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Item 3 of the provisional agenda*

REPORT ON REGIONAL SEAS BIODIVERSITY UNDER THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

Note by the Executive Secretary

1. The Executive Secretary is pleased to circulate herewith, for the information of participants in the twenty-fourth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, an information document on regional seas biodiversity under the post-2020 global biodiversity framework.

2. The document identifies ways to enhance compatibility between the post-2020 global biodiversity framework and the Regional Seas Programme under the United Nations Environment Programme (UNEP). It was prepared by the United Nations Environment Programme and the document authors, together with the project coordination team, with funding support from the European Commission

3. The document has not been formally edited or formatted and is being circulated in the form in which it was received.

* CBD/SBSTTA/24/1.

UNEP Regional Seas Working Paper

February 2021

Regional Seas Biodiversity under the post-2020 Global Biodiversity Framework

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Cover image: Maria Adelaide Ferreira. Atlantic Ocean, Lagos, Portugal (OSPAR Maritime Area).

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Regional Seas Biodiversity under the post-2020 Global Biodiversity Framework

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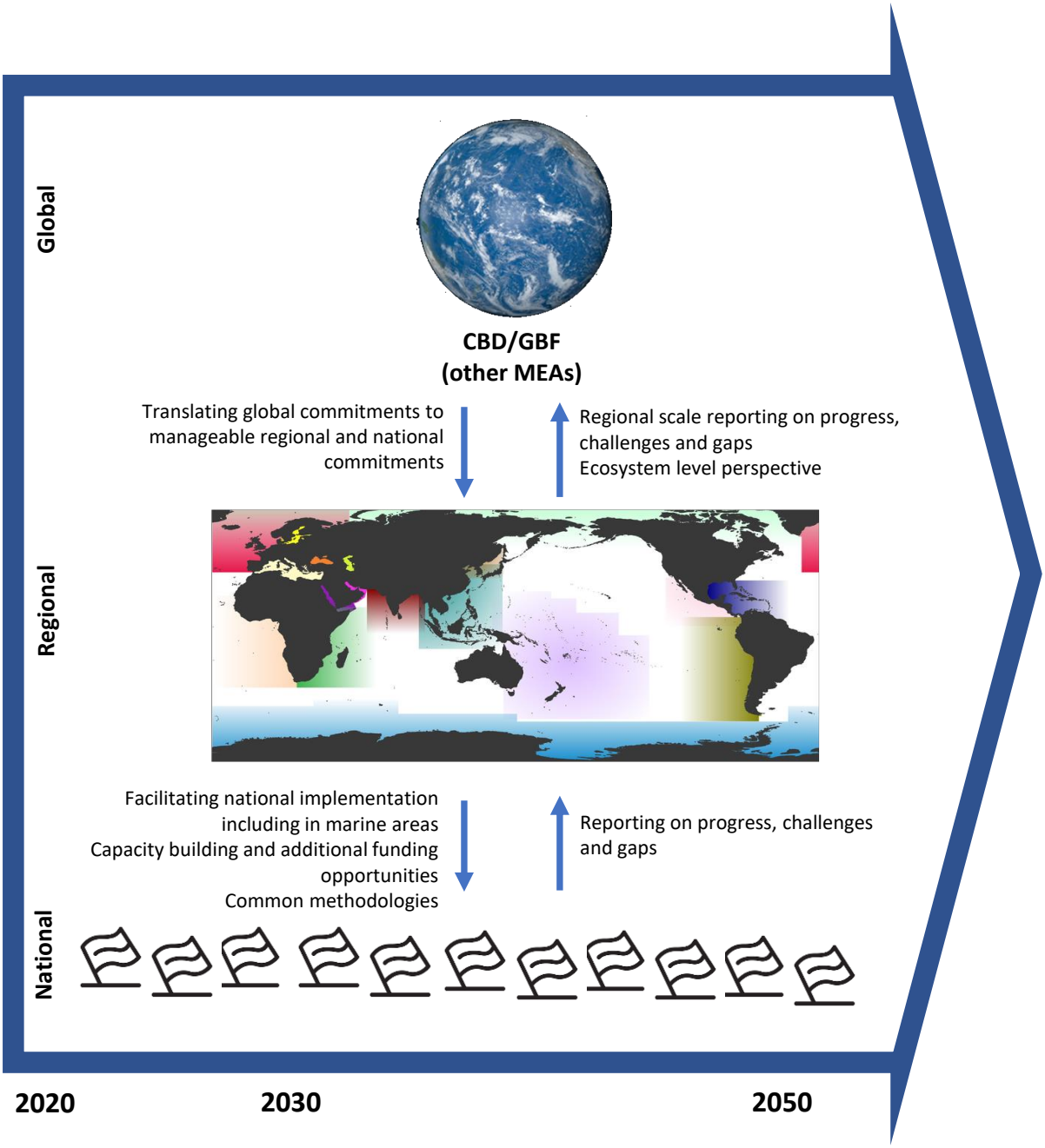
Executive summary

The objective of this study is to align the Convention on Biological Diversity's post-2020 global biodiversity framework (GBF) with the remit and scope of the UNEP Regional Seas Programme (RSP)[1] and make recommendations to improve and strengthen compatibility.

Development of the GBF (at the time of this study) is a work in progress involving a comprehensive preparatory process. Ocean elements are currently not overly explicit and arguably under-represented within the Zero Draft GBF. However, building on the Aichi Biodiversity Targets, it is widely recognised that there are important marine aspects that contribute to generic targets, which need to be addressed going forward. Greater emphasis is likely to be given to these marine elements within the proposed monitoring framework to recognise their importance, to help States and competent regional organisations mainstream them and to better align them with the Sustainable Development Goals (SDGs). Parties should consider land-water-marine linkages in the GBF Zero Draft, recognising the importance of marine biodiversity elements and reflecting these in the GBF monitoring framework.

Regional Seas Conventions and Action Plans (RSCAPs) are in a unique position to support States to achieve ocean-related elements of the GBF – no-one else is in a position to provide coordination and cooperation at the regional scale, associated with reducing threats and taking into account the trans-boundary commitments of Ecosystem-Based Management (EBM). This is compatible with agreed regional targets and consideration that has been given to cumulative impacts reflected in the work of the RSP. Furthermore, the RSP has governance mechanisms in place, regional convening power, extensive expert networks, and an established track record of environmental protection. Case studies highlighted within this report show varying examples of good practice for biodiversity conservation, with different levels of sophistication in terms of establishing regional goals, targets and indicators adopted by the RSP and their monitoring and reporting. There is clearly also value added in aggregating data at the regional scale, with many aspects of biodiversity (e.g., networks of marine protected areas (MPAs)) requiring an eco-regional assessment. However, it is also clear that RSCAP Secretariats are responding to multiple demands and there is a risk of overwhelming and confusing Parties with too many requests. It is important therefore to prioritise what is appropriate, measurable and achievable. To this end, there is a high degree of commonality and overlap between various global obligations and this report highlights synergies.

[1] RSP refers to UNEP's Regional Seas Programme, which coordinates eighteen RSCAPs (Regional Seas Conventions and Action Plans) worldwide. Throughout the report, the acronym RSCAP refers to individual regional seas organisations and the acronym RSP refer to the umbrella programme overseeing the 18 RSCAPs.



Above: Added value of the RSCAPs to support national and global level implementation and advancement, namely of the GBF, to meet its 2030 Targets and 2050 Goals and vision.

Opportunities exist to strengthen regional alliances, and their implementation of EBM including incorporation of relevant Large Marine Ecosystem Projects and collaboration with Regional Fisheries Bodies. UNEP has also established a core set of 22 Indicators for the RSP. In practice, adoption and operationalising the whole of the Core Set has proved to be over-optimistic. Nevertheless, efforts have been made by several RSCAPs to harmonise agreed targets and indicators and match these with relevant SDGs.

The RSP has a collective mandate, based on the commitments agreed by Contracting Parties and Member States, to contribute to the GBF. However, through a more detailed analysis, a mismatch of delivery against region-specific mandates and a need for better coordination is also apparent. Some

RSCAPs have already committed themselves to efforts that resonate with the GBF, but to date attention given to the GBF varies. Some RSCAPs have been proactive, whilst others have yet to consider the implications of the GBF. As a result some RSCAPs are making connections between their strategic priorities, SDGs and their Parties'/Member States' legal obligations (e.g. European Union Marine Strategy Framework Directive (MSFD) and the requirement to achieve Good Environmental Status in Europe and the Barcelona Convention Contracting Parties' decision to achieve Good Environmental Status in the Mediterranean). Integration of the GBF into the programmes of work of the RSCAP therefore requires consideration on a case-by-case basis. Regional priorities will determine actions and in some cases prompt new regional regulations or measures. Attention should also be given to integrating land and sea dimensions of the GBF. Where targets apply to transitional coastal ecosystems, such as large estuaries, coral reefs, mangroves and coastal forest habitats, RSCAPs can play a role, building on previous efforts, supporting actions to conserve key ecosystems (e.g. corals, seagrasses, mangroves). The regional scale is also the most appropriate scale for some biodiversity elements, e.g. networks of marine protected areas and highly mobile species.

Obligations to implement the GBF present an opportunity to strengthen regional partnerships, providing a bridge between national and global scales. Regional dimensions would benefit from organised cooperation of a broad coalition of regional entities (RSCAP, Regional Fisheries Bodies, Regional Economic Forums, and recognised regional groups e.g. GLISPA) to share responsibility and divide up selected elements of the GBF and its monitoring framework. In particular there is obvious merit in better integration of RSCAPs and Regional Fisheries Bodies. This could be supported by better use of the annual meeting of RSCAPs and recognising a role for the CBD Sustainable Ocean Initiative Global Dialogue to help provide further impetus. For global Agencies such as IMO and ISA, the regional level does not really exist formally in terms of implementation. However, even for these global Conventions the regional level is often a tool for Parties to come together to streamline and harmonise issues and for the global Agencies to provide capacity building support. Important elements highlighted in the context of future implementation of the GBF by the RSP are: alignment of regional targets, data implications for RSP policies, coordination between focal points, and capacity building issues envisaged by RSCAPs.

The present CBD reporting system mostly lacks a regional dimension. States focusing on their National Biodiversity Strategies and Action Plans (NBSAPs; aligned to the Aichi Biodiversity Targets and SDGs) report directly to the CBD and the CBD's Global Biodiversity Outlook reports (effectively periodic litmus tests of collective progress against targets) do not include or compare regional evaluations. To address this, and take advantage of the established governance platform provided by the RSP and the Regional Strategy 2020-2030, a key recommendation of this study is that CBD should be requested to include a regional dimension in the GBF, leading to guidelines that would empower the regional organisations to gather, aggregate and communicate relevant marine data, reporting against an agreed subset of targets and indicators to the CBD Conference of the Parties (COP). This would ensure a regional role, encouraging intergovernmental consultation to achieve additional regional supplementary information (including regional interpretations of global datasets and 'big data'), potentially in the form of a Regional Biodiversity Strategy and Action Plan (RBSAP). Where no RSCAP exists (e.g., the SW Atlantic), national reports could be expanded as appropriate. Care is needed not to add another layer of complexity: there are already too many monitoring requirements, too many expert working groups and coordination groups, and too much duplication of effort, therefore it is important to use the processes and frameworks in place to support delivery of the GBF. It is also important to avoid an extra burden, particularly for developing countries and Small Island States.

In some cases RSCAPs assessment and monitoring is more detailed than global oversight requires. In other cases there are data gaps, reporting mechanisms have yet to be established and political will is lacking. Often significant effort is given to identifying indicators but for various reasons these remain

unused and are not implemented. There is also a mismatch between the high-level aggregated indicators of the GBF and the finer detail of indicators currently being used by the majority of RSCAPs. This report has attempted to summarise how indicators are being monitored and applied by the RSP. The UNEP core set of indicators is an attempt to identify headline indicators: to harmonise what can and should be tracked collectively by the RSP. Initially coherent implementation of the GBF by the RSP should aim to effectively monitor a restricted number of these indicators. RSCAPs can then demonstrate their value in a limited number of distinctive elements and become the champions for those elements. In many cases special interest groups (e.g., litter and coral) are already involved in this work at the regional scale. It is more about aligning reporting, rather than additional work and data generation. In short, a simple, practical and pragmatic solution.

As GBF targets and indicators evolve it is important for RSCAPs to highlight synergies. What is already being done versus what needs to be done by RSCAPs. There is a high degree of commonality between the GBF and the UNEP core set of indicators. Having consulted with 13 of the 18 RSCAPs this report illustrates examples of individual RSCAPs (case studies) whose efforts reflect attempts to align existing systems with global targets and objectives (Sustainable Development Goals, Aichi Biodiversity Targets, future GBF). Specific relevant indicators (a subset of the UNEP core set of relevance to the GBF), that a majority of RSCAPs embrace, are showcased. For the RSP this could link processes (such as Integrated Coastal Zone Management) with results and outcomes (such as reducing marine litter). Streamlining of indicators is helpful to prioritise data collection, metrics and periodicity and to target capacity building. The study also suggests opportunities to strengthen the marine focus of proposed GBF monitoring elements.

However, this study has also highlighted gaps and capacity needs, including the need for:

- Better recognition and promotion of the GBF by UNEP (thematic focus)
- Better integration of RSCAPs and Regional Fisheries Bodies
- Better national coordination between focal points (Ministries)
- Knowledge transfer opportunities between well resourced, ‘properly functioning’ RSCAPs vs. less politically stable and under-resourced regions: for example, guidance on methodologies, indicator selection and reporting mechanisms (linking Parties with resource providers, e.g. GEF)
- A need to address gaps in geographical coverage of the oceans, including interface with areas beyond national jurisdiction (ABNJ)
- Developing a unified voice to raise the visibility of the RSP as a whole
- Improving limited links with industry (more sectors)
- Tackling uneven capacity to achieve rigorous monitoring programmes (tracking progress)
- Data agreements, Clearing House Mechanisms and indicator dashboards as well as technical guidance to understand the balance between qualitative and quantitative data. National level training and technical (IT) support on data collection, analysis and information management is also needed to support partnerships for data sharing.

