the Southeast Atlantic (FAO areas 34 and 47), four areas of interest are particularly important:</p> <ul style="list-style-type: none"> <li>➤ <b>Convergence Zone of the Canary Islands-Guinea currents (CZCIGC)</b></li> <li>➤ <b>Equatorial Tuna Production Area (ETPA)</b></li> <li>➤ <b>Walvis Ridge (WR)</b></li> <li>➤ <b>Subtropical Convergence Zone (STCZ)</b></li> </ul> <p>Primary species targeted by fisheries in the Southeast Atlantic include <b>tuna, shark</b> and <b>sailfish/swordfish</b>.</p>	<p>The most significant activity in terms of the volume of removed fish and other non-fish species in ABNJ is due to <b>commercial fishing</b>.</p> <p>The <b>spatial distribution, and possibly the abundance, of targeted species is expected to change due to impacts from climate change</b>.</p>	<ul style="list-style-type: none"> <li>➤ <b>Fishing measures</b> including bycatch mitigation and Total Allowable Catch (TAC)</li> <li>➤ <b>Marine Protected Areas (MPAs)</b>, including networks, and other area-based management tools</li> <li>➤ <b>Preventing discharges and pollution from ships</b></li> <li>➤ <b>Regulations on chemical use</b></li> <li>➤ <b>Waste management from land-based sources</b></li> <li>➤ <b>Climate change mitigation measures</b></li> <li>➤ <b>Ecosystem approach to fisheries</b></li> </ul>
 <p><b>Marine mammals</b></p> <p>The Southeast Atlantic (FAO areas 34 and 47) <b>have approximately 37 species of marine mammals</b>. Of these marine mammals, 4 are considered Endangered, 3 Vulnerable, 13 Least Concerned</p>	<p>Threats to marine mammals and turtles in ABNJ of the Southeast Atlantic include:</p> <ul style="list-style-type: none"> <li>➤ Interaction with <b>commercial fisheries</b>: bycatch and entanglement, competition for food.</li> <li>➤ <b>Marine pollution</b> (e.g., plastics and micro plastics as well as ghost gear)</li> </ul>	<ul style="list-style-type: none"> <li>➤ <b>Fishing measures</b> including bycatch mitigation and removal of ghost gear</li> <li>➤ <b>Marine Protected Areas (MPAs)</b>, including networks</li> <li>➤ <b>Particularly Sensitive Sea Areas (PSSAs)</b></li> </ul>

Biodiversity components	Key pressures	Measures to support conservation efforts
<p>and 17 as Data Deficient according to the categorizations of the International Union for the Conservation of Nature (IUCN).</p>  <p><b>Turtles</b></p> <p>The Southeast Atlantic (FAO Areas 34 and 47) <b>have approximately 5 species of turtles</b>. One is Critically Endangered, 1 is Endangered and 3 are Vulnerable according to the categorizations of the International Union for the Conservation of Nature (IUCN).</p>	<p>↗ <b>Ship strikes</b></p> <p>↗ <b>Underwater noise</b> (predominantly from maritime transport but also fishing activities (due to trawling, sonar, or operational purposes) as well as oil and gas exploration (seismic blasts) and extraction (drilling), and associated maintenance operations, including vessel operations)</p> <p>The <b>spatial distribution, and possibly the abundance, of marine mammals and turtles is expected to change due to impacts from climate change.</b></p>	<p>↗ <b>Regulating shipping e.g., rerouting ship lanes to avoid important migration routes, noise restrictions</b></p> <p>↗ <b>Marine mammal observers on seismic vessels</b></p> <p>↗ <b>Preventing discharges and pollution from ships</b></p> <p>↗ <b>Regulations on chemical use</b></p> <p>↗ <b>Management of waste from land-based sources</b></p> <p>↗ <b>Climate change mitigation measures</b></p> <p>↗ <b>Ecosystem approach to fisheries</b></p>
 <p><b>Seabirds</b></p> <p>The Southeast Atlantic includes numerous types of seabirds including:</p> <p>↗ <b>Tropicbirds (2 species)</b></p> <p>↗ <b>Boobies (3 species)</b></p> <p>↗ <b>Frigatebirds (2 species, including the single-island endemic and eponymous Ascension Frigatebird, <i>Fregata aquila</i>)</b></p> <p>↗ <b>Terns (&gt;10 species)</b></p> <p>↗ <b>Calonectris, Puffinus and Ardenna shearwaters are also common or migratory</b>, but less abundant and usually less visible than the other groups</p>	<p>Threats to seabirds in ABNJ of the Southeast Atlantic include:</p> <p>↗ Interaction with <b>commercial fisheries</b>: bycatch and entanglement and competition for food</p> <p>↗ <b>Accidental mortality from fishing (bycatch)</b></p> <p>↗ <b>Climate change impacts on large-scale ocean productivity and circulation patterns</b></p> <p>↗ <b>Disruption to migration systems or food availability</b> (changes in distribution from climate change or depletion from overfishing)</p>	<p>↗ <b>By-catch mitigation measures</b></p> <p>↗ <b>Marine Protected Areas (MPAs)</b>, including networks and other area-based management tools</p> <p>↗ <b>Climate change mitigation measures</b></p> <p>↗ <b>Ecosystem approach to fisheries</b></p>

### 2.2.2. Resources for supporting conservation efforts in ABNJ

Key Biodiversity Areas (KBAs), Important Bird and Biodiversity Areas (IBAs), and Ecologically or Biologically Significant Areas (EBSAs) are all relevant area-based tools that support the identification of important marine areas in the ocean that could require protection; indicate where conservation efforts are needed and point to potential priorities for management. Therefore, these sites can be used as a scientific basis to inform the creation of Marine Protected Areas (MPAs) and they can also play a role in Marine

Spatial Planning (MSP), Environmental Impact Assessment (EIA), Strategic Environment Assessment (SEA) and planning processes by providing key ecological information. The sites can be described based on series of scientifically agreed criteria. They can focus on areas which are ecologically significant to a single species, groups of species, habitats, or ecological processes. Such tools are not legally binding, do not offer any formal protection on their own and are used to identify areas that could be of conservation priority. The data and information included in such tools largely stem from the scientific community (Table 7).

**Table 7: Resources to support conservation efforts in ABNJ**

Name	Application in the region	Objectives	Comments
<b>Important Bird and Biodiversity Areas (IBAs)</b>	There are two marine IBAs that have been confirmed in ABNJ in the region. Site 15 covers 255 665km <sup>2</sup> and 16 covers 54 158km <sup>2</sup> (BirdLife International, 2021) See figure 9 below.	Important Birds and Biodiversity Areas are sites identified by BirdLife as being of international significance for the conservation of birds and other biodiversity using standardised criteria. They comprise distinct areas that together form part of a wider, integrated approach to the conservation and sustainable use of the natural environment. It aims to assist conservation activities carried out by multiple stakeholders, including States, NGOs and businesses. The use of IBAs can support States in delivering commitments made under international (global and regional) agreements.	No legal status, but can support conservation in EIA, SEA, planning processes and further formal protection and support specific management measures.  Sites that qualify as marine IBAs include seabird breeding colonies, foraging areas around breeding colonies, non-breeding (usually coastal) concentrations, migratory bottlenecks and feeding areas for pelagic species.
<b>Key Biodiversity Areas (KBAs)</b>	The KBAs in the Southeast Atlantic are marine IBAs.	Key Biodiversity Areas (KBA) are sites identified by the KBA Partnership <sup>19</sup> in areas where there are critical populations of the world's threatened species. Criteria to identify KBAs include not only species, but also habitats and ecosystems. Their protection will therefore significantly contribute to the global persistence of biodiversity. Criteria for the identification of such sites are described in the <a href="#">Global Standard for the Identification of Key Biodiversity Areas (IUCN 2016)</a> .	Can support conservation in EIA, SEA, planning processes and further formal protection and support specific management measures.

<sup>19</sup> The KBA partnership is formed by thirteen nature conservation organisations. BirdLife International and IUCN co-host the KBA Partnership Secretariat.

Name	Application in the region	Objectives	Comments
<b>Ecologically or Biologically Significant Areas (EBSAs)</b>	The Canary Current LME, Guinea Current LME, Atlantic Equatorial Fracture Zone, Benguela Current, Walvis Ridge and Subtropical Convergence Zone have all been identified as EBSAs in the Southeast Atlantic Region. (See figure 9 below).	EBSAs are special areas in the ocean that serve, in one way or another, to support the healthy functioning of ocean and the many services that it provides.  The description of EBSAs included in the CBD EBSA repository is the prerogative of States and competent intergovernmental organisations. The identification of EBSAs is a scientific and technical process which has a legal basis under Articles 7 and 17–18 of the Convention on Biological Diversity (CBD) <sup>20</sup> .	It does not imply an economic or legally protected status although the existence of an EBSA can be used to motivate for the establishment of formal Marine Protected Areas, trigger more stringent EIAs and support specific management measures.
<b>Important Marine Mammal Areas (IMMA)</b>	There are no IMMAs in the region.	Important Marine Mammal Areas (IMMAs) are defined as “discrete portions of habitat, important to marine mammal species that have the potential to be delineated and managed for conservation.”  A Global IMMA Network is currently in the process of development under the auspices of the Marine Mammal Protected Areas Task Force (MMPATF).	No legal status, but support conservation in EIA, SEA planning processes and also further formal protection. Can support specific management measures.

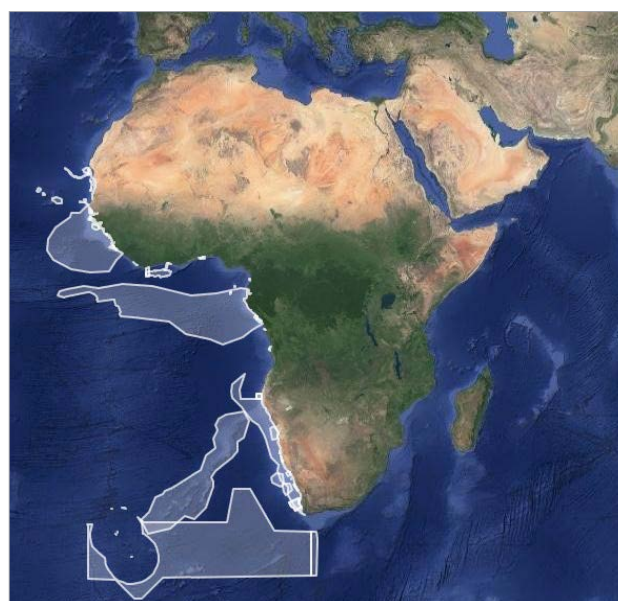
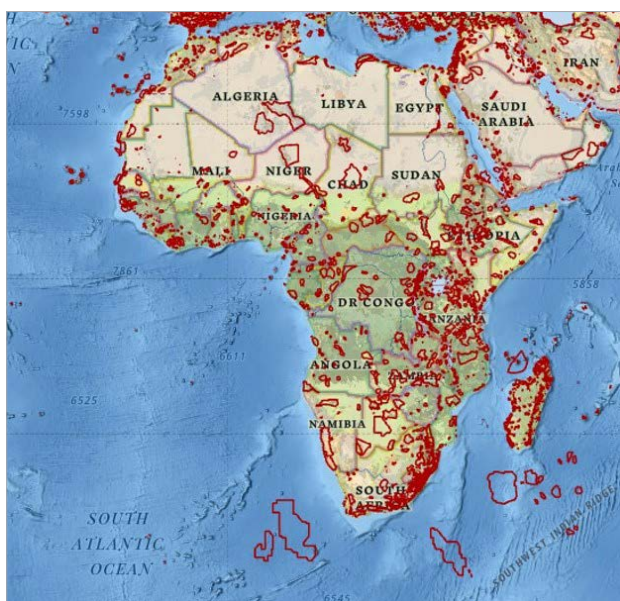


Figure 9a: IBAs in the Southeast Atlantic shown in red (Source: <http://keybiodiversityareas.org/kba-data>) and 9b: EBSAs highlighted in white in the Southeast Atlantic Region. (Source: <https://www.cbd.int/ebsa/>)

<sup>20</sup> <https://www.cbd.int/doc/legal/cbd-en.pdf>



The use of repeatable, transparent scientific indicators to identify areas of biological importance can play an important role in the motivation for increased levels of protection and improved management. Robust baseline science is necessary to effectively monitor human impacts on the marine environment. Research in ABNJ is expensive and technologically demanding and therefore interagency/international cooperation, as is more likely with programs such as BirdLife's IBAs and CBD's EBSA identification, is beneficial to identify biologically and ecologically important areas.

### **2.2.3. Other options to support conservation efforts in ABNJ**

This section covers options which are available to support conservation efforts in ABNJ, focusing on Marine Spatial Planning (MSP), Environmental Impact Assessments (EIAs), and Monitoring, Control and Surveillance (MCS).