A 3-tier construct is proposed, within which individual RSCAPs can place themselves in terms of capacity needs. An argument is advanced that middle tier RSCAPs should be able to attract additional externally funded resources (human and financial), dedicated to the GBF, with the aim of working with focal points and encouraging and supporting better coordination at the national level. A model to be considered is provided by Regional Coordinators of the IMO reporting to the Technical Cooperation

Division[2]. IMO also have an audit scheme to support and direct the award of additional resources. The forthcoming concurrent UN Decades of Ocean Science and of Ecosystem Restoration both provide opportunities for resource mobilisation. The design/terms of reference of any such financial mechanism is important, preferably a programmatic package with specific GBF elements, designed jointly by CBD and UNEP, that donors can be invited and encouraged to support. Furthermore, if extra-budgetary contributions are not forthcoming, the RSP should seek and embrace support from the private sector, big foundations and philanthropic groups. Through the RSP these donors can reach broad groups of Parties.

Finally, as a flagship UNEP initiative the RSP, with its great potential to engage with the GBF, merits greater attention and central coordination. It is timely to review the *modus operandi* of the RSP and consider how it can be strengthened, focused and/or revitalised. A role for the RSP in the GBF could provide the catalyst to improve regional ocean governance in line with the SDGs.

Summary of recommendations

UNEP propose a regional mechanism (e.g. regional reporting guidelines ensuring harmonisation and links to NBSAPs) under the GBF for consideration by **CBD** COP or propose to have existing regional frameworks validated by **CBD** COP.

CBD and UNEP seek donor funding to support a package of capacity building support/projects including, where appropriate, dedicated staff on fixed-term contracts located within selected RSCAP Secretariats to help facilitate implementation of the GBF (data collection, reporting, coordination, liaison with selected Parties).

Individual **RSCAPs** review their strategic plans (and capacity building needs) to position themselves to implement the GBF and **UNEP** ensures better alignment with GBF (through streamlining GBF with the RSCAPs Strategic Directions (2021-2024) and/or facilitating mutual support with the RSP).

RSCAPs determine an agreed subset (either individually or collectively) of the UNEP core set of indicators, that could provide the most effective and efficient starting point for regional contributions to the GBF, and **UNEP** provides support to all RSCAPs by re-engaging the UNEP Indicators Working Group to discuss indicators related to the GBF.

UNEP continue to foster and encourage knowledge transfer between RSCAPs, including sharing guidelines, methodologies, and data protocols, as well as by encouraging development of MoUs with relevant RFBs and RFMOs. Strengthening of this transfer could be further encouraged by making use of the annual meeting of the RSP and/or CBD Sustainable Ocean Initiative Global Dialogues, to bring together different sectoral groups, formalise practical arrangements, secure multiple reporting benefits and inform structured capacity building efforts as appropriate.

RSCAPs supplement their databases, where appropriate, to allow access to and use of global datasets and open data portals and if needed consider regional data capacity development programmes.

[2] The IMO Technical Cooperation Committee oversees IMO's capacity-building programme and the implementation of technical cooperation projects for which the Organization acts as the executing or cooperating agency, ensuring that IMO supports the SDGs and the 2030 Agenda for Sustainable Development (http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Technical-Cooperation-Committee(TC)/Pages/default.aspx).

Better coordination (communication and knowledge sharing) between RSCAP national focal points and CBD national focal points is needed. Support from **UNEP** to map the CBD national focal point and the RSCAPs national focal point could be an important first exercise to verify the level of coordination between both processes, to establish a contact directory and a mechanism for regular information exchange.

CBD, UNEP and RSCAPs promote the successful Liaison Group of biodiversity-related conventions model (https://www.cbd.int/blg/) operating at global level with a view to something similar being replicated both between the RSCAPs and at the regional scale to strengthen sectoral cooperation (e.g. between RSCAPs, RFBs and Regional Economic organisations) acting as a biodiversity contact group for specific ecosystems (e.g. mangroves) and selected GBF targets (e.g. ICZM).

UNEP and RSCAPs facilitate efforts to address gaps in regional coverage and engage proactively in BBNJ discussions in support of their Parties.

UNEP encourage the RSCAPs to translate the GBF into the existing regional biodiversity strategies and, where needed, into Regional Biodiversity Strategies and Action Plans reinforcing the role of RSCAPs. This should be supported by efforts to achieve greater socio-economic relevance, better data management and access to additional funding streams. This includes giving attention to the 'human needs' dimension of the GBF (e.g. sustainable production and responsible consumption).

List of acronyms

ABC	Abidjan Convention
ABNJ	Areas Beyond National Jurisdiction
ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area
ASCLME	Agulhas and Somali Current Large Marine Ecosystem
BBNJ	Marine Biodiversity of Areas Beyond National Jurisdiction
BD	Biodiversity
BSAP	Baltic Sea Action Plan
BSC	Black Sea Commission
CAR	Cartagena Convention Secretariat
CB	Capacity Building
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CAFF	Conservation of Arctic Flora and Fauna
CEP	Caspian Environment Programme
CNEI	Core National Environmental indicators
COBSEA	Coordinating Body on the Seas of East Asia
COP	Conference of Parties
COREP	Regional Commission of Fisheries of Gulf of Guinea
CPPS	Permanent Commission for the South Pacific
CRFM	Caribbean Regional Fisheries Mechanism
CSI	Core Set of Indicators
EBM	Ecosystem-Based Management
EBSA	Ecologically or Biologically Significant Marine Areas
EC	European Commission
ENGO	Environmental Non-Governmental Organisation
EQO	Ecological Quality Objective
FAO	Food and Agriculture Organization of the United Nations
GBF	Global Biodiversity Framework
GBO	CBD's Global Biodiversity Outlook
GEF	Global Environment Facility
GES	Good Environmental Status
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GFCM	General Fisheries Commission for the Mediterranean and Black Sea
GLISPA	Global Island Partnership
GPA	UNEP's Global Programme of Action
HELCOM	Helsinki Convention
IAS	Invasive Alien Species
IATTC	Inter-American Tropical Tuna Commission
ICPDR	International Commission for the Protection of the Danube River
ICZM	Integrated Coastal Zone Management

IGM	Intergovernmental Meeting
IGO	Intergovernmental Organisation
IMO	International Maritime Organization
IPBES	Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPLC	Indigenous Peoples and Local Communities
ISA	International Seabed Authority
IUCN	International Union for the Conservation of Nature
KBA	Key Biodiversity Areas
LME	Large Marine Ecosystem
MEA	Multilateral Environmental Agreement
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MSFD	EU's Marine Strategy Framework Directive
MSP	Marine Spatial Planning
NBSAP	National Biodiversity Strategy and Action Plan
NEP	North East Pacific Regional Seas Programme
NFP	National Focal Point
NIS	Non-indigenous Species
NOWPAP	Northwest Pacific Action Plan
OECD	Organisation for Economic Co-operation and Development
OEWG	Open-Ended Working Group
OSPAR	Oslo-Paris Convention
PAME	Protection of the Arctic Marine Environment
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PERSGA	Regional Organization for the Conservation of the Environment of the Red Sea & Gulf of Aden Region
RAC	Regional Activity Centre
RAP	Regional Action Plan
RAP MALI	COBSEA Regional Action Plan on Marine Litter
RBSAP	Regional Biodiversity Strategic Action Plan
RCU	Regional Coordinating Unit
RECOFI	Regional Commission for Fisheries
RFB	Regional Fisheries Body
ROPME	Regional Organization for the Protection of the Marine Environment
RSCAP	Regional Seas Convention and Action Plan
RSP	Regional Seas Programme
SACEP	South Asia Co-operative Environment Programme
SAP	Strategic Action Plan
SAP BIO	Strategic Action Programme for the conservation of Biological Diversity (SAP BIO) in the Mediterranean Region
SBI	CBD's Subsidiary Body on Implementation
SBSTTA	CBD's Subsidiary Body on Scientific, Technical and Technological Advice
SDG	Sustainable Development Goal
SOE	State of the Environment

SPREP	South Pacific Regional Environment Programme
SPRFMO	South Pacific Regional Fisheries Management Organization
SRFC/CSRP	Sub-Regional Fisheries Commission
SWIOFC	South West Indian Ocean Fisheries Commission
TDA	Transboundary Diagnostic Analysis
TK	Traditional Knowledge
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
UNEP-CEP	UNEP Caribbean Environment Programme
UNEP-MAP	UNEP Mediterranean Action Plan
VME	Vulnerable Marine Ecosystem
WCPFC	Central Pacific Fisheries Commission

1. Introduction

1.1 Aim and objectives

The 10th meeting of the Conference of the Parties to the Convention (COP) on Biological Diversity (CBD) adopted a Strategic Plan for Biodiversity 2011-2020, including a Vision for 2050. It includes twenty Aichi Biodiversity Targets, mostly for 2020, organised under five Goals, as well as a means for implementation and review. The Strategic Plan was endorsed or supported by other Conventions and the United Nations General Assembly, and accordingly provides a universal framework for action on biodiversity. The 15th meeting of the CBD COP is expected to update the CBD's Strategic Plan, in the context of the 2050 Vision as well as the 2030 Agenda for Sustainable Development and other relevant international processes.

In support of this process, at the fourteenth CBD COP, the Parties decided to move towards development of the post-2020 global biodiversity framework (GBF), in the light of an assessment of progress in achieving the Goals and Aichi Biodiversity Targets of the current Strategic Plan with due consideration to future scenarios of change. The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) provide an important enabling framework. The SDGs and related targets comprise an "integrated and indivisible set", with more than half of the targets being cross-cutting, linking different goals.

In the Open-Ended Working Group (OEWG) established by the CBD as part of the preparatory process, discussion is underway on the GBF including targets, goals, implementation support and monitoring, including indicators. The Zero Draft of the GBF was submitted to the second meeting of the OEWG on the post 2020 Global Biodiversity Framework (24-29 February 2020), and was updated in August 2020 (CBD/POST2020/PREP/2/1). Development of the GBF is a work in progress.

The aim of this study is to align the CBD's GBF with the remit and scope of the UNEP Regional Seas Programme (RSP) and make recommendations to improve and strengthen compatibility. The GBF and the RSP mutually support the overarching framework established by the SDGs and foster a common purpose of sustainable development through the promotion of ecosystem health and status. The frameworks have areas of overlap, which can reinforce each other, mutually strengthening results (Figure 1.1). Efforts have been made by several Regional Seas Conventions and Action Plans (RSCAPs) to harmonise agreed targets and indicators and match these with relevant SDGs. This study considers these areas of overlap, how can they be explicitly recognised and aligned and streamlined to effectively deliver necessary (and measurable) results by 2030. Objectives are to review relevant work of the RSP; examine policy implications and implementation opportunities; and make recommendations to achieve greater synergy.

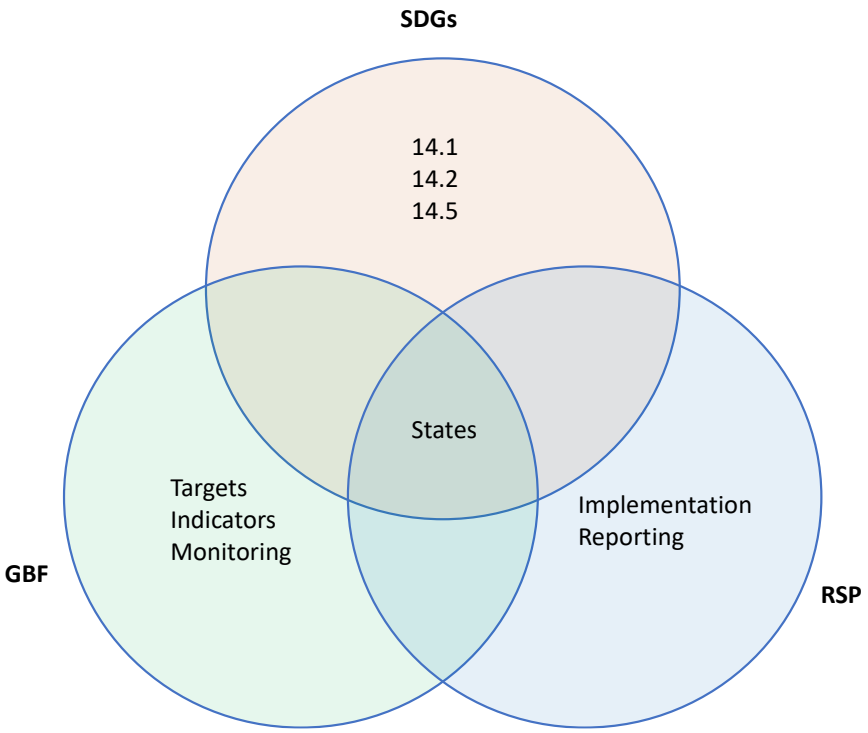


Figure 1.1: Areas of overlap between the SDGs, the CBD's GBF and the RSP[3].

1.2 Structure of the report

This report is structured as follows:

Section 1 frames the question and presents the study's **aims and objectives** together with the **methodology**.

Section 2 briefly introduces the genesis and rationale of the **post-2020 global biodiversity framework (GBF),** its development, departure from Aichi Targets and articulation with other strategic biodiversity initiatives (Sustainable Development Goals, Biodiversity Beyond National Jurisdiction negotiations, World Ocean Assessments).

Section 3 provides an overview of the **Regional Seas Programme** (RSP) and of the 18 Regional Seas Conventions and Action Plans (RSCAPs). It reiterates the role of the RSP as established cross-sectoral and transboundary collaborative framework for marine Ecosystem-Based Management (EBM); summarises the interaction of the RSCAPs with Multilateral Environmental Agreements (MEA) such as the CBD/Aichi Biodiversity Targets, and the UN 2030 SDGs; provides an update on the application of the RSP coordinated indicator set, and concludes with the need to revitalise the RSP.