#### **2.2.3.1. Marine Spatial Planning**

Tools, such as Marine Spatial Planning (MSP), can be used to provide a spatial and temporal overview of an area, including both ecological information and information about human activities. It can support decision-makers to understand ecological, economic, and social considerations and can help to prioritise management decisions. Marine Spatial Planning is 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 (Ehler and Douvère, 2009). This is a planning tool, without legal status but a process for making marine management plans. There has been no use of these tools in ABNJ. Their application in ABNJ could broadly support the design and implementation of measures by supporting the integration of different information sources and boosting cross-sectoral processes (Wright et al., 2021).

#### **2.2.3.2 Environmental Impact Assessments**

Within some sectoral organisations, environmental impact assessments (EIAs) are required

before expanding existing or starting new activities. Assessments can potentially lead to the limitation or restriction of activities within certain areas. EIAs are a core tool for ensuring precaution in the expansion of existing and development of new human activities. The assessment process can reveal the range of potential effects of an activity on multiple components of an ecosystem, including direct, indirect, and cumulative effects, and possible ways to mitigate predicted impacts (Cashmore, 2004; Wright and Kyhn, 2015). They are also an important procedural tool for ensuring stakeholder consultation and consideration of multiple views and values (Doelle and Sander, 2020). Decision-makers can use this assessment to make informed decisions as to whether a new activity or project should be allowed to proceed and under what conditions (Doelle and Sander, 2020). To date, there is no comprehensive legal framework for the application of EIAs in ABNJ, but the BBNJ Agreement should also bridge this gap in the future as EIAs are one of the elements under negotiation.

Strategic Environmental Assessments (SEA) are proactive and recognise that there are cumulative impacts of multiple activities in marine space and therefore aim to understand and address this as early as possible in planning processes. Strategic Environmental Assessments need to incorporate environmental, economic, and social information and tend to plan for the longer term environmental and sectoral interests (Warner, 2021). This can be of particular importance in ABNJ, but to be respected by multiple stakeholders, they need to be transparent, repeatable and robust – with the information in a format that is accessible to decision-makers, e.g., for scenario planning. SEA in ABNJ is likely to be challenging because of sectoral management and the lack of an overarching management or scientific body to bring information from different sectors together for decision-making and planning.

#### **2.2.3.3. Monitoring, Control and Surveillance**

Effective monitoring, control, and surveillance (MCS) of human activities taking place on and in the ocean is critical for successful ocean management. MCS is primarily a tool for understanding patterns of human activities, and where

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these could have ecological impacts. MCS typically focuses on areas where standards exist, to understand whether those standards are being met therefore, good standards are required for MCS to be useful. MCS encompasses a wide range of tools, technologies and policies that can be used in a variety of contexts to promote compliance, increase transparency, and contribute to the effective conservation and sustainable use of marine resources. These include:

- a) monitoring of human activities (e.g., in the form of data collection and reporting).
- b) control of human activities and their impacts on marine biodiversity (e.g., through regulation, licensing, and controls on how, where and when activities in the ocean take place).
- c) surveillance of vessels (e.g., through observer programmes and electronic surveillance systems).
- d) encouraging compliance with regulations through transparency, sanctions, and other measures (e.g., sustainability certification schemes); and enforcement actions, e.g., to tackle Illegal, Unreported, and Unregulated (IUU) fishing and transnational illegal activities, such as human trafficking, forced labour, and trafficking in arms, drugs and wildlife.

Compared to application in national waters, MCS in ABNJ could be more expensive, while a lack of data concerning marine ecosystems in ABNJ results in a more limited understanding

of the impacts of human activities. However, the recent emergence of innovative and cost-effective technologies has created the transformative potential to solve these MCS challenges.

To ensure that the marine environment is used in an environmentally sustainable manner, States use monitoring, control, and surveillance (MCS) tools (such as onboard observers, coast guards, logbooks and satellite imagery – with new technologies continuously under development) to keep an eye on human activities and for compliance and enforcement actions. South-east Atlantic States share similar challenges to MCS in ABNJ, the first being limited awareness and understanding of the impacts of illegal human activities, such as IUU fishing, taking place in ABNJ. Illegal fishing is a major concern in the region, accounting for about 65% of the legal reported catches (Doumbouya et al., 2017). The economic losses of weak MCS frameworks are estimated at 2.3 billion USD annually, with only 13 million USD recovered through effective MCS.

National and regional authorities focus predominantly on their EEZs, and ABNJ is considered remote and a lower priority for national and regional management bodies. The national authorities are more interested in mastering MCS activities in their own EEZ before keeping an eye on ABNJ. Even though most States in the region have limited capacity to access and explore ABNJ adjacent to their EEZ,<sup>21</sup> effective governance of ABNJ is crucial since ecosystems are connected and coastal livelihoods are affected by activities taking place in ABNJ.

<sup>21</sup> Five of the 22 States in the Abidjan Convention region are active in ABNJ with most fishing resources being caught by European (France and Spain) and Asian (Japan and Taiwan) vessels. See: Spiteri C., Senechal T., Hazin C., Hampton S., Greyling L., Boteler, B. (2021). 'Study on the Socio-Economic Importance of Areas Beyond National Jurisdiction in the Southeast Atlantic Region', STRONG High Seas Project.

### 3. Proposals for measures to strengthen conservation efforts in ABNJ of the Southeast Atlantic

Given the biodiversity and climate emergencies, it is a matter of urgency that a wide array of complementary measures to support conservation efforts is put in place collaboratively by stakeholders. Therefore, biodiversity must be mainstreamed into ocean sectoral policies and practices. Success cannot be achieved if actions are only taken unilaterally by sectors.

#### 3.1 Proposals to support conservation efforts in the Southeast Atlantic

In this section, specific recommendations for measures to support conservation efforts in ABNJ of Southeast Atlantic are outlined.

##### 3.1.1 Sectoral measures to support conservation efforts

The effective application of measures to support conservation efforts has been paramount to avert extinction risk for some species. However, protective measures alone will not be enough to halt biodiversity loss – it must be complemented by sustainable management of exploited marine resources. For example, reaching the 30% conservation goal (30x30 target) will not be sufficient if the other 70% of the ocean is not effectively and adequately managed. This includes considering marine conservation in the light of climate change and land-sea interactions.

This section seeks to provide recommendations for the different economic sectors operating in ABNJ as well as cross-sectoral measures to support conservation efforts. Within different economic sectors there are sectoral organisations with existing strategies and governance structures for conservation that can support implementation within their sector, but we emphasise the importance of a cross-sectoral cooperation. Finally, recommendations on the use of the resources that support area-based measures in ABNJ is made.

##### 3.1.1.1 Maritime transport

Shipping can impact marine environments through pollution (including noise, light, air and oil pollution), and IMO's Particularly Sensitive Sea Areas (PSSAs) and MARPOL's Special Areas could be used to prevent potential impact in areas by prohibiting the disposal of waste or rerouting vessels away from sensitive areas. However, the increased investment in port development in the Southeast Atlantic, and the associated anticipated increase in shipping, could suggest the need for PSSAs to be considered where increasingly frequented shipping lanes correspond to important ecological areas – the identification of which could be guided by EBSAs and other sectors that have identified important ecological areas (e.g., Vulnerable Marine Ecosystems). Two Special Areas (one in the Antarctic area and one in the Mediterranean Sea) do both include some ABNJ (De Santo, 2018) but none in the Southeast Atlantic.

Shipping also has a role to play in global environment issues including improving carbon efficiency in the industry for climate change mitigation and managing the spread of marine invasive alien species – through careful ballast water management and limiting biofouling. Research on the likelihood of invasive species establishing populations in ABNJ and their possible impacts is limited, particularly for the Southeast Atlantic, however, studies within coastal waters show limited success in trying to eradicate invasive marine species once established so prevention is the best strategy to avoid ecosystem impacts (e.g., Mabin et al., 2017).

##### 3.1.1.2 Deep-Sea Mining

The development of a REMP, including a network of Areas of Particular Environmental Interest (APEIs), for ABNJ in the Southeast Atlantic could also be effective to manage impacts on the seabed if deep seabed mining were to com-

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mence in this area (Warner, 2014). The ISA has established a framework of environmental safeguards for exploration contractors in the Area and transparent reporting should ensure that these measures are adhered to. Collaboration with other sectors should also identify areas in which deep-sea mining should be avoided (e.g., SEAFO's VMEs or where EBSAs have been identified). Strategic Environmental Assessments could also play a role in supporting conservation efforts and precautionary management.

Negotiations are underway for the development of a mining code for exploitation activities, including the establishment of baseline environmental data, the assessment of environmental impacts, and the preparation of environmental management and monitoring plans. The code needs to promote best environmental practice for the exploitation phase of deep-sea mining and improved collaboration mechanisms for monitoring and enforcing compliance.

Some academic and civil society sectors have called for a moratorium on deep-sea mining based on the precautionary principle in international law, considering the environmental, economic and justice uncertainties that the development of this activity would have for humanity and even questioned the need for this activity (Kim, 2017; Miller et al., 2021). Another alternative raised by academics recently is that of slowing down the transition between exploration and exploitation (Levin et al., 2020). This would allow enough time for ISA, as the regulatory body for this activity, to be strengthened and for many aspects related to protection measures such as REMPs, APEIs and EIAs to be clarified and evaluated from different points of view, including the social one. Ultimately, many sectors insist that the rapid and effective implementation of a circular economy in our societies could mean that activities such as deep-sea mining would cease to be a necessity in the future and thus benefit the protection of biodiversity in these still little-explored areas of our ocean.

The dual function of the ISA as both the promoter of deep-sea mining and of developing and implementing environmental safeguards could lead to a conflict of interest. Transparent and sci-

ence-based decision-making will help mitigate any mistrust, as would the involvement of multidisciplinary external experts in assessing exploration or exploitation claims.

### **3.1.1.3. Fisheries**

Fishing is currently one of the most significant pressures on marine ecosystems including those in ABNJ. Existing measures are not sufficient to prevent habitat destruction and over-fishing in ABNJ so strengthening compliance and effectiveness of measures is essential. Fishes need to be considered not only as a resource, but as key components of the marine ecosystem and therefore fisheries management needs to look beyond achieving Maximum Sustainable Yield (MSY).

Sala et al. 2018 revealed that fisheries in ABNJ rely heavily on subsidies. Without them, an estimated 54% of current ABNJ fishing grounds would be unprofitable at current fishing rates. On aggregate, these subsidies are more than twice the most optimistic estimates of profits. At the same time, the Sustainable Development Goal (SDG) 14.6 asks the World Trade Organization (WTO) to prohibit forms of subsidies which contribute to overfishing and overcapacity. To date, the topic remains a heavily debated issue and member States of the WTO have not agreed to an approach to remove such harmful subsidies from the fishing industry and thereby continue to contribute to overfishing and overcapacity in ABNJ. Harmful fishing subsidies must be prohibited.

FAO's Vulnerable Marine Ecosystems (VMEs) have the potential to be effective in ABNJ in the Southeast Atlantic to manage negative impacts from benthic fishing activities on their ecosystems (FAO 2016). They are implemented through RFMOs, and therefore governance structures exist to support their implementation. Their effectiveness has been proven but monitoring, control and surveillance will play a key role in ensuring the effectiveness of such measures (Warner, 2014). If sites have been identified as sensitive or ecologically important in other sectors (e.g., APEIs) or through scientific processes (e.g., EBSAs) they should be considered for

VME status too and effective MCS mechanisms should be in place.

The RFMOs have an important role to play in the conservation and restoration of marine biodiversity as well as in contributing to food security, fair, healthy, and sustainable food systems, the fight against IUU fishing, therefore contributing to sustainable growth and jobs. Further effort is required to implement ecosystem approach to fisheries management: accounting for habitat impacts or multispecies effects of fishing and supporting cross-sectoral marine spatial planning (Gilman et al., 2013). Participation by stakeholders, especially NGOs, in fisheries governance, has also been highlighted as an essential component for successful sustainable management (Petersson et al., 2019; Dellmuth et al., 2020). The lack of a transparent (Fischer, 2020), overarching global coordination mechanism to oversee the conservation and management activities of RFMOs in ABNJ and monitor their performance against best practice standards and ensure cross-sectoral exchange of information is also seen as a gap. There is a need to ensure that RFMOs include all participants in a regional fishery among their members and deal effectively with non-Parties. RFMOs also need to increase the legal status of their decisions, as often an RFMO agreed on environmentally sound conservation and management measures for fisheries in high seas areas, but only those States which have agreed to be bound by its agreement are obliged to apply its measures. Similarly, communication between RFMOs and other entities with legal mandates in ABNJ (e.g., ISA or IMO) should be promoted.