Section 4 analyses the 18 RSCAPs vis-à-vis the GBF: it reviews RSP mandates to conserve biodiversity, and explains ambition regarding the GBF. It showcases strengths (case studies), especially **relevant targets** (ensuring reference to regional target setting and links to global goals – and specific Aichi Biodiversity Targets), highlighting where pollution work links to conservation and

[3] It should be noted that the RSP also contributes either directly or indirectly to other SDG targets including 14.3, 14.7, 14A and 14C, 13, 12 and 17.

sustainable use of biodiversity, reiterating the benefits of regional governance, including RFMO partnerships, and emphasising advantages of the regional scale for assessment of ecosystem status and functions as well as a means to jointly manage shared ecosystem resources; efforts to establish RSP platforms for regional scale harmonisation of national actions; analysis of governance level of decision-making – who is doing what and who decides at regional level. The section seeks to answer key questions such as: What are the potential implications of the GBF for the programmes of work of the RSP? Are the institutional, legal/policy and financial frameworks of the RSP fit for purpose to support GBF delivery as the vehicle for reporting and follow-up of global objectives and targets? How can RSP ensure follow-up and review of regional targets and objectives associated with GBF goals and targets and associated monitoring and evaluation? What actions are needed?

Section 5 analyses the RSCAPs monitoring and reporting systems relevant to the GBF, including **indicators,** linking to data collection processes and potential state of the environment or quality status reporting role.

Section 6 sets out an analysis the **actual and potential future role** for RSP to contribute to the GBF, recognising differences and **capacity needs** between the RSCAPs and identifying potential solutions to overcome them. It identifies current **gaps** and details the perceived role different actors need to play to effectively contribute towards the implementation of the GBF, informing the study's overall **conclusions and recommendations.**

1.3 Methods

For each RSCAP information was compiled from available online resources (including Strategies, Action Plans, state of the environment reports) and supplemented with answers to a questionnaire sent out to the RSCAPs (in English or in Spanish where appropriate) in July 2020 (Annex 1).

Thirteen RSCAPs responded to the questionnaire. Answers were obtained either in writing or in the course of virtual meetings with Regional Seas representatives or both. The quality of the responses was uneven: some provided detailed answers to all the questions, while others only partially replied. Online information helped to fill in some of the incomplete information.

Expert advice was sought on the direction, strengths, capacity gaps and needs of the RSP to address the GBF. Views from selected experts (see Annex 2) within UNEP and working for other global and regional organisations were collected through semi-structured interviews that took place between August and October 2020. Information from a webinar (1 October 2020) and a virtual workshop (27-28 October 2020) involving representatives of the RSP, of RSCAPs, and of invited global organisations informed the report and served to validate preliminary findings (a summary of conclusions and recommendations from the workshop is in Annex 3).

2. The CBD Post-2020 Global Biodiversity Framework

Prior to its anticipated adoption, the post-2020 GBF has been the subject of a series of opportunities for coordinated input at dedicated CBD-convened fora to refine its scope and develop guidelines for its implementation. This preparatory process has been comprehensive and participatory, allowing for peer review and submissions to workshops, consultations and expert meetings. In support of this the CBD Secretariat has provided discussion documents on an iterative basis. The story of GBF's genesis, rationale and development is summarised here (and depicted in Fig. 2.2), with a particular emphasis on its synergies with UNEP's Regional Seas Programmes (see Section 3).

2.1 Genesis

At the 10th meeting of the CBD COP (in Nagoya, Japan, October 2010), the 'Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets' was adopted by the Parties (CBD, 2010). This was the culmination of years of consultations, revisions and updates to the original Strategic Plan for the CBD, which was adopted in 2002, 10 years after the CBD was opened for signature (CBD, 2002). During the decade of implementation of the updated Strategic Plan, in December 2016, at the 13th meeting of the CBD COP (in Cancun, Mexico), the need was recognised for a comprehensive and participatory process to develop proposals for the follow-up to the Strategic Plan for Biodiversity 2011-2020, as well as to enhance efforts to achieve the Aichi Biodiversity Targets (CBD, 2016). The Parties at CBD COP 13 requested the Executive Secretary to prepare, in consultation with the COP Bureau and for consideration by the CBD's Subsidiary Body on Implementation (SBI), such a proposal and a timetable for the follow-up to the Strategic Plan for Biodiversity 2011-2020, taking into consideration that this work must cover the Convention on Biological Diversity and also consider its Protocols. At the SBI's second meeting (in July 2018, Montreal, Canada), Parties duly took note of the proposed preparatory process for the GBF as a follow-up to the Strategic Plan for Biodiversity 2011-2020, and recommended that the CBD COP at its 14th meeting (Sharm El-Sheikh, Egypt, November 2018), adopt the preparatory process while also requesting the Executive Secretary to facilitate its implementation (CBD, 2018b[4]). The process for the development of the GBF was subsequently adopted by the CBD COP14 (CBD, 2018a), to be supported by an open-ended intersessional working group (OEWG) with contributions from the SBI and the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA).

2.2 Development

The GBF is built around a theory of change (Fig. 2.1), which recognises that urgent policy action globally, regionally and nationally is required to transform economic, social and financial models so that the trends that have exacerbated biodiversity loss will stabilise by 2030 and allow for the recovery of natural ecosystems, with net improvements by 2050 to achieve the CBD's 2050 vision.

[4] Portentously, the SBI also noted that the implementation of the preparatory process will require flexibility in order to adapt to changing circumstances and to respond to emerging opportunities, which has indeed been necessary in the run-up to CBD COP15 planned originally for 2020.

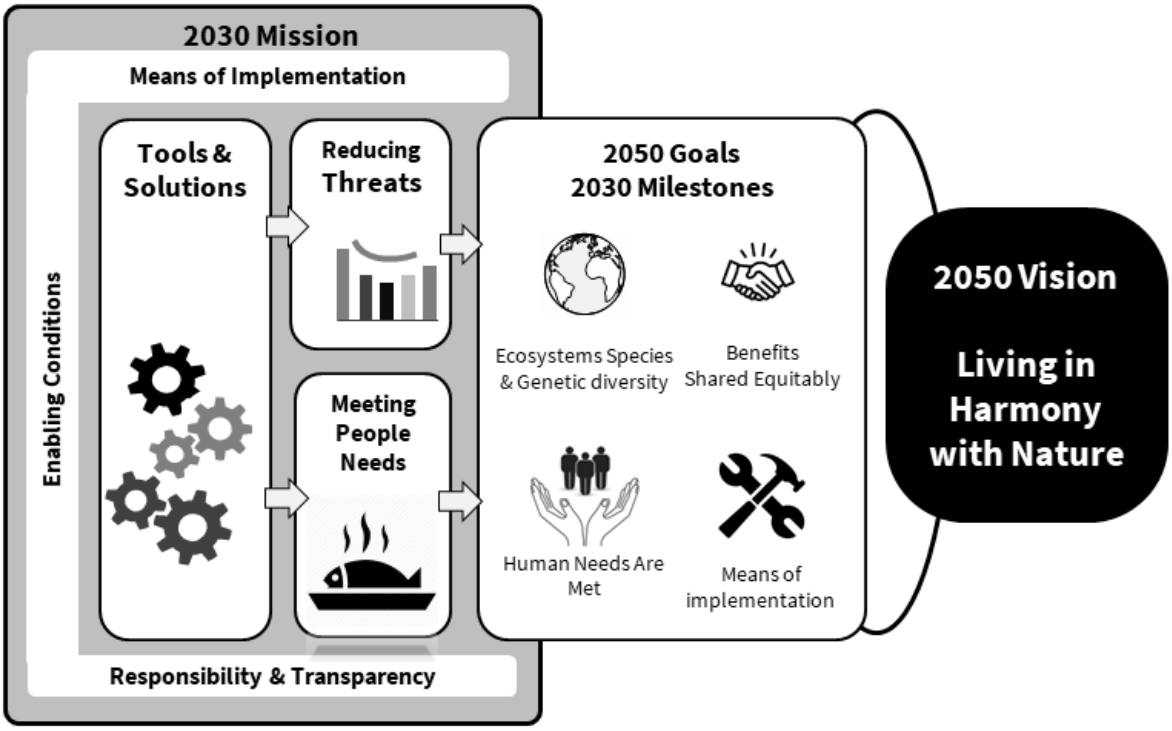


Figure 2.1: Theory of change as a basis for the GBF (reproduced from CBD, 2020b).

Since CBD COP14 in 2018, Parties, other governments, inter- and non-governmental organisations and all other pertinent sectors and stakeholders, including indigenous peoples and local communities, have been invited – including through the CBD's provision of regional and thematic consultation workshops, and opportunities to provide submissions to the process as well as comment on working documents – to actively engage and contribute to the process of developing a robust GBF in order to foster strong ownership of the framework and strong support for its immediate implementation. All such bodies have also been invited to establish processes at the national, subnational and local levels, to facilitate dialogues on the GBF (CBD, 2018c).

Thematic consultation workshops organised by the CBD Executive Secretary and the co-chairs of the OEWG have covered topics such as gender elements, other biodiversity-related conventions, access and benefit sharing, biosafety, ecosystem restoration, marine and coastal biodiversity, area-based conservation measures, resource mobilisation, capacity building, technical and scientific cooperation, and transparent implementation, monitoring, reporting and review. Regional consultation workshops have covered Africa, the Asia-Pacific region, Latin America and the Caribbean, Central and Eastern Europe, and the Western Europe and Others group.

SBSTTA and the SBI provide a formal opportunity for Parties to provide feedback to the OEWG. The scientific and technical merits of the proposed GBF will therefore be deliberated during SBSTTA's 23rd and 24th meetings in November 2019 and early 2021[5] respectively and considered further by the OEWG. In turn, the SBI at its third meeting (in early 2021) will consider issues related to means of implementation, enabling conditions, and responsibility and transparency – such as resource mobilisation, the financial mechanisms, capacity-building, technical and scientific cooperation, technology transfer, knowledge management, the clearing-house mechanism, communications,

[5] The exact dates for SBSTTA-24 and SBI-3 are subject to change due to the precautions observed during the on-going COVID-19 pandemic.

mechanisms for planning, reporting, assessment and review of implementation, the mainstreaming of biodiversity within and across sectors, and other strategic actions to enhance implementation – as well as cooperation with other Conventions, international organisations and related initiatives. The SBI will also consider elements of the GBF related to traditional knowledge, innovations and practices, as well as to biosafety, access and benefit-sharing, while making sure they are in line with the various associated Protocols.

Outputs from both the SBSTTA and the SBI meetings will be considered at the third meeting of the OEWG in 2021, where the final text of the first draft of the GBF will be prepared before its submission for consideration by the Parties during CBD COP15.

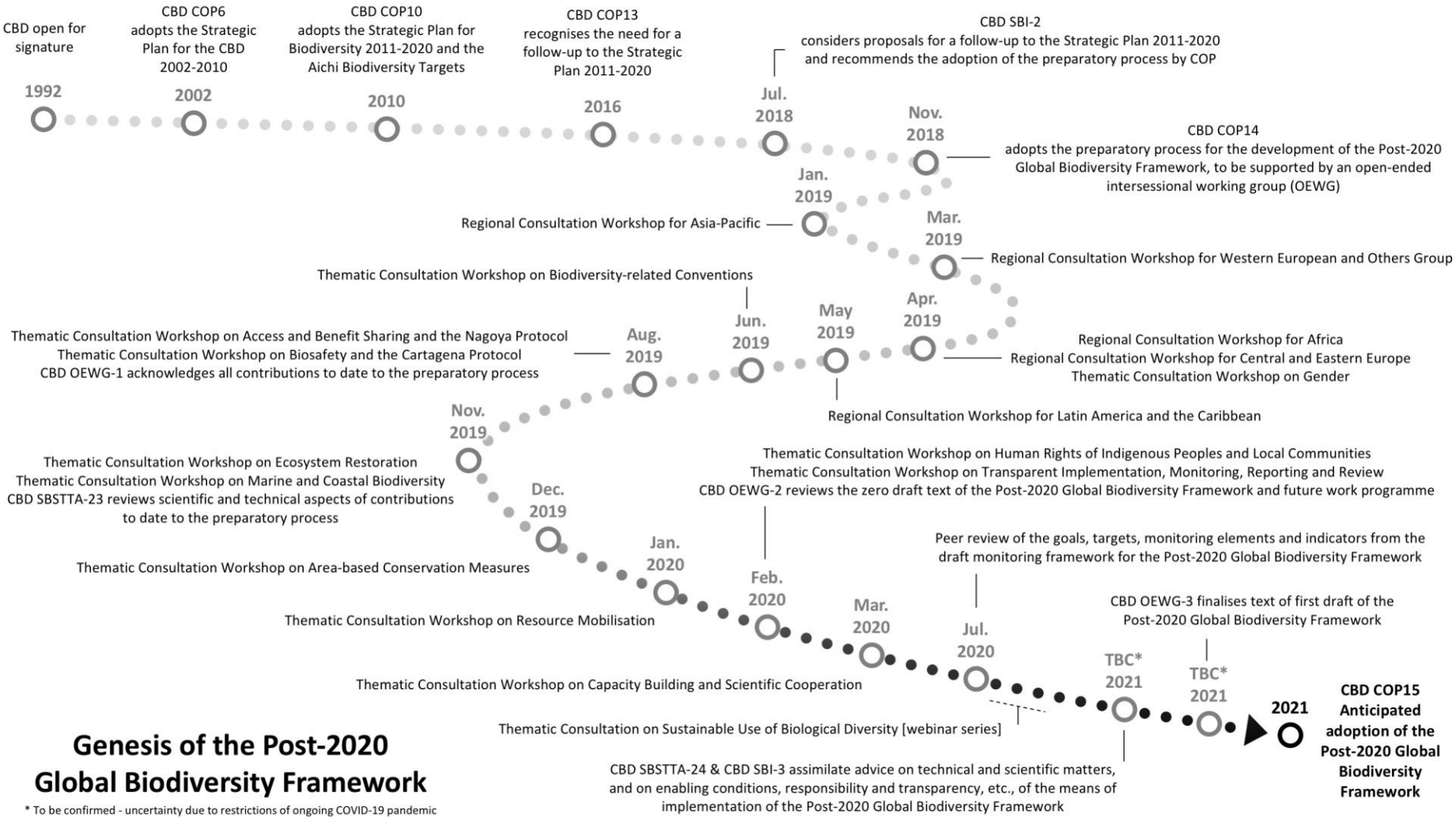


Figure 2.2: Timeline of key events that have led to the creation of the CBD's Post-2020 Global Biodiversity Framework.