Greater cooperation and the sharing of best practices between RFMOs could also benefit fisheries governance (OECD, 2021). Multilateral fisheries governance, by regional fisheries management organisations (RFMOs), faces different challenges around the use of data, transparency, and stakeholder participation in decision making. Many RFMOs, for example, have mechanisms for cooperation on the listing of IUU vessels (i.e., cross-listing), which can be a cost-effective mechanism to prevent the products of IUU fishing from entering fisheries value chains. However, listing practices tend to be applied in-

consistently and often allow for objections from RFMO member countries, and thus limits their usefulness for fighting IUU fishing – this could be improved through increased cooperation and transparency.

While RFMOs increasingly allow for majority voting in decision making, the desire to find a consensus among member is still widespread, potentially hampering and slowing the adoption of policy change. Such issues have become more apparent with the COVID-19 pandemic, which has resulted in delays and deferrals of decisions and increased opportunities for IUU fishing in multilateral fisheries. RFMOs could examine data-sharing and decision-making processes to facilitate decision making and fight IUU fishing. Despite many efforts to combat IUU fishing in Africa the capacities are still insufficient and are subject to many technical, institutional, and financial constraints. Strengthening of monitoring, control, and surveillance (MCS) systems is essential for all countries of the Atlantic for the protection of fishery resources and a major challenge for countries whose exports of fishery products are strongly linked to the European market (Cremers et al., 2020; Failler & Ayoubi, 2015).

Only by overcoming some of the limitations suggested above and ensuring that the new BBNJ treaty can interact with RFMOs in a timely manner will it be possible to ensure biodiversity conservation in ABNJ. It should be noted that coordinated and responsible fisheries management is required at both international and national level given the connected nature of the ocean.

#### **3.1.1.4 Cross-sectoral measures to support conservation efforts**

Parties to regional seas agreements that encompass ABNJ (OSPAR, SPREP, Mediterranean Action Plan, CCAMLR) can seek to establish regionally agreed MPAs and networks consistent with international law. Even where agreements do not extend beyond national jurisdiction, as in the Abidjan Convention region, Parties may still wish to create an agreement to protect adjacent ABNJ. Such regional agreements would only be binding on Parties to the agreement and could



not affect other States' fishing or commercial shipping activities.

To accomplish the latter, it would be necessary to apply to the relevant RFMO or to the IMO for complementary protective measures. If the proposed area includes the seafloor beyond national jurisdiction, the ISA should also be consulted. Individual ABNJ MPAs can already be established by the collective action and strong diplomatic efforts of several willing States in conformity with UNCLOS. The BBNJ agreement should play a pivotal role in establishing cross sectoral MPAs in ABNJ that would be binding to all signatories of the agreement.

#### **3.1.1.5 Coordinating measures to support conservation efforts**

Besides the protection of specific sites, stakeholders should endeavour to implement other effective measures to support conservation measures in the wider ocean space. For example, in the fisheries sector, in addition to protecting sites for replenishment of stocks, RFMOs should adopt an ecosystem approach, and this means that cooperation amongst sectors and regional stakeholders is crucial for effective conservation to take place. The three-dimensional and connected nature of the ocean means that measures to support conservation efforts need to consider long-term goals, ecological representativity and ecological connectivity. Marine environments are also inherently variable, over space and time, as well as its temporal and seasonal variability, and some species are highly migratory. Migratory routes, or areas important for breeding or spawning, could need protection at certain times and not others.

The measures to support conservation efforts described above each have their own merits and objectives. There is no "one size fits all" approach. The effectiveness of the measures will depend on different key factors, and in terms of implementation in ABNJ, the following factors should be considered:

- Need to improve cooperation and complementarity between the different legal instruments and institutions to facilitate a more

integrated approach across the available options to support conservation efforts – the BBNJ agreement should provide the framework for this.

- Need to develop a long-term shared vision for priority areas to create a management approach to integrate the various measures towards a common goal and objectives.
- Need to facilitate an integrated multi-tools approach across instruments and institutions to support their complementarity and effectiveness.
- Need for comprehensive research generating information and data for ABNJ to support the effectiveness of conservation efforts while improving the evidence basis for protecting marine biodiversity in ABNJ (De Santo, 2018).
- Need for compliance checks and enforcement to support the effectiveness of legal instruments and institutions towards conservation objectives.
- Mechanisms for financing research, conservation, and monitoring efforts.
- Considerations of equity and social justice particularly for resources that are part of the common heritage of society.

In this context, streamlining, rationalisation and integration of measures are going to be essential to develop a comprehensive and cost-effective approach to the conservation and management of biodiversity in ABNJ of the Southeast Atlantic.

#### **3.1.2 Resources for supporting conservation efforts in ABNJ**

KBAs, IBAs, EBSAs indicate areas of key biodiversity and ecosystem hot spots and are identified by the international scientific community - these tools are important building blocks and starting points for identifying priority areas for conservation efforts within the Southeast Atlantic.

It is critical to establish a network of sites to protect biodiversity, based on the best available sci-

ence and making use of existing credible tools and datasets (e.g., EBSAs, IUCN Red List, Key Biodiversity Areas, etc.) This network of sites should be comprised of a set of different area-based management tools and aim for representivity, to maintain ecosystem functions and ecological connectivity. Species that have been identified as needing protection (e.g., IUCN Red List) should be protected during important stages of their life cycles and in the areas in which they occur (e.g., limiting ship traffic in important cetacean migratory routes or limiting ship noise in breeding grounds).

### **3.1.3 Other options to support conservation efforts in ABNJ**

Other important aspects linked to the development, implementation and enforcement of measures include capacity building, financial mechanisms, monitoring, control and surveillance, and stakeholder involvement.