2.3 Need to galvanise urgent and transformative action across society

Parties at CBD COP14 acknowledged that current trends, or 'business-as-usual' scenarios, show continued loss of biodiversity, with major negative consequences for human wellbeing (CBD, 2018d). However, Parties also agreed that the CBD's 2050 Vision for Biodiversity "living in harmony with nature by 2050" remains relevant: a sentiment echoed by participants of the first OEWG meeting. Participants of the OEWG-1 also agreed that elements of the 2050 Vision could be used to inform the development of parts of the GBF, which may require the consideration of timeframes beyond 2030 (CBD, 2019a). The OEWG concluded that there was still much updated documentation pending to be received from on-going consultations on several fronts before the organisational structure of possible elements of the GBF could be firmly set.

During the period of consultation for the GBF, Parties and Observers were invited to provide their views and perspectives on the scope, content and structure of framework. Many of these submissions contained suggestions for targets for the GBF, with many suggestions accompanied by additional information, including information on their rationale, possible indicators, and their links to other processes. Eventually, the submissions were synthesised (CBD, 2020a) and distilled into the Zero Draft text of the GBF, ready for review by the OEWG.

At the second meeting of the OEWG (in February 2020), participants reviewed the Zero Draft text of the GBF that had been drafted since its first meeting, and provided comments on the proposed goals, targets and other elements contained therein (CBD, 2020b). As it stood in the Zero Draft, the framework had five long-term goals related to the CBD's 2050 Vision, although following further consultations in July 2020, these have been refined and reduced to four (see Table 2.1). Each 2050 goal has an associated outcome for 2030, with a monitoring framework (CBD, 2020c) that provides information on baselines and milestones for the components of each goal. The draft includes 20 action-oriented targets for 2030, organised in clusters on: reducing threats to biodiversity, meeting people's needs through sustainable use and benefit sharing, and tools and solutions for implementation and mainstreaming (Table 2.2). The 2030 Mission for the GBF is "*To take urgent action across society to put biodiversity on a path to recovery for the benefit of planet and people*". This approach is complementary to and supportive of the 2030 Agenda for Sustainable Development (UNGA, 2015).

The GBF proposed monitoring framework is a work in progress. The latest considerations have explored working with the UN System of Environmental Economic Accounting – Environment Ecosystem Accounts (https://seea.un.org/ecosystem-accounting). This would link the development of the GBF to the UN system of economic and environmental accounting indicators and its set of ecosystems (including mangroves, seagrasses, saltmarshes, coral reefs and kelp).

Table 2.1: Relation of draft GBF 2050 goals to SDGs. The first three columns summarise the information contained in the Zero Draft GBF (CBD, 2020b). The first column was updated based on the August 2020 update of the Zero Draft. The fourth column highlights aspects related to the ocean. The GBF goals that explicitly incorporate SDG14 are shaded in blue.

Draft GBF 2050 goals	**Related SDGs**	**SDG relevant extracts**	**Relevance to SDG14/oceans**
Goal A A.1 The area, connectivity and integrity of natural systems increased by at least [5%] A.2 The number of species that are threatened is reduced by [X%] and the abundance of species has increased on average by [X%]	SDG 6 SDG 13 SDG 14 SDG 15	*SDG 14 and 15 are supported by Goal A, as it contributes to the conservation of water and terrestrial ecosystems, protects against species loss and resilience of genetic diversity.*	[already included in Goal]
Goal B B.1 Nature contributes to the sustainable diets and food security, access to safe drinking water and resilience to natural disasters for at least [X%] million people B.2 Nature is valued through green investments, ecosystem service valuation in national accounts, and public and private sector financial disclosures.	SDG 1 SDG 2 SDG 3 SDG 4 SDG 5 SDG 6 SDG 7 SDG 8 SDG 9 SDG 12 SDG 13 SDG 14 SDG 15	*Goal B also contributes to the advancement of ecosystem conservation, as indicated in SDG14 and SDG15.*	[already included in Goal]
Goal C C.1 Access and benefit-sharing mechanisms are established in all countries C.2 Benefits shared increased by [X%]	SDG 2 SDG 3 SDG 5 SDG 6 SDG 7 SDG 10 SDG 11 SDG 16	*Goal C advances SDGs 5, 10 and 11, as it emphasises the importance of equitable and intergenerational sharing of benefits among all people.* *Goal C also supports the sharing of benefits which genetic resources provides people, including food security, nutrition and sustainable agriculture (SDG2), healthy lifestyles (SDG3), access to water resources (SDG6), sustainable energy (SDG7).* *Goal C supports SDG16, as it promotes equitable and fair sharing on benefits, contributing to inclusive societies, as well as supports equitable governance systems.*	As in the previous cases, the ocean/SDG14 should be explicitly included/considered in Goal C, especially given the importance of the fair and equitable and intergenerational sharing of ocean benefits among all people. This should include consideration of marine ecosystem goods and services, including genetic resources sourced from marine regions within national jurisdictions and in ABNJ.
Goal D D.1 By 2022, means to implement the framework for the period 2020 to 2030 are identified and committed D.2 By 2030, means to implement the framework for the period 2030 to 2040 are identified or committed.	SDG 4 SDG 12 SDG 17	*Goal D directly supports SDG17's goal of strengthening means of implementation and partnerships for sustainable development, as it requests the means of implementation, including financial resources, mainstreaming, capacity building, awareness and communication, technology transfer, scientific cooperation and access to technology, be available to achieve the goals and targets of the GBF.* *Goal D additionally supports the achievement of SDG4, where equitable education on sustainable development, and biodiversity will be a crucial means of implementation to achieve the goals.*	The Ocean/SDG14 should be explicitly included/considered in Goal D. SDG14 relates to an ecosystem covering c. 70% of the Earth's surface and includes one target directly related to means of implementation of ocean related instruments "*for the conservation and sustainable use of the oceans and their resources"* (SDG14.c). It is therefore directly relevant to Goal D.

Table 2.2: Relation of draft GBF 2030 targets (as of August 2020) to SDG 14 targets and indicators: SDG targets in bold expire in 2020. The GBF targets that explicitly incorporate elements of SDG14 are shaded in blue. Suggested SDG14 targets and indicators potentially relevant to GBF targets are in blue font. Dash (-) indicates missing SDG indicator 14.4.1.

Draft GBF 2030 Targets	**Related SDG 14 targets**	**Related SDG 14 indicators**
Reducing threats to biodiversity		
Target 1 - By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them	**14.2**	14.2.1
Target 2 - By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30% of the planet with the focus on areas particularly important for biodiversity	**14.5**	14.5.1
Target 3 - By 2030, ensure active management actions to enable wild species of fauna and flora recovery and conservation, and reduce human-wildlife conflict by [X%]	14.2	14.2.1
Target 4 - By 2030, ensure that the harvesting, trade and use of wild species of fauna and flora is legal, at sustainable levels and safe.	**14.4**	14.4.1 14.6.1
Target 5 - By 2030, manage, and where possible control, pathways for the introduction of IAS, achieving [50%] reduction in the rate of new introductions, and control or eradicate IAS to eliminate or reduce their impacts, including in at least [50%] of priority sites	14.2	14.2.1
Target 6 - By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health	14.1	14.1.1
Target 7 - By 2030, increase contributions to climate change mitigation adaption and disaster risk reduction from nature-based solutions and ecosystem-based approaches, ensuring resilience and minimising any negative impacts on biodiversity	14.2 14.3	14.2.1 14.3.1
Meeting people's needs through sustainable use and benefit-sharing		
Target 8 - By 2030, ensure benefits, including nutrition, food security, livelihoods, health and well-being, for people, especially for the most vulnerable through sustainable management of wild species of fauna and flora	**14.4** **14.6** 14.7 14.B	14.4.1 14.6.1 14.7.1 14.B
Target 9 - By 2030, support the productivity, sustainability and resilience of biodiversity in agricultural and other managed ecosystems through conservation and sustainable use of such ecosystems, reducing productivity gaps by at least [50%]	**14.4**	-
Target 10 - By 2030, ensure that, nature based solutions and ecosystem approach contribute to regulation of air quality, hazards and extreme events and quality and quantity of water for at least [XXX million] people	**14.2**	14.2.1
Target 11 - By 2030, increase benefits from biodiversity and green/blue spaces for human health and well-being, including the proportion of people with access to such spaces by at least [100%], especially for urban dwellers	14.2 14.5	14.2.1 14.5.1
Target 12 - By 2030, increase by [X] benefits shared for the conservation and sustainable use of biodiversity through ensuring access to and the fair and equitable sharing of benefits arising from utilisation of genetic resources and associated traditional knowledge	14.7 14.B 14.C	14.7.1 14.B.1 14.C.1
Tools and solutions for implementation and mainstreaming		
Target 13 - By 2030, integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies and accounts at all levels, ensuring that biodiversity values are mainstreamed across all sectors and integrated into assessments of environmental impacts	14.2 14.A 14.C	14.2.1 14.A.1 14.C.1
Target 14 - By 2030, achieve reduction of at least [50%] in negative impacts on biodiversity by ensuring production practices and supply chains are sustainable	14.4 14.6 14.7	14.4.1 14.6.1 14.7.1
Target 15 - By 2030, eliminate unsustainable consumption patterns, ensuring people everywhere understand and appreciate the value of biodiversity, and thus make responsible choices commensurate with 2050 biodiversity vision, taking into account individual and national cultural and socioeconomic conditions	14.4 14.6 14.7	14.4.1 14.6.1 14.7.1

Draft GBF 2030 Targets	Related SDG 14 targets	Related SDG 14 indicators
Target 16 - By 2030, establish and implement measures to prevent, manage or control potential adverse impacts of biotechnology on biodiversity and human health reducing these impacts by [X]	14.A 14.C	14.A.1 14.C.1
Target 17 - By 2030, redirect, repurpose, reform or eliminate incentives harmful for biodiversity, including [X] reduction in the most harmful subsidies, ensuring that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity	**14.6**	14.6.1
Target 18 - By 2030, increase by [X%] financial resources from all international and domestic sources, through new, additional and effective financial resources commensurate with the ambition of the goals and targets of the framework and implement the strategy for capacity-building and technology transfer and scientific cooperation to meet the needs for implementing the post-2020 global biodiversity framework	14.A	14.A.1
Target 19 - By 2030, ensure that quality information, including traditional knowledge, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research	14.A 14.B	14.A.1 14.B.1
Target 20 - By 2030, ensure equitable participation in decision-making related to biodiversity and ensure rights over relevant resources of indigenous peoples and local communities, women and girls as well as youth, in accordance with national circumstances	14.B	14.B.1

2.3.1 Building on the Aichi Biodiversity Targets

The Global Biodiversity Outlook 5 concluded that, despite a decade of global efforts to protect and restore biodiversity, not one of the 20 Aichi Biodiversity Targets has been fully achieved and biodiversity loss continues at an unprecedented rate, requiring urgent and innovative action (SCBD, 2020). This is recognised in the GBF Zero Draft, which establishes the ambitious successor of the Aichi Biodiversity Targets, with its 2050 vision, goals and intermediate 2030 targets as an intermediate step to assess progress towards the achievement of those 2050 goals and vision (CBD, 2020). Time is of the essence and concerted action is key.

During several of the regional and thematic consultation workshops, the Aichi Biodiversity Targets were generally regarded as useful and that lessons should be drawn, particularly around their simplification (for better understanding), implementation and ease of measurement of progress. The failure to include the Cartagena and Nagoya protocols in Aichi Biodiversity Targets was also recognised, as was the need to rectify this in any future framework. Continuity of intention across on-going and future frameworks was deemed important.

Discussions on the Zero Draft GBF text during the OEWG-2 meeting focused on a number of 2030 Action Targets (namely, Targets 2, 4, 5, 7-11 and 12), noting in most cases the similarity or complementarity of GBF Action Targets with particular Aichi Biodiversity Targets (see Table 2.), but also where, in some cases, GBF Action Targets appear to lack the ambition of complementary Aichi Biodiversity Target (e.g., GBF Action Target 2 and Aichi Biodiversity Target 11). A need to acknowledge regional-level data implementation, previously lacking in the Aichi Biodiversity Targets, has been recognised during discussions on the GBF. The outcome of such discussions is expected to be reflected in the first draft of the GBF text presented at the upcoming OEWG-3 meeting expected to take place in February 2021.

2.3.2 Alignment with other strategic biodiversity initiatives

At the OEWG-2 meeting, where the Zero Draft text of the GBF was discussed, as well as the preliminary draft of the monitoring framework for the goals and targets (CBD, 2020c), participants

noted that synergies with relevant targets under the UN's SDGs should also to be harnessed (see Table 2.1 and Table 2.), specifically in the alignment of language between both initiatives and with the Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) [6] assessments. As a case in point, the South Pacific Regional Environment Programme (SPREP) held a workshop in February 2020 to discuss regional priorities for the GBF and, as a result, made a submission to the OEWG that was raised at OEWG-2, proposing, amongst other things, a separate goal on oceans. Such a goal is not included in subsequent working drafts of the GBF but many elements on raising the profile of marine issues have been included (P Davies (SPREP), pers. comm.). While many opportunities for alignment exist and have been acknowledged – both with the GBF 2050 goals (Table 2.1) and the GBF 2030 targets (Table 2.) – several more opportunities exist to enhance linkages between SDG targets and indicators, and with 'SDG14: Life below water' in particular.

Additionally, the preliminary/draft monitoring framework for the goals of the GBF (CBD, 2020c) identifies eight potentially useful SDG indicators belonging to five SDGs (other indicators unrelated to the SDGs are also listed). These are 'SDG2: Zero hunger', 'SDG6: Clean water and sanitation', 'SDG11: Sustainable cities and communities, and 'SDG14: Life below water'. It is worth observing that 14 out of the 17 SDGs have elements of nature listed as critical to their delivery, yet only five SDGs are invoked by the indicators identified in the draft monitoring framework of the GBF, with 'SDG14: Life below water' notably absent in two of the four goals. Separately but relevantly, a recent assessment of the integration of biodiversity and the SDG agenda (Pesce et al., 2020) reveals that only 20% of investigated national SDG progress reports mention biodiversity as a priority for sustainable development.