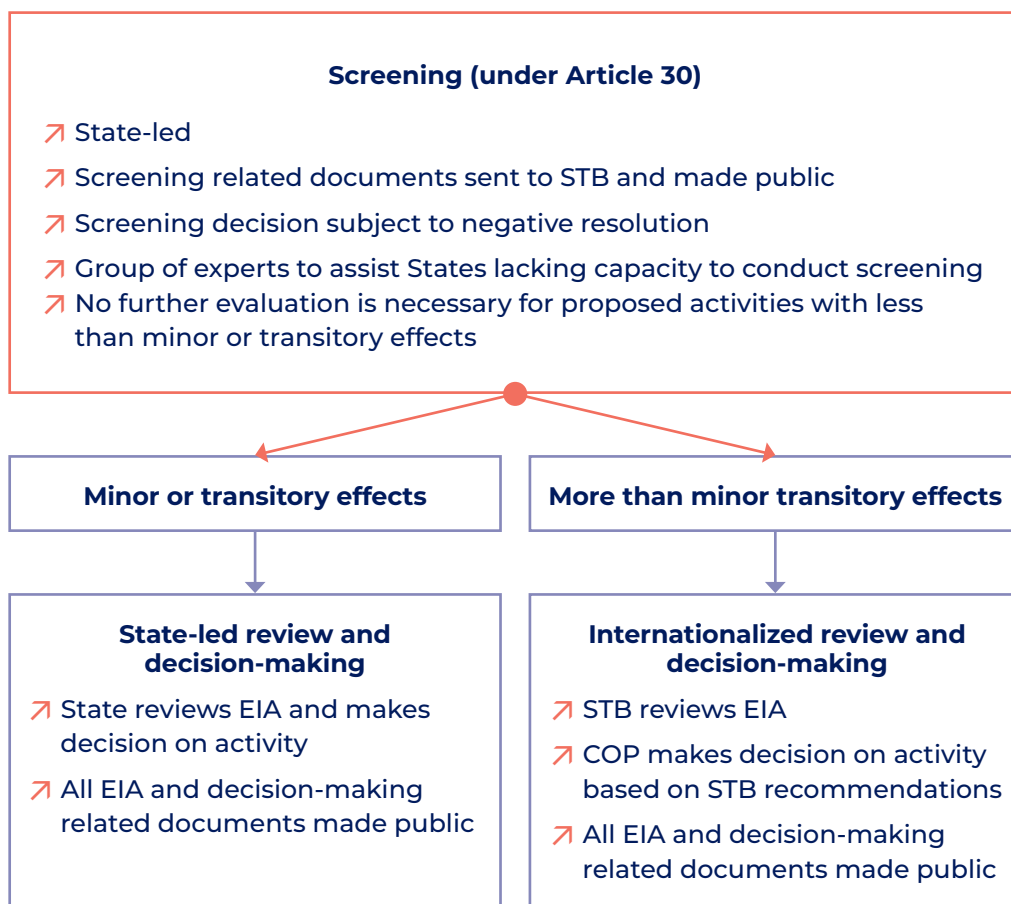
#### **3.1.3.1 Marine Spatial Planning (MSP)**

Marine Spatial Planning is a tool for effectively managing activities in ocean space but needs to be part of a suite of tools that includes non-spatial management measures. MSP does not promote conservation but is a framework for decision-making and multistakeholder engagement. MSP is an important tool within coastal areas but has not been established in ABNJ. This tool should be considered for ABNJ within the Southeast Atlantic region to facilitate decision-making and multisectoral planning.

While MSP is an increasingly popular tool for managing national marine resources, many States (including those in the Southeast Atlantic) are only in the early stages of planning processes. Implementing MSP in ABNJ would be technically challenging and there is currently no international framework to facilitate this process. The underlying principles and aims of MSP could nonetheless prove helpful in facilitating decision-making and multisectoral planning. The Western Indian Ocean is currently developing a regional MSP framework that could provide guidance and lessons learned on MSP at a regional scale (UNEP et al., 2019).

#### **3.1.3.2 Environmental Impact Assessments**

Environmental Impact Assessments will play a crucial role in the conservation and sustainable use of marine biodiversity in ABNJ. The issue is still quite contentious in the current negotiations, mainly concerning the “internationalisation” of EIAs. Internationalisation refers in general terms to having common standards for conducting EIAs in ABNJ. Some states (e.g., European Union, USA, Canada, and UK) consider that review and decision-making in the context of EIAs should be in the hands of the States. On the other hand, another group of states (e.g., Caribbean Community – CARICOM) consider that these processes should be monitored more globally. To find a compromise in these two views on EIAs, a “tiered approach” has been proposed (Hassanali, 2021). This approach consists of allowing countries' expertise to be used in the EIA process when needed but ensures that the most impactful activities proposed in ABNJ are subject to international review (see Figure 10).



**Figure 10: Approach proposed by Hassanali (2021) for review and decision-making in the context of EIA in the future BBNJ agreement.**

Transparent, robust, and independently conducted impact assessments should be done before expanding into new fishing grounds or starting new economic activities in ABNJ. In the absence of sufficient data, a precautionary approach should be taken. EIA requirements should be transparent, consistent and undertaken by an external pool of experts.

### 3.1.3.3 Monitoring Control, and Surveillance

In the national waters off the coast of the Southeast Atlantic, the lack of cross-sectoral coordination has led to pressures on resources and conflicts between different users of the marine space. This is a missed opportunity because co-operation and coordination at a cross-sectoral level could strengthen MCS by sharing knowledge, intelligence, data, capacity, and best practices.

Key recommendations for robust MCS in the region include:

- ✓ Improving information-sharing, through efficient data collection frameworks at the national level and robust knowledge sharing platforms at the regional level.
- ✓ Harmonising legislation and sanctions, both within States (inter-institutional) and among States in the Southeast Atlantic region.
- ✓ Addressing the lack of capacity at different scales, with adequate resources and qualified staff.
- ✓ Enhancing cross-sectoral coordination at the regional and international level.

There are many initiatives by both States and non-State actors to improve MCS in the South-east Atlantic, but most focus on national waters. Future efforts in the region could focus on strengthening the MCS of human activities in ABNJ, including new possible emerging activities such as bioprospecting and seabed mining (Cremers et al., 2020).

### 3.1.4 Reflections on conservation efforts to achieve policy targets

International agendas, including the post-2020 global biodiversity framework, the targets of the Sustainable Development Goals (SDGs), and the Decade of Ocean Sciences for Sustainable Development should help the states of the South-

east Atlantic region commit to the conservation and sustainable use of ABNJ. In this sense, it will be important to establish and evaluate how existing measures (e.g., those based on areas) contribute to achieving sustainable development goals, especially those related to SDG 14. A recent analysis (Reimer et al., 2021) indicated that some area-based management measures appear to be effective in achieving SDG 14 targets related to ecological variables. However, the contribution of these measures to achieving SDG targets related to social and economic well-being is less clear. In the end, a combination of different sectoral and multisectoral measures would be necessary to achieve the different goals outlined in the SDGs not only 14, but those in which there is an intersection with ocean issues (Table 8).