Focusing on the marine realm, during the Thematic Workshop on Marine and Coastal Biodiversity for the GBF (Montreal, Canada, November 2019), many participants considered that the GBF should make a specific reference to important marine ecosystems and coastal ecosystems, adding that comprehensiveness, adequacy and representativeness are important dimensions of coverage for marine ecosystems (CBD, 2020d). Marine areas beyond national jurisdiction (ABNJ) were included as specific types of ecosystems of concern, noting however, that the development of the GBF should not prejudge the on-going deliberations on an international legally binding instrument on the conservation and sustainable use of biodiversity in ABNJ (BBNJ). The CBD's Ecologically or Biologically Significant Marine Areas (EBSAs), the International Union for the Conservation of Nature's (IUCN) marine Key Biodiversity Areas (KBAs), and the Food and Agriculture Organization's (FAO) Vulnerable Marine Ecosystems (VMEs) were mentioned as several (broadly complementary) means to identify important marine ecosystems and areas important for threatened and endangered species. UNEP/MAP (SPA/RAC) and the Secretariat of the Pacific Regional Environment Programme (SPREP) were represented at the Thematic Workshop on Marine and Coastal Biodiversity for the GBF, as well as other types of regional organisations.

National Biodiversity Strategies and Action Plans (NBSAPs) – prepared by contracting Parties to the CBD – as well as Regional Biodiversity Strategies and Action Plans (RBSAPs) – implemented by regional intergovernmental organisations (IGOs) and institutes addressing biodiversity – together with the CBD's Global Biodiversity Outlook (GBO) series of assessments, all provide a summary of the status of biological diversity and an analysis of the steps being taken by Parties, regions and the global community towards the implementation of the Strategic Plan for Biodiversity 2011-2020. It is anticipated that the same reporting and reviewing processes will also contribute towards the implementation of the GBF.

[6] The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is the intergovernmental body that assesses the state of biodiversity and of the ecosystem services it provides to society, in response to requests from decision makers.

One example of a RBSAP is by the European Commission (EC). In May 2020, the EC adopted the European Union's Biodiversity Strategy for 2030 and an associated Action Plan (EC, 2020), with an overall ambition to ensure that, by 2050, all of the world's ecosystems are restored, resilient, and adequately protected. In the EU Biodiversity Strategy, three key commitments for nature protection and 14 key commitments for nature restoration are listed. All three of the EU's protection commitments are aligned with the GBF's 2030 action Target 2, and the 14 EU restoration commitments are aligned with seven of the 20 GBF 2030 action Targets (EC, 2020). This is part of the so-called 'Green Deal', working towards healthy oceans, acknowledging circular economies and promoting sound science. A new knowledge centre for biodiversity to be hosted by the European Environment Agency is planned.

Despite such reporting mechanisms being available at various scales, measuring progress against some of the more ambiguously worded Aichi Biodiversity Targets has been problematic (Green et al. 2019). Attainment of Aichi Biodiversity Targets by their due deadline at the end of 2020 has also been shown to be generally poor, with some exceptions. For example, according to the 5th Global Biodiversity Outlook (CBD, 2020e), Aichi Biodiversity Target 6 on attaining sustainable management of aquatic living resources is considered to have made substantial progress in some countries and regions, although one third of marine fish stocks remain overfished, a higher proportion than ten years ago. Many fisheries are still causing unsustainable levels of bycatch of non-target species and are damaging marine habitats. The target has not been achieved. In contrast, for Aichi Biodiversity Target 11 on protected areas, the proportion of ocean designated under protected areas is likely to reach the targets for 2020, and may be exceeded when other effective area-based conservation measures and future national commitments are taken into account. However, progress has been more modest in ensuring that protected areas safeguard the most important areas for biodiversity, are ecologically representative, connected to one another as well as to the wider landscape and seascape and are equitably and effectively managed. As such, the target has only been partially achieved (CBD, 2020e).

*Table 2.3: Synergies (in **bold**) between draft GBF 2030 targets (as of August 2020) and related Aichi Biodiversity Targets.*

Draft GBF 2030 Target	**Related Aichi Biodiversity Target**
Target 1 - By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and **connectivity** among them.	Target 5 - By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and **fragmentation** is significantly reduced. Target 10 - By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable **ecosystems** impacted by climate change or ocean acidification are minimised, so as to maintain their **integrity and functioning**.
Target 2 - **By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30% of the planet with the focus on areas particularly important for biodiversity.**	Target 5 - By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and **fragmentation** is significantly reduced. Target 11 - **By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.**
Target 3 - By 2030, **ensure active management actions to enable wild species of fauna and flora recovery and conservation**, and reduce human-wildlife conflict by [X%].	Target 12 - By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Draft GBF 2030 Target	Related Aichi Biodiversity Target
Target 4 - By 2030, ensure that the harvesting, trade and use of wild species of fauna and flora, is legal, at sustainable levels and safe**.**	Target 6 - By 2020 all **fish and invertebrate stocks and aquatic plants are managed and harvested sustainably**, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
Target 5 - **By 2030, manage, and where possible control, pathways for the introduction of IAS, achieving [50%] reduction in the rate of new introductions, and eradicate, control and manage IAS to eliminate or reduce their impacts, including in at least [50%] of priority sites.**	Target 9 - **By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment**.
Target 6 - **By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health.**	Target 8 - **By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.**
Target 7 - By 2030, **increase contributions to climate change mitigation adaption and disaster risk reduction from nature-based solutions and ecosystems based approached**, ensuring **resilience** and minimising any negative impacts on biodiversity.	Target 10 - **By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.** Target 15 - By 2020, **ecosystem resilience** and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby **contributing to climate change mitigation and adaptation** and to combating desertification.
Target 8 - **By 2030, ensure benefits, including nutrition, food security, livelihoods, health and wellbeing, for people, especially for the most vulnerable through sustainable management of wild species of fauna and flora**.	Target 14 - **By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable**.
Target 9 - By 2030, support the **productivity, sustainability and resilience of biodiversity in agricultural and other managed ecosystems** through conservation and sustainable use of such ecosystems, reducing productivity gaps by at least [50%].	Target 7 - By 2020 **areas under agriculture, aquaculture and forestry are managed sustainably**, ensuring conservation of biodiversity.
Target 10 - By 2030, ensure that, **nature based solutions and ecosystem approach** contribute to **regulation of air quality, hazards and extreme events and quality and quantity of water** for at least [XXX million] people.	Target 14 - By 2020, **ecosystems that provide essential services, including services related to water**, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
Target 11 - By 2030, increase **benefits from biodiversity and green/blue spaces for human health and well-being**, including the proportion of people with access to such spaces by at least [100%], especially for urban dwellers.	Target 14 - By 2020, **ecosystems that provide essential services**, including services related to water, and contribute to **health**, livelihoods and **well-being**, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
Target 12 - By 2030, **increase by [X] benefits shared for the conservation and sustainable use of biodiversity** through ensuring access to and the **fair and equitable sharing of benefits** arising from utilization of **genetic resources** and associated **traditional knowledge.**	Target 13 - By 2020, the **genetic diversity** of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as **culturally valuable species**, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity. Target 16 - By 2015, the Nagoya Protocol on Access to Genetic Resources and the **Fair and Equitable Sharing of Benefits** Arising from their Utilization is in force and operational, consistent with national legislation.

Draft GBF 2030 Target	Related Aichi Biodiversity Target
Target 13 - By 2030, **integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies and accounts at all levels, ensuring that biodiversity values are mainstreamed across all sectors and integrated into assessments of environmental impacts**	Target 1 - By 2020, at the latest, **people are aware of the values of biodiversity** and the steps they can take to conserve and use it sustainably. Target 2 - **By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.** Target 17 - **By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.**
Target 14 - By 2030, achieve reduction of at least [50%] in negative impacts on biodiversity by ensuring **production practices and supply chains are sustainable.**	Target 4 - By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for **sustainable production and consumption** and have kept the impacts of use of natural resources well within safe ecological limits.
Target 15 - By 2030, **eliminate unsustainable consumption patterns**, ensuring people everywhere understand and appreciate the value of biodiversity, make responsible choices commensurate with 2050 biodiversity vision, taking into account individual and national cultural and socioeconomic conditions.	Target 4 - By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for **sustainable production and consumption** and have kept the impacts of use of natural resources well within safe ecological limits.
Target 16 - By 2030, establish and implement measures to prevent, manage or control **potential adverse impacts of biotechnology** on biodiversity and human health reducing these impacts by [X].	
Target 17 - By 2030, redirect, repurpose, reform or eliminate **incentives harmful for biodiversity**, including [X] reduction in the most harmful subsidies, ensuring that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity.	Target 3 - By 2020, at the latest, **incentives**, including subsidies, **harmful to biodiversity** are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.
Target 18 - By 2030, increase by [X%] **financial resources** from all international and domestic sources, through new, additional and effective financial resources commensurate with the ambition of the goals and targets of the Framework and implement the strategy for **capacity-building** and **technology transfer and scientific cooperation** to meet the needs for implementing the post2020 global biodiversity framework.	Target 19 - By 2020, knowledge, the **science base and technologies** relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied. Target 20 - By 2020, at the latest, the mobilization of **financial resources** for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.
Target 19 - By 2030, ensure that **quality information**, including **traditional knowledge**, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research.	Target 18 - By 2020, the **traditional knowledge**, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels. Target 19 - By 2020, **knowledge**, the **science base and technologies** relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.
Target 20 - By 2030, ensure **equitable participation in decision-making** related to biodiversity and **ensure rights over relevant resources of indigenous peoples and local communities, women and girls as well as youth**, in accordance with national circumstances.	

2.4 The impact of the COVID-19 pandemic

CBD COP15 was scheduled to consider the adoption of the GBF in 2020 as a stepping-stone towards its 2050 Vision of 'Living in harmony with nature' (CBD, 2010). This intention has been frustrated by the travel and meeting restrictions imposed by the COVID-19 pandemic, which have forced the postponement of CBD COP15 to 2021. Such an unforeseen and unprecedented delay to planned proceedings has had knock-on effects to almost every aspect of international, regional and local negotiations and interactions. The necessary cessation of in-person meetings and shift to online virtual conferences has presented its own set of challenges, most notably, the suppression of informal yet constructive conversations that tend to occur in the margins of scheduled in-person meetings, where much progress is made in addressing points of contention or misunderstanding. The logistics of coordinating and delivering accessible and inclusive online events locally and across the globe are also fraught with difficulty, especially for groups less accustomed, or with limited capacity to access the internet. Negotiations online have therefore taken much longer than anticipated and meeting deadlines have been postponed.

Another unforeseen consideration is the necessary diversion of economic resources away from environmental priorities to cover the humanitarian crisis and to support economic and social recovery, jeopardising future commitments to environmental causes. The pandemic has also led to an explosion in the global consumption of disposable, often plastic-based, personal protective equipment, reversing hard-won efforts to move away from single-use plastics. There is growing evidence that much of the used and discarded equipment is already polluting rivers and seas around the world.

Discussions to date about the COVID-19 pandemic at various virtual GBF ancillary meetings have endorsed the notion that any post-pandemic incentives or subsidies should be nature-neutral or nature-positive, and promoting nature-based solutions in any recovery plan.

2.5 Concluding remarks

Whilst the Zero Draft of the GBF makes minimal reference to specifically marine or terrestrial realms, relying instead on the universality of its goals and targets across all of nature, many of its goals and targets resonate loudest with human activities that are intrinsically land-based. In theory most, if not all, targets should be applicable to all ecosystems, including marine and freshwater. However, there is a danger that such an approach fails to incorporate important marine-specific indicators (CBD, 2019b annex 2 presents a list of available global indicators for the themes of the Aichi Biodiversity Targets) despite their frequent recognition during the consultation period. As a consequence, the framework may fail to apply a whole-ecosystem-based approach for the conservation of biodiversity in all its complex and interdependent configurations (genetic, species, habitat, ecosystem) and particularly for the deep sea. This shortcoming also runs the risk of marginalising key stakeholders. For example, the International Maritime Organization is one of the main marine use regulators with inherent links to protecting biodiversity and pollution prevention (including the London Convention and Protocol and coordination of GESAMP). As this study has progressed, we understand from CBD Secretariat (as of November 2020) that the first iteration of the draft monitoring framework was simply a working document for SBSTTA. It is also accepted by CBD Secretariat that specific goals and targets can be a 'rallying call' for particular constituencies, and work is underway on relevant marine indicators, building on the work of the Biodiversity Indicators Partnership, ensuring that there are clear land-water-marine linkages.

3. The Regional Seas Programme

3.1 Introduction

UNEP's Regional Seas Programme (RSP) was launched in 1974 to address the accelerating degradation of the world's ocean (UNEP, 2014). Since then, the RSP has developed in response to growing awareness and appreciation of the transboundary impacts of pollutants and human activities on the marine environment. The RSP reflects political will for coordinated action and provides a legal framework to tackle common marine environmental issues at the regional scale (UNEP, 2014). In addition to addressing common threats, each region has its own specific challenges and priorities. In this respect, the RSP role supports obligations and duties of individual States under UNCLOS[7], as well as having an interface with global multilateral environmental agreements (MEAs).

Currently, the RSP consists of 18 Regional Seas Conventions and/or Action Plans (RSCAPs), in which 146 countries participate (UN Environment, 2016) (Table 3.1, Figure 3.1). Fourteen RSCAPs are established under UNEP auspices and four are partnering programmes (Table 3.1).

Most of the RSCAPs deliver their obligations through Action Plans and/ or Strategies, which are adopted by member governments/Contracting Parties (littoral and upstream States) to establish a comprehensive framework for protecting the marine environment and promote sustainable development of their region. An Action Plan outlines the strategy and substance of the framework, based on a region's particular environmental challenges as well as its socio-economic and political situation. Such Action Plans are usually underpinned by a legally-binding Regional Convention (14 Regional Seas have adopted Conventions) that express the commitment and political will of signatory governments to tackle their common environmental issues through joint coordinated activities. Most Conventions have associated Protocols (or Annexes), legal agreements addressing specific issues (See Table 3.2). In the case of some regions (e.g., Seas of East Asia – COBSEA, Arctic Ocean - PAME), adopted Action Plans/strategies are recognised by States as soft legal instruments (UNEP, 2014).

Relevant issues covered by RSCAPs include marine pollution from multiple sources[8], biodiversity and ecosystems, marine protected areas, agriculture and fisheries, sustainable consumption and production, climate change adaptation, integrated coastal zone management and marine spatial planning, coastal and ocean ecosystem services, communication/education, training, and monitoring and assessment.

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[7] Under UNCLOS the importance of regional of regional organisations is particularly mentioned in Part XII, on the Protection and preservation of the marine environment, under its section 2 on Global and Regional Cooperation (e.g. Articles 197 on cooperation on a global or regional basis, Art. 199 on contingency plans against pollution, Art. 200 on studies, research programmes and exchange of information and data); and section 5 on International rules and national legislation to prevent, reduce and control pollution of the marine environment. (Art. 207 on pollution from land-based sources; Art. 210 on Pollution from dumping and Art. 212, on pollution from or through the atmosphere). Part XIV of UNCLOS, related to the Development and transfer of marine technology, also specifically addresses international cooperation under section 2 on international cooperation and section 3 on national and regional marine scientific and technological centres, specifically referring to the establishment of regional centres (Art. 276) and to the functions of regional centres (Art. 277), which are akin to the functions of the RSCAPs.

[8] The RSP and the RSCAPs are key platforms of implementation of UNEP's Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-Based Activities (UNEP, 2018).

Table 3.1. List of Regional Seas Conventions and Action Plans.

Geographic area	Convention	Year adopted	Entry into force	Action Plan	Year adopted	Secretariat/Acronym	Contracting Parties
UNEP Administered							
Mediterranean	Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution	1976/ 1995	1978/ 2004	Mediterranean Action Plan	1975 (Updated in 1995 : MAP Phase II)	UNEP/MAP Coordinating Unit	21 and the EU
Western and Central Africa	Abidjan Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West, Central and Southern Africa Region	1981	1984	Action Plan for the Protection and Development of the Marine and Coastal Environment of the West, and Central Africa Region	1983	Abidjan Convention Secretariat (ABC)	22 (not all ratified the convention)
Wider Caribbean	Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region	1983	1986	Caribbean Environment Programme and Action Plan	1981	Caribbean Environment Programme (UNEP-CEP) Cartagena Convention Secretariat CAR/RCU	28
Eastern Africa	Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean	1985	1996	Action Plan for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region	1985	Nairobi Convention Secretariat	10
East Asian Seas	None			Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Seas Region (East Asian Seas Action Plan)	1984 (Revised in 1994)	COBSEA (Coordinating Body on the Seas of East Asia)	9
NW Pacific	None			Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the NW Pacific Region **Northwest Pacific Action Plan**	1994	NOWPAP RCU	4
Caspian Sea	Tehran Framework Convention for the Protection of the Marine Environment of the Caspian Sea	2003	2006	Strategic Convention Action Programme	2003 (Updated in 2006)	Caspian Environment Programme (CEP)	5

Non-UNEP Administered							
ROPME Sea Area	Kuwait Regional Convention for Co-Operation on the Protection of the Marine Environment from Pollution	1978	1979	Action Plan for the Protection and Development of the Marine Environment and the coastal areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates	1978	Regional Organization for the Protection of the Marine Environment (ROPME)	8
SE Pacific	Lima Convention for the Protection of the Marine Environment and Coastal Areas in the South-East Pacific	1981	1986	Action Plan for the Protection of the Marine Environment and Coastal Areas of the South East Pacific (South East Pacific Action Plan)	1981	Permanent Commission for the South Pacific (CPPS)	4 Panama participates in the Action Plan
Red Sea and Gulf of Aden	Jeddah Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment	1982	1985	Action Plan for the Conservation of the Marine Environment and Coastal Areas in the Red Sea and Gulf of Aden	1982	Regional Organization for the Conservation of the Environment of the Red Sea & Gulf of Aden Region (PERSGA)	8
South Pacific	Noumea Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (1986)	1986	1990	Action Plan for managing the Natural Resources and Environment of the South Pacific	1982	Secretariat of the Pacific Regional Environment Programme (SPREP)	19
Black Sea	Bucharest Convention on the Protection of the Black Sea Against Pollution	1992	1994	Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea	2009	Commission on the Protection of the Black Sea Against Pollution (BCC)	6
NE Pacific	Antigua convention for cooperation in the protection and sustainable development of the marine and coastal environment of the Northeast Pacific	2002	NIF	Action Plan (to improve the environment of the North-East Pacific for the benefit of people and wildlife)	2002	North East Pacific Regional Seas programme (NEP)	8 (only 2 ratified; 5 adopted Action Plan)
South Asian Seas	None Colombo Declaration on The South Asia Co-operative Environment Programme (SACEP)	1981		Action Plan for the South Asian Seas Programme (SASP)	1995	South Asia Co-operative Environment Programme SACEP	5

Independent Programmes/Partners							
Baltic Sea	Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area	1974/ 1992	1980/ 2000	Baltic Sea Action Plan	2007	HELCOM Secretariat	9 + EC
NE Atlantic	OSPAR Convention: Oslo-Paris Convention for the protection of the marine environment of the North-East Atlantic	1974/ 78/92	1998	North East Atlantic Environment Strategy		OSPAR Commission OSPAR	15 + EC
Antarctic	Antarctic treaty Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR Convention)	1959/ 1980	1961/ 1982			Commission for the Conservation of Antarctic Marine Living Resources CCAMLR	32
Arctic	None/ Arctic Council working groups Declaration on the Establishment of the Arctic Council (Ottawa Declaration)	1986	-	Arctic Marine Strategic Plan 2015-2025		Protection of the Arctic Marine Environment PAME	8

Table 3.2: Protocols and annexes to the Conventions (adapted and updated from Ehler, 2006).

Geographic area/ Convention	**Pollution from land-based sources and activities**	**Oil spill response/ Emergency**	**Pollution from dumping**	**BD & landscape conservation**	**Protected Areas (PAs) and Wildlife**	**Pollution from exploration of continental shelf**	**Disposal of hazardous wastes**	**Radioactive waste**	**ICZM**	**EIA in transboundary context**
UNEP Administered										
Mediterranean (UNEP/MAP)	1980/1983 1996/2006	2002/2004	Ships and Aircraft or Incineration at Sea 1976/1978		PAs and BD 1995/1999 Annexes 1996/1999 2017/2018 2013/2015	1994/2011	1996/2008		2008/2011	
Western and Central Africa (Abidjan Convention)	2012	1981/1984		Sustainable mangrove management 2017	MPA protocol under development	2017			ICZM 2017	
Wider Caribbean (UNEP-CEP)	1999/2010	Oil spills 1983/1986			Specially PAs and wildlife 1990/2000					
Eastern Africa (Nairobi Convention)	2010/	1985/1996			PAs and Wild Fauna and Flora 1985/1996					
Caspian Sea (Tehran Convention)	Moscow Protocol 2012/?	Aktau Protocol 2011/2016		Ashgabat Protocol 2014/-						2018
Non-UNEP Administered										
ROPME Sea Area (Kuwait Convention)	1990/1993	1978/1979		Conservation of BD and establishment of PAs ?/?		1989/1990	1998/2003			
SE Pacific (Lima Convention)	1983/1986				1989			1989/1995		

Geographic area/ Convention	**Pollution from land-based sources and activities**	**Oil spill response/ Emergency**	**Pollution from dumping**	**BD & landscape conservation**	**Protected Areas (PAs) and Wildlife**	**Pollution from exploration of continental shelf**	**Disposal of hazardous wastes**	**Radioactive waste**	**ICZM**	**EIA in transboundary context**
Red Sea and Gulf of Aden (Jeddah Convention)	2005	Emergency 1982 Technical Cooperation in Cases of Emergency 2009		Conservation of BD and Establishment of a Network of PAs 2005						
South Pacific (Noumea Convention)		**Emergencies protocol 1990** Protocol on Oil Pollution NIF*	Dumping protocol 1990/ Amend. 2006/NIF				NIF*			
Black Sea (Bucharest Convention)	1992/1994	1992/1994	1992/1994							

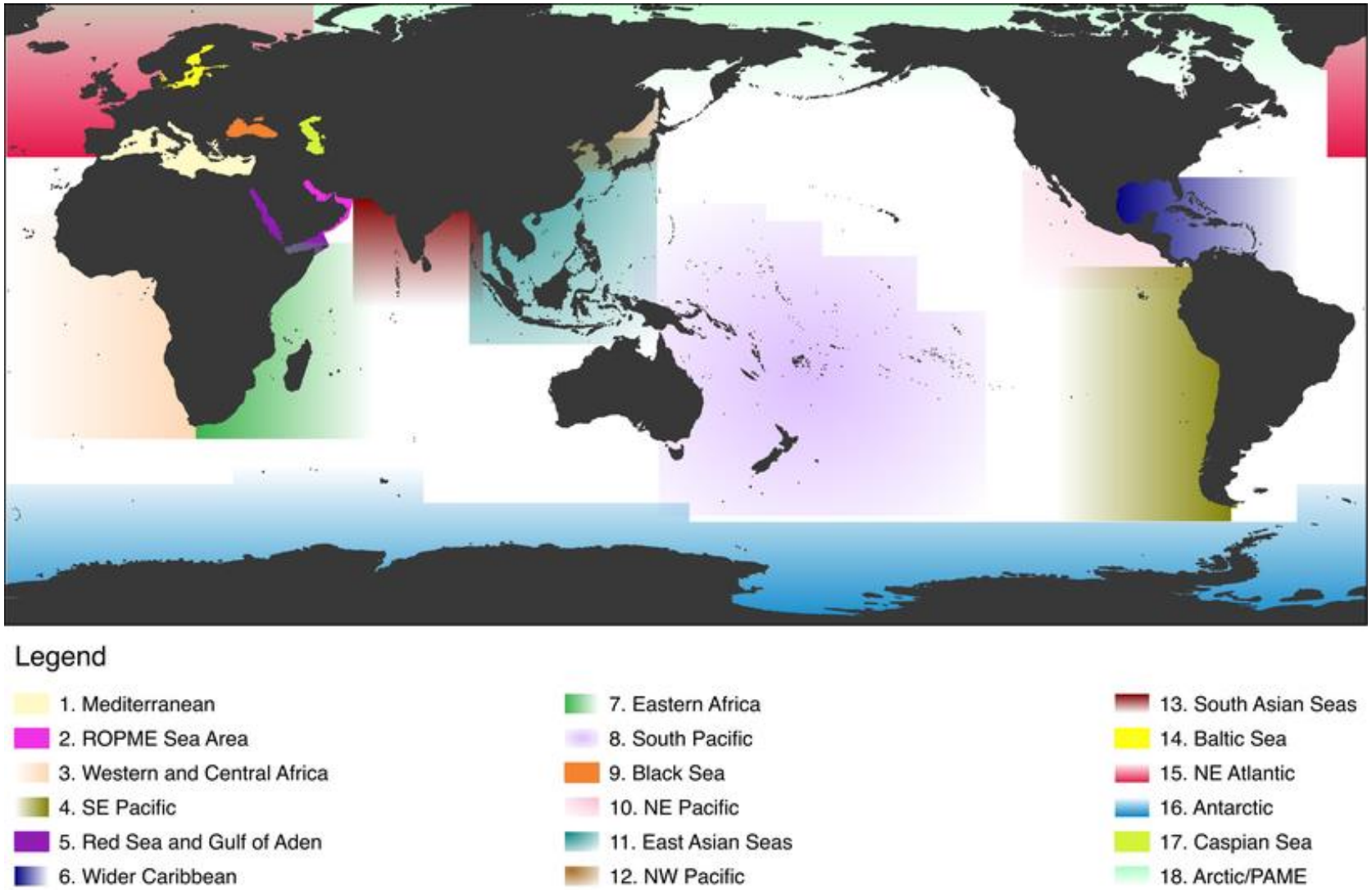

Figure 3.1. Regional Seas Conventions and Action Plans (RSCAPs)

RSCAPs usually cover the area of the exclusive economic zones (EEZs) of their Contracting Parties in the case of Conventions, or of their member States in the case of Action Plans (Table 3.3). However, many of the RSCAPs defined their geographic scope as the marine environments of the participating countries given that many of the Conventions predate UNCLOS.

Table 3.3: Geographical coverage of the RSCAPs.

Geographical area/ Convention	**Geographical coverage**
Mediterranean (Barcelona Convention)	1. (…) **the maritime waters** of the Mediterranean Sea proper, including its gulfs and seas, bounded to the West by (…) the entrance of the Straits of Gibraltar, and to the East by the southern limits of the Straits of the Dardanelles (…) 2. (…) **may be extended to coastal areas** as defined by each Contracting Party within its own territory. 3. Any Protocol to this Convention may extend the geographical coverage to which that particular Protocol applies.
Western and Central Africa (Abidjan Convention)	The marine environment, coastal zones and related inland waters falling within the jurisdiction of the States of the West and Central African Region, from Mauritania to Namibia inclusive, which have become Contracting Parties to this Convention
Wider Caribbean (Cartagena Convention)	1(…) **the wider Caribbean region** 2. Except otherwise provided in any protocol to this Convention, **the Convention area shall not include internal waters** of the Contracting Parties.
Eastern Africa (Nairobi Convention)	(…) the Western Indian Ocean covering the Eastern and Southern Africa region (…) (…) the riparian, marine and coastal environment, including the watershed of the Contracting Parties to this Convention. The extent of the watershed is to be included within the convention area shall be indicated in each protocol to this convention, taking into account the objectives of the protocol concerned.
East Asian Seas (COBSEA)	Marine environment and coastal areas
NW Pacific (NOWPAP)	The marine environment and coastal zones (of Member States) from c. 121º E to 143ºE, and from c. 33ºN to 52 ºN
Caspian Sea (Tehran Framework)	(Scope of application) the marine environment of the Caspian Sea, taking into account its water level fluctuations, and pollution from land based sources
ROPME Sea Area (Kuwait Convention)	**The sea area** in the region (…) The **sea area shall not include internal waters** of the Parties unless it is otherwise stated in the Convention or any of its protocols
SE Pacific (Lima Convention)	**The sea area and the coastal zone** of the South-East **Pacific within the 200-mile maritime area** (...) and, **beyond that area, the high seas up to a distance within which pollution of the high seas may affect that area**.
Red Sea and Gulf of Aden (Jeddah Convention)	(…) the **entire sea area**, taking into account integrated ecosystems of the Red Sea, Gulf of Aqaba, Gulf of Suez, Suez Canal to its end on the Mediterranean, and the Gulf of Aden (…) 2. **Any Contracting Party may request to include areas within that Party's national jurisdiction** (…) within the area of application of this Convention or for the purposes of activities resulting therefrom. 3. (…) **does not include internal waters** of the Contracting Parties unless otherwise stated in this Convention or any of its protocols.
South Pacific (Noumea Convention)	The South Pacific Region comprising the 200 nautical mile zones of Parties; - Except as otherwise provided, (…) shall not include internal waters or archipelagic waters of the Parties - Areas of high seas which are enclosed from all sides by the 200 nautical mile zones - Any Party may add areas under its jurisdiction (within a defined area in the S Pacific)
Black Sea	The Black Sea proper including the territorial sea and EEZ of each Contracting Party Any Protocol to this Convention may provide otherwise.
NE Pacific (Antigua convention)	The maritime areas of the Northeast Pacific, defined in conformity with UNCLOS
South Asian Seas	Marine environment and related coastal ecosystems of the region (Action Plan)
Baltic Sea (Helsinki Convention)	The Baltic Sea Area including the **Baltic Sea** and the entrance to the Baltic Sea. It **includes internal waters**, i.e., waters on the landward side of the base lines from which the breadth of the territorial sea is measured up to the landward limit according to the designation by the Contracting Parties.