**Table 8: Linking the contributions (existing and potential) of conservation efforts to achieving SDG14 goals in the Southeast Atlantic**

Measures/ SDG 14 Goals	14.1 Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.2 Sustainably manage and protect marine ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.4 Effectively regulate harvesting and end overfishing, IUU fishing and destructive fishing practices and implement science-based management plans	14.5 Conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
Maritime Transport					
IMO's PSSAs	Yellow	Yellow			Yellow
Preventing discharges and pollution from ships	Green	Green			
Regulating shipping routes		Green			
Regulating shipping – noise		Yellow			
Regulations on chemical use	Green	Green			

**Note:** ■ **Green** = Existing in the region. ■ **Yellow** = Not existing in the region but has the potential to be useful and beneficial to the protection of BBNJ in the Southeast Atlantic.

Measures/ SDG 14 Goals	14.1 Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.2 Sustainably manage and protect marine ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.4 Effectively regulate harvesting and end overfishing, IUU fishing and destructive fishing practices and implement science-based management plans	14.5 Conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
<b>Deep-Sea Mining</b>					
ISA's APEIs					
REMPs					
<b>Fisheries measures</b>					
FAO's VMEs		SEAFO		SEAFO	SEAFO
Gear recommendations		CCSBT, CECAF, SEAFO		CCSBT, CECAF, SEAFO	
Ecosystem Approach to Fisheries		CCSBT, ICCAT, SEAFO		CCSBT, ICCAT, SEAFO	
Reduce turtle bycatch		CCSBT, SEAFO			
Reduce seabird bycatch		CCSBT, CECAF, SEAFO			
Recommendations on shark conservation		SEAFO			
Monitoring Control and Surveillance		CCSBT, CECAF, ICCAT, SEAFO		CCSBT, CECAF, ICCAT, SEAFO	
Observer programmes		SEAFO		SEAFO	
Total Allowable Catch (TAC)		CCSBT, ICCAT, SEAFO		CCSBT, ICCAT, SEAFO	
Disposal of ghost gear					
CITES					

**Note:** ■ **Green** = Existing in the region. ■ **Yellow** = Not existing in the region but has the potential to be useful and beneficial to the protection of BBNJ in the Southeast Atlantic.



Measures/ SDG 14 Goals	14.1 Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	14.2 Sustainably manage and protect marine ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	14.4 Effectively regulate harvesting and end overfishing, IUU fishing and destructive fishing practices and implement science-based management plans	14.5 Conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
Cross sectoral Measures					
Marine Protected Areas					
UNESCO Heritage Sites					
CMS					
IWC					
ACAP					
Global Initiatives					
Waste management from land-based sources					
Adaptive management					
Climate change mitigation					

**Note:** ■ **Green** = Existing in the region. ■ **Yellow** = Not existing in the region but has the potential to be useful and beneficial to the protection of BBNJ in the Southeast Atlantic.

While the binding instrument brings with it a flurry of national plans and policies to implement it, it has become evident that it will create additional international objectives related to biodiversity conservation, particularly around the Rio Conventions, the Sustainable Development

Goals and others such as World Heritage. The States have obligations to guarantee minimum standards for all humanity in terms of fundamental rights, for which the preservation of the marine environment is the backbone.

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## 4. Outlook

### 4.1 Summary

Human wellbeing is dependent on maintaining healthy and productive ocean ecosystems, including in ABNJ. Effective conservation efforts are essential to build the resilience of marine ecosystems and ensure the protection of the marine environment and key biodiversity components from pressures stemming from human activities as well as climate change. However, to date there exists limited conservation efforts in ABNJ and less than 2% are designated as marine protected areas.

This report shows that all current conservation efforts in ABNJ in the Southeast Atlantic are fisheries management measures implemented through the RFMOs active within the region. These efforts include ABMTs as well as measures focused on e.g., research, MCS, TAC, management recommendations. Other types of ABMTs and sectoral measures related to e.g., shipping, and deep-sea mining exist but are currently not applied within the region. Similarly, no MPAs or MPA networks have been established.

While there is significant knowledge and scientific information pointing to the importance of these areas and urging action to conserve and sustainably manage biodiversity in ABNJ, the Southeast Atlantic and its important contribution to human wellbeing remain at risk. Numerous resources are available to support decision-makers to indicate where conservation efforts could be needed and point to potential priorities for management including the conservation of KBAs, IBAs, and EBSAs and the application of MSP, EIAs, and SEAs. The study region includes, as of today, two IBAs and five EBSAs described by the scientific community and acknowledged in different frameworks but all of these remain without any legal protection status.

The ongoing degradation of the marine environment in ABNJ, including in the Southeast

Atlantic, means that significant and coordinated actions are needed immediately. Action must be taken through ABMTs and other sectoral efforts as well as coordinated cross-sectoral measures such as the establishment and effective management of MPAs and MPA networks. Conservation efforts will also need to be underpinned by capacity building, financial mechanisms, monitoring, control and surveillance, and stakeholder engagement and involvement to ensure the successful development, implementation, and enforcement of conservation efforts. Of particular importance to facilitate and ensure effective measures to support conservation efforts will be the implementation of integrated, ecosystem-based ocean management.

### 4.2 The role of integrated management

Streamlining, rationalization and integration (Warner, 2014) of governance, resources, and measures will be essential to develop a comprehensive and cost-effective approach to the conservation and management of biodiversity in ABNJ. Any new international legal instrument or new measures to support conservation efforts, would require specific efforts (human, logistical and financial) by the relevant member states to implement.

There is a need to strategically integrate the environmental, social, and economic objectives needed to address the various human impacts and their cumulative effects on marine ecosystems and the long-term conservation and sustainable use of marine resources. The concept links well with Ecosystem-Based Integrated Ocean Management (EB-IOM), which is an 'adaptive approach for governing human activities at sea, rooted in the ecosystem approach, guided by the SDGs, with a strong focus on improving the ecological status of the ocean and on strategic integration across governance, knowledge and stakeholder silos' (Lieberknecht,



2020). This is a holistic, ecosystem-based and knowledge-based approach, which ‘ensures the sustainability and resilience of marine ecosystems with tailor-made solutions to capture local conditions’ (Winther et al., 2019). It therefore requires a scientific understanding of the natural resources characteristics of individual ecosystems (and increasingly, their linkages) and brings together multiple sectors, institutions, organisations and processes to integrate and balance different ocean uses (Winther et al., 2020). Furthermore, EB-IOM requires a vertical (local to international) and horizontal (across governmental ministries) governance integration, knowledge integration through the merging of social, economic, physical, and biological needs and values, stakeholder integration through participatory processes, transboundary integration and an integration of system dynamics to maintain and develop healthy, resilient, and productive ecosystems, thereby supporting a sustainable ocean economy (Lieberknecht, 2020; Winther et al., 2020).