Geographical area/ Convention	Geographical coverage
NE Atlantic (OSPAR Convention)	The internal waters and the territorial seas of Parties, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the bed of all those waters and its sub-soil
Antarctic (Antarctic treaty)	The area south of 60° S and between that latitude and the Antarctic Convergence which form part of the Antarctic marine ecosystem.
Arctic	No agreed definition (Arctic Marine Strategic Plan)

Only four RSCAPs currently include areas beyond national jurisdiction (ABNJ) within their range, namely: the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (UNEP/MAP), and the Noumea Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP). The Lima Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (CPPS) is unclear because it includes areas of the high seas affected by pollution, but such area has not been accurately defined (Figure 3.1 and Table 3.3) and CPPS has already started to study adjacent ABNJ. Two other RSCAPs have started examining the issues related to marine biodiversity in ABNJ, namely: the Abidjan Convention for Cooperation in the Protection, Management and Development of Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region, and the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean (UN Environment, 2017).

Individual RSCAPs are administered by dedicated Secretariats and for some RSCAPs biodiversity is the responsibility of Regional Coordinating Units (RCUs) and Regional Activity Centres (RACs). These administrative bodies coordinate activities under the Action Plans and are delegated the task of and practical responsibility for the implementation of the decisions of their Contracting Parties regarding the operation of the Action Plan (UNEP, 2020). Either way a strong internal structure for biodiversity issues is important.

3.2 Implementing an Ecosystem Approach

The ecosystem approach[9] is defined by the CBD as "*a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way*", which *i.a.*, "*recognises that humans, with their cultural diversity, are an integral component of ecosystems*" (UNEP/GPA, 2006; CBD, 2020f). Since 2004, there have been successive efforts to set common Strategic Directions for the Regional Seas Programme "*to strengthen the RSP at the global level by setting a common vision*" (UN Environment, 2016, p.1), which have recognised the value of an action-orientated approach to common integrated priorities based on an ecosystem approach. Most RSCAPs carry out regular assessments of the state of the marine environment and produce reports on the State of the Regional Marine Environment or regional Quality Status Reports. Thus, whilst each RSCAP is part of a global family with a collective mandate, specific work programmes and approaches to management are based upon the region's particular environmental concerns and challenges as well as it's socioeconomic and political situation (UNEP, 2014). Progress has been observed especially with the work related to an ecosystem approach, while collaboration with other relevant organisations

[9] Also referred to as Ecosystem-Based Management (EBM).

such as Regional Fisheries Management Organisations has been strengthened (UN Environment, 2016).

UNEA's 2016 Resolution 2/10, on Oceans and Seas (UNEA, 2016) reiterated the role of the RSCAPs as established cross-sectoral and transboundary collaborative frameworks for marine EBM, namely by inviting "*Member States and regional seas conventions and action plans, in cooperation, as appropriate, with other relevant organizations and forums, such as regional fisheries management organizations, to work towards the implementation of, and reporting on, the different ocean-related Sustainable Development Goals and associated targets, the Strategic Plan for Biodiversity 2011–2020 and its Aichi Biodiversity Targets*", and by requesting UNEP "*to step up its work, including through its Regional Seas Programme, on assisting countries and regions in the application of the ecosystem approach to managing the marine and coastal environment, including through enabling intersectoral cooperation in integrated coastal zone management and marine spatial planning*" (UNEA, 2016, p.3).

In 2016, UNEP produced guidance for the RSP on the Ecosystem Approach (UNEP, 2016). This document – Ecosystem Approaches to Regional Seas – recalled UNEP's definition of the Ecosystem Approach as "*a strategy for the integrated management of land, water and living resources that provides sustainable delivery of ecosystem services in an equitable manner*", and recognised that "*the ecosystem approach to the management of marine resources has been endorsed by international bodies and initiatives such as the Convention on Biological Diversity and the Millennium Ecosystem Assessment as a valuable conceptual framework for analysing and acting on the linkages between people and their environment*" (UNEP, 2016, p.7). Recognising the variation in regional scales of different RSCAPs, the guidance document identified a set of elements constituting an Ecosystem Approach to Regional Seas as well as a set of barriers that might have obstructed the introduction of the Ecosystem Approach in the RSP (Table 3.4; UNEP, 2016).

Table 3.4. Ecosystem Approach to the regional seas: Common elements and barriers to its introduction in the RSPs (adapted from UNEP, 2014; 2016).

Common elements of an ecosystem approach to the regional seas	**Barriers to the introduction of an ecosystem approach in the regional seas programmes**
Geographic coverage of management not only based on political boundaries and should take into consideration ecological functions and continuity	Geographic coverage of the regional seas action plans and conventions ***decided through political considerations***
Ecosystem assessments comprehensively consider ecosystem processes and functions (inter-linked biological, geochemical and hydrological processes), and their interaction with human activities and socio-economic events	***Failure to identify drivers of ecosystem changes*** and threats to ecosystem functioning in regular assessments, impairing the capacity to identify specific actions to address such causes of degradation of ecosystem quality and functions
EBM promotes optimal use of ecosystem goods and services for human benefit and the generation ***and equitable sharing of additional benefits***	***Lack of integration* of action** Plans with governance of key sectors (e.g., fisheries) with impacts on the environmental conditions of regional seas
EBM needs to address (internal and external) ***sources of stress and actual threats to ecosystems***, in many cases associated with human activities, to maintain ecosystem integrity and to optimise the use of ecosystem services for human benefit	Agreed Action Plans focus on assessment, monitoring and normative actions and ***do not usually include actions addressing sources of pollution and threats to ecosystem functioning***, impairing results in the improvement of ecosystem quality

Various RSCAPs have integrated the ecosystem approach into their existing strategies, plans and monitoring, including NOWPAP, HELCOM, OSPAR, UNEP/MAP, and BSC. Those RSCAPs in the area of the EU, the Baltic (e.g., HELCOM, 2006), North-East Atlantic (e.g. OSPAR, 2010), Mediterranean (e.g., UNEP/MAP, 2016), and Black Sea (BSC, 2009) have developed approaches comparable and in line with the requirements of the Marine Strategy Framework Directive (MSFD),

including the definition of Ecological Objectives, targets and indicators for monitoring (UN Environment, 2018).

The application of the ecosystem approach is important in relation to the GBF, not only because it "*will help to reach a balance of the three objectives of the Convention*" (CBD, 2020f) but also given the emphasis now being placed on relating the biological and ecological aspects of biodiversity to human needs. The proposed new Marine and Coastal Strategy of UNEP for 2020-2030, issued/prepared in consideration of UNEA's 2016 Resolution 2/10, is compatible with the ethos of the GBF in that it incorporates and translates the four strategic objectives of the Theory of Change [10] into four corresponding Strategic objectives (SOs) (UNEP, 2019):

- SO 1: Establish knowledge base on marine and coastal ecosystems to inform policies on human activities affecting their functions
- SO 2: Build circularity in our economies and promote sustainable consumption and production approaches to address marine pollution and resource use
- SO 3: Support policies and strategies enabling integrated management and sustainable use of marine and coastal ecosystem services
- SO 4: Innovate financing instruments and initiatives facilitating sustainable blue economy transition

To conclude, ecosystem-based follow-up and monitoring of the future GBF will require an ecosystem-based approach. This is compatible with regional targets and consideration of cumulative impacts reflecting the work of the RSP.

3.2.1 Regional Seas Programme and Large Marine Ecosystems

Large Marine Ecosystems (LMEs) provide a regional approach for ecosystem-based management (UNEP, 2006) and they are almost entirely located within the Regional Seas areas (Figure 3.2, Table 3.).

LMEs are regions of the ocean generally greater than 200,000 km^2, defined by ecological criteria, such as bathymetry (bottom depth contours), hydrography (currents and water mass structure), marine productivity and trophic interactions (food webs) (Sherman, 1991). LMEs are discrete marine areas adjacent to the continents, encompassing river basins, coastlines and stretching offshore towards the continental shelf, to the limits of a current system or of a semi-enclosed geographical area (UNEP, 2006). Globally, the ocean has been divided into 66 LMEs (GEF, 2020; LME Hub, 2020) (Figure 3.2).

In the context of the GBF, establishing baseline information at a bioregional scale is important. Countries sharing an LME can collectively consider and address the root causes of environmental degradation of their coastal areas and hydrographic basins, and the need to integrate changes in sectoral economic activities.

The Global Environment Facility (GEF), a funding mechanism assisting developing coastal countries to meet ecosystem-related targets, recommends the use of LMEs as the geographic focus for ecosystem-based strategies. To date, there have been 23 GEF-LME projects (GEF, 2020). GEF-LME

[10] The CBD post-2020 GBF adopts a 'theory of change' recognising that "*urgent policy action globally, regionally and nationally is required to transform economic, social and financial models so that the trends that have exacerbated biodiversity loss will stabilize in the next 10 years (by 2030) and allow for the recovery of natural ecosystems in the following 20 years, with net improvements by 2050 to achieve the Convention's vision of 'living in harmony with nature by 2050'*" (CBD, 2020).

project funding is typically linked to development of a Transboundary Diagnostic Analysis (TDA) followed by a Strategic Action Plan (SAP). The SAP is designed to create the enabling conditions and prioritising project actions to remedy issues identified in the TDA (UNEP, 2014). It should be noted that a SAP is not the equivalent of a Regional Seas Action Plan or a State of the Environment Report as agreed by the Member States although the TDA is. Thus, the TDA/SAP projects implemented by the Regional Seas and funded by the – GEF as in the case of the Mediterranean Sea, Nairobi Convention, Cartagena Convention – show a close compatibility. There is also a relationship between the LMEs and the Regional Seas for instance in East Asia (PEMSEA and COBSEA), West Africa (Abidjan Convention and the Benguela Current Commission), and the Caribbean (proposed Permanent Coordinating body by the CLME+) (Table 3.5).

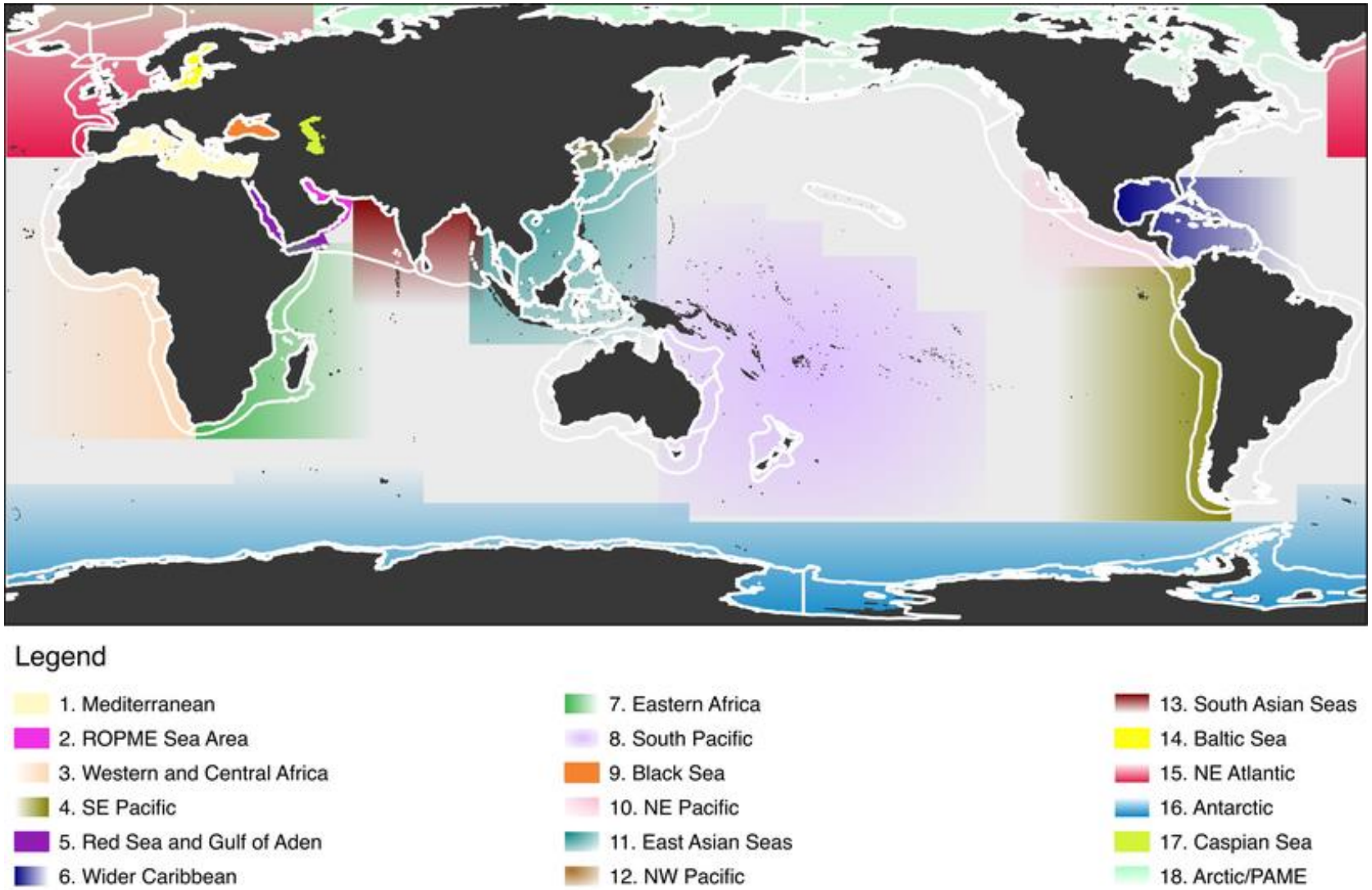

Figure 3.2. Boundaries (in white) of Large Marine Ecosystems (LMEs) of the world on a backdrop of RSCAPs.