A STRONG High Seas project report exploring integrated management and its role in underpinning conservation efforts in the Southeast Pacific is planned for publication in Spring 2022.

### 4.3 Interdependencies between conservation and sustainable use of marine biological diversity in ABNJ and achievement of SDGs

Measures to support conservation efforts underpin the functioning of the biosphere (also referred to as natural capital). Ensuring this foundation is essential to making progress towards the Sustainable Development Goals (SDGs). Table 9 below demonstrates the hierarchical structure of the SDGs in that those targets related to the biosphere support progress towards societal goals and in turn economic goals. The ocean (SDG14) is inter-connected with the land, freshwater flows and climate and provides a vast array of benefits to humanity. The ocean provides benefits worth trillions of dollars per year globally and supports hundreds of millions of jobs and contributes to the Gross Domestic Product (GDP) of all countries - both coastal and inland (Hoegh-Guldberg et al., 2015). The ocean also therefore contributes to reduced hunger and poverty, improved health, shared across gender, social and national boundaries. However, accessing ocean benefits results in pressures that drive decline in ocean health if not governed properly. Thus, managing this complex system requires developing and using the appropriate measures to support conservation efforts.

**Table 9: Measures to support conservation efforts underpin the achievement of Agenda 2030**

Examples of conservation efforts in ABNJ that could/would support achievement of various SDGs:	Relevant Sustainable Development Goals
<p>SDG17 – ABNJ require cross-sectoral and multi-stakeholder efforts to effectively design and implement measures to support conservation of BBNJ. Thus, it is essential for States and stakeholders to <b>develop new partnerships and create innovative forms of collaboration to leverage actions towards a shared vision of sustainability</b> – including for achieving the other 16 SDGs.</p>	<p><b>Partnerships for achieving the SDGs</b></p> 
<p>SDG8 – Efforts to conserve and sustainably use species and ecosystems, including in ABNJ, can contribute to <b>decent work and economic growth</b> in existing (e.g., fisheries, research) and emerging sectors (e.g. bioprospecting), by ensuring resources are healthy and available for future generations.</p> <p>SDG9 – <b>Industry innovation and infrastructure</b> can be boosted through the transfer of technology, data, and knowledge between States, organisations, and stakeholders as well as through innovative governance and management practices to support sustainable development in ABNJ.</p>	<p><b>Economy</b></p> 

Examples of conservation efforts in ABNJ that could/would support achievement of various SDGs:	Relevant Sustainable Development Goals
<p>SDG10 – The just exploitation of common resources through fair access to resources, data and technologies, and distribution of benefits amongst societal groups and States could contribute to <b>reducing inequalities within the region and across the globe</b>.</p> <p>SDG12 – There is a clear link between <b>responsible production/use and consumption</b> of living and non-living marine resources and short, medium, and long-term development opportunities for economies to thrive. Similarly, the goods and services produced in (or dependant on) ABNJ, have the potential to focus on long-term value creation for societies and economies, if sectors such as fishing, transport, or waste treatment are responsibly, sustainably, and proactively managed.</p>	
<p>SDG1 – The natural resources and ecosystem functions originating from (and dependant on) ABNJ contribute directly and indirectly to livelihoods and economies, which in turn assist with <b>poverty alleviation and provide development opportunities</b>.</p> <p>SDG2 – The ocean plays a major role in <b>achieving the SDG of “zero hunger” by providing critical protein sources</b> for people around the world – but this is dependent on maintaining ecosystem functioning and healthy fish stocks, both within national jurisdictions and beyond.</p> <p>SDG3 – ABNJ are <b>essential to the health and wellbeing of people across the globe</b>, providing oxygen and regulating the climate as well as acting as a source of inspiration for cultural, artistic, and spiritual activities.</p> <p>SDG4 – ABNJ provide new opportunities through exploration and scientific pursuit for <b>quality education, including with more inclusive and empowered participation by marginalised groups</b>, such as women and indigenous communities.</p> <p>SDG7 – The ocean, including ABNJ, offers <b>untapped potential to create affordable and clean energy from renewable sources</b> such as wind, wave, tidal, current, temperature changes and osmotic power.</p> <p>SDG11 – Not only do ABNJ provide food and income, but they also allow for travel, transport (trade), renewable energy, telecommunications, medicines, and other ecosystem services, which in turn contribute to <b>sustainable cities and communities</b>, particularly in coastal and island States but also landlocked countries.</p> <p>SDG16 – Given the regional and global nature of ABNJ coordination and management, <b>the shared measures provide opportunities for improved social justice and building stronger institutions</b> through collaboration between countries and regions with shared objectives and joint leadership for sustainable resource use and management.</p>	<p style="text-align: center;"><b>Society</b></p> 
<p>SDG 6 – Oceanic processes help to regulate the weather, rainfall, and thereby availability of water <b>contributing to clean water and sanitation – directly and indirectly contributing to social well-being and economic resilience</b>.</p> <p>SDG 13 – ABNJ represent about 50% of the planet’s surface and are an essential part of the Earth’s climate system <b>offering a range of options for climate mitigation action</b> including through its ability to function as carbon dioxide sink.</p> <p>SDG 14 – Life below water – see Table 8.</p> <p>SDG 15 – ABNJ contain major ocean currents, which regulate global climate and weather processes as well as support species and ecosystems. These <b>directly support life on land by e.g.,</b> providing more than half the world’s oxygen, raw materials for development, food and nutrition, medicine, habitats for migratory species, and cultural and spiritual services.</p>	<p style="text-align: center;"><b>Biosphere</b></p> 

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Institute for Advanced Sustainability Studies e. V. (IASS)  
Berliner Strasse 130  
14467 Potsdam  
Germany  
Tel: +49 (0) 331-28822-340  
Fax: +49 (0) 331-28822-310  
E-Mail: [media@iass-potsdam.de](mailto:media@iass-potsdam.de)  
[www.iass-potsdam.de](http://www.iass-potsdam.de)

## Contact

STRONG High Seas Project Team at IASS: [stronghighseas@iass-potsdam.de](mailto:stronghighseas@iass-potsdam.de)

## ViSdP

Prof. Dr. Mark G. Lawrence, Managing Scientific Director

**February 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 trans-disciplinary scientific assessments to provide decision-makers, both in the target regions and globally, with improved knowledge and

under- standing 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](http://prog-ocean.org/our-work/strong-high-seas)

**Contact:** [stronghighseas@iass-potsdam.de](mailto:stronghighseas@iass-potsdam.de)

Partners of the STRONG High Seas project:



International Ocean Institute  
African Region