Table 3.5: RSCAPs associated LMEs and corresponding GEF LME projects (Adapted and updated from UNEP, 2006, based on data from onesharedocean.org website and from PAME) - noting that these are not direct comparisons.

RSCAP	LME	GEF LME Projects
1. Mediterranean	26. Mediterranean Sea	TDA and SAP (19 countries)
2. ROPME Sea Area	32. Arabian Sea	
3. Western and Central Africa	27. Canary Current	TDA in preparation (6 countries)
	28. Guinea Current	Expanding the SAP and TDA (16 countries)
	29. Benguela Current	TDA and SAP (3 countries)
4. SE Pacific	13. Humboldt Current	TDA in preparation (2 countries)
5. Red Sea and Gulf of Aden	33. Red Sea	TDA and SAP (7 countries)
6. Wider Caribbean	5. Gulf of Mexico	TDA in preparation (3 countries)
	6. SE US Continental Shelf	TDA with 22 countries (CLME+)
	12. Caribbean Sea	CLME+ Project: Caribbean & North Brazil Shelf LMEs
7. Eastern Africa	30. Agulhas Current 31. Somali Coastal Current	UNDP/GEF Agulhas and Somali Current Large Marine Ecosystems (ASCLME) Project – TDA and SAP
8. South Pacific	40. Northeast Australian Shelf-Great Barrier Reef	Pacific SAP exists
	41. East-Central Australian Shelf	
	42. Southeast Australian Shelf	
	46. New Zealand Shelf	
9. Black Sea	62. Black Sea	TDA and SAP (6 countries)
10. NE Pacific	11. Pacific Central-American Coastal	-
11. East Asian Seas	35. Gulf of Thailand	TDA and SAP (7 countries) (PEMSEA)
	36. South China Sea	
	37. Sulu-Celebes Sea	
	38. Indonesian Sea	
	39. North Australian Shelf	
	44. West-Central Australian Shelf	
	45. Northwest Australian Shelf	
12. NW Pacific	48. Yellow Sea 50. Sea of Japan	TDA and SAP (2 countries) UNDP/GEF YSLME Phase II Project
13. South Asian Seas	34. Bay of Bengal Arabian Sea	TDA and preliminary SAP (8 countries)
14. Baltic Sea	23. Baltic Sea	TDA and SAP (9 countries)
15. NE Atlantic	19. Greenland Sea	-
	20. Barents Sea	
	21. Norwegian Sea	
	22. North Sea	
	24. Celtic-Biscay Shelf	
	25. Iberian Coastal	
	59. Iceland Shelf	
	60. Faroe Plateau	
16. Antarctic	61. Antarctica	-
17. Caspian Sea	Caspian Sea	TDA and SCAP (5 countries)

18. Arctic/PAME	1. East Bering Sea 9. Newfoundland-Labrador Shelf 18. Canadian Eastern Arctic-West Greenland 19. Greenland Sea 20. Barents Sea 21. Norwegian Sea 53. West Bering Sea 54. Chukchi Sea (Northern Bering-Chukchi Seas) 55. Beaufort Sea 56. East Siberian Sea 57. Laptev Sea 58. Kara Sea 59. Iceland Shelf and Sea 60. Faroe plateau 63. Hudson Bay Complex 64. Arctic Ocean (Central Arctic Ocean) 65. Aleutian Islands 66. Canadian High Arctic/North Greenland	

3.2.2 RSCAPs and Regional Fisheries Bodies

Around half of the RSCAPs have signed MoUs with the Regional Fisheries Bodies, in various cases as a result of the push given by the CBD's Sustainable Ocean Initiative. A summary is presented in Table 3.6. and further details can be found in Annex 4.

Table 3.6. Relationship of RSCAPs with the corresponding Regional Fisheries Bodies (information from individual RSCAPs questionnaires, and from the RSCAPs and FAO's websites).

RSCAP	**Relationship with RFMOs**
UNEP/MAP	MOU with the General Fisheries Commission for the Mediterranean and Black Sea (GFCM) since 2012
Abidjan Convention	MoU with the Regional Commission of Fisheries of Gulf of Guinea (COREP). Informal working relationship with the Sub-Regional Fisheries Commission (SRFC/CSRP – *Commission Sous-Régionale des Pêches*)
UNEP/CEP	MoU with the Caribbean Regional Fisheries Mechanism (CRFM) since 2018 and a formal permanent coordinating mechanism with OSPECA, WECAFC and CRFM has been put in place
Nairobi Conv.	MoU with South West Indian Ocean Fisheries Commission (SWIOFC) since 2019 and discussion with IOTC
COBSEA	In dialogue with the Asia-Pacific Fishery Commission
NOWPAP	Exchanges information occasionally with the region's fisheries management organisations (APFIC/NPFC)
Tehran Convention	No formal relationship with the region's fisheries management body, which is the Commission on Aquabiotic Resources of the Caspian Sea, despite formal requests made in 2019
ROPME	MoU with FAO on behalf of the Regional Commission for Fisheries (RECOFI) since 2018
CPPS	CPPS is listed in FAO's website as a fisheries related institution/regional fisheries body. MoU with Inter-American Tropical Tuna Commission (IATTC) since 2015 MoU with South Pacific Regional Fisheries Management Organization (SPRFMO) since 2019
PERSGA	Works closely with FAO and other regional fisheries bodies
SPREP	MoU with Western and Central Pacific Fisheries Commission (WCPFC)
Bucharest Convention	MOU with the General Fisheries Commission for the Mediterranean (GFCM)
Antigua Conv.	-
SACEP	BOBLME and Bay of Bengal Programme Inter-Governmental Organisation As of 2016, cooperation agreements with RFMOs and/or LMEs were not documented (UNEP, 2016)

RSCAP	Relationship with RFMOs
HELCOM	Occasional information exchange with BALTSFIH (the regional branch of the EU's Common Fisheries Policy in the Baltic) and the bilateral fisheries treaty between EU and the Russian Federation via individual HELCOM Parties. There is a fisheries working group envisaged under HELCOM
OSPAR	MoU with North East Atlantic Fisheries Commission (NEAFC) since 2008
CCAMLR	CCMALR is listed in FAO's website as a global/transocean regional fisheries body
Arctic Council	There is a new agreement for the Central Arctic Ocean IUU fishing. There is cooperation between the Arctic Council and this fisheries agreement.

Figure 3.3 illustrates the distribution of Regional Fisheries Bodies around the world.

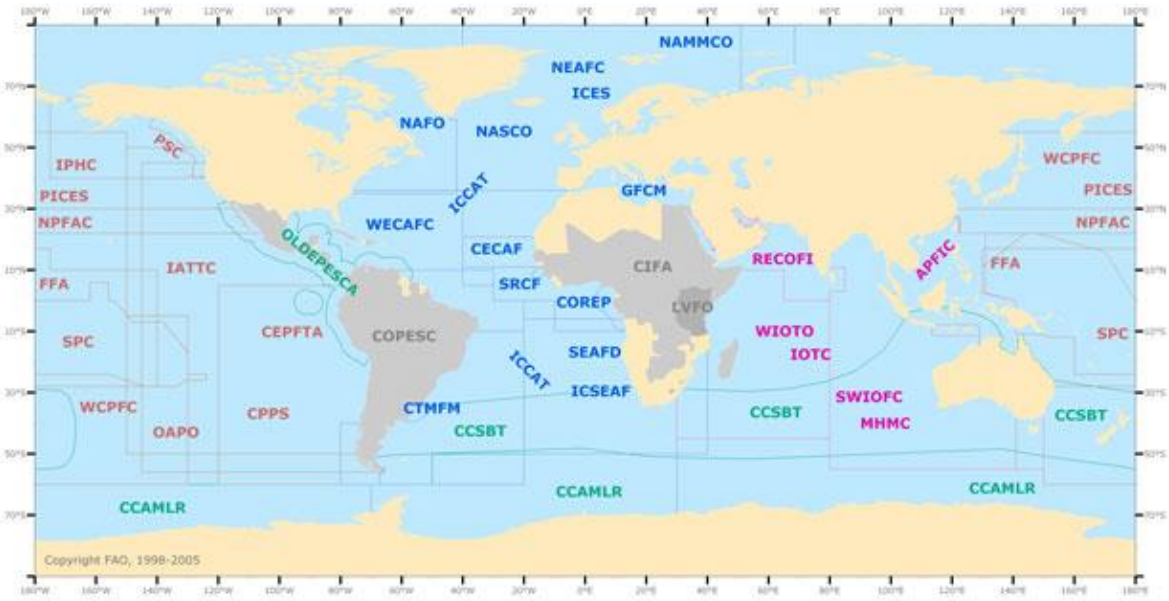

Figure 3.3. Regional Fisheries Bodies worldwide[11]

The Virtual Workshop (see Annex 3) highlighted cross-sectoral cooperation examples including the UNEP/MAP Memorandum of Understanding with the FAO General Fisheries Commission for the Mediterranean, Agreement for the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area and International Union for Conservation.

3.3 Uptake of MEAs by the Regional Seas

Various MEAs have been taken up by the RSCAPs. In this sub-section we focus on the uptake of the Aichi Biodiversity Targets and of the Sustainable Development Goals.

[11] http://www.fao.org/fileadmin/user_upload/oceanatlas/img/1123576737832_World_RFBs.jpg

3.3.1 Aichi Biodiversity targets

The CBD's Aichi Biodiversity Targets have been taken up by different RSCAPs, their consideration/ integration ranging from a careful uptake of all those Aichi Targets that relate/are relevant to the work of these organisations in the corresponding Regional Strategies, to an alignment of specific aspects (in many instances including marine protected areas (MPAs)), to no specific uptake at all, despite the fact that the majority of Regional Seas member states are Contracting Parties to the CBD and have to carry out national implementation.

RSCAPs with dedicated consideration of Aichi Targets in their strategies include UNEP/MAP, SACEP, SPREP, and UNEP-CEP (see Annex 5). UNEP/MAP's SAP BIO matches its seven Priority Categories to all five Aichi goals and Aichi Targets 6, 8, 9, 11 and 12. The Barcelona Convention periodical Medium-Term Strategies, which guide the biennial Programmes of Work and the specific activities contained in them (funded by the Mediterranean Trust Fund and external donors), have focused efforts in addressing relevant Aichi Biodiversity Targets, including a Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean (UN Environment/MAP, 2017). SACEP's Regional Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030: Living in Harmony with our Oceans and Coasts "*supports the achievement of the Strategic Plan for Biodiversity for 2011-2020, including Aichi Biodiversity Targets, particularly those related to marine and coastal habitats*" (p.4). Relevant Aichi Biodiversity targets (and relevant SDGs) are detailed in the strategy's Implementation and Monitoring framework in relation to each of the six goals of the Strategy. SPREP formally recognised the Aichi BiodiversityTargets and they form an essential element of the Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020. SPREP Working Groups embrace relevant Aichi Targets via national priorities identified in NBSAPs. UNEP's Caribbean Environment Program (UNEP-CEP) is preparing a Regional Strategy and Action Plan (RSAP) for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021-2030 (UNEP/CEP, 2020) that addresses particular commitments to Aichi Targets 1, 5, 6, 8, 9, 10, 11, 14 and 15.

Other RSCAPs have not developed specific strategies to specifically incorporate the Aichi Targets but have aligned them with specific aspects of their work. These include PERSGA, CPPS, HELCOM and COBSEA (see Annex 5). Examples of how the work of RSCAPs aligns with the Aichi targets are presented in Table 3.7.

Table 3.7. Examples of how the work of RSCAPs aligns with the Aichi Biodiversity Targets.

Aichi Targets		**COBSEA**	**UNEP/MAP**	**PERSGA**	**SACEP**	**UNEP-CEP**	**HELCOM**
1 Mainstream BD							
3 Elim. Harmf. Incentives BD							
4 Sust. produc. &cons.							
5 Habitat loss halved							
6 Sust. fisheries							
7 Aqua. Manag. Sust.							
8 Red. Pollution							
9 Red. IAS							
10 Min. reef loss							
11 MPAs							
12 Ext. threat. spp							
14 Restore ecosystem							
15 Enhance resilience							

3.3.2 Sustainable Development Goals (SDGs)

The Regional Seas approach to the SDGs may prove to be useful in the context of compatibilities with the GBF. In 2016, the 18th Global Meeting of the RSCAPs decided that "*Regional Seas Conventions and Action Plans will prepare outlook documents […], proposing how they can support their countries with the implementation, and monitoring of the ocean-related Sustainable Development Goals and associated targets. The documents will be submitted to UN Environment in order to be utilized in preparation of the Preparatory Committee for the United Nations Conference to Support the Implementation of Sustainable Development Goal 14*" (UN Environment, 2017; 2018).

In 2017, UN Environment proposed a four-step process to develop outlook documents for these RSCAPs (UN Environment, 2017):

1. Review and alignment of the regional objectives and targets with SDGs
2. Establishment of current baseline situation
3. Identification of existing and planned programmes and partnerships that contribute to achieving the regional objectives and SDGs
4. Possible new institutional and financial arrangements for additional effort

These guidelines were strengthened in a 2018 UNEP report with practical guidance based on case studies, to enhance the role and contribution of Regional Seas to the SDG follow-up and review process (UN Environment, 2018). The report recommends that "*Whilst there are many common elements between the regional seas, in order to contribute more systematically to SDG reporting, there is a need to align regional seas monitoring, reporting and assessments with the relevant SDG's and also ensuring greater harmonisation and comparability between regions through common target setting, indicator development and assessment methodologies*" and summarises the areas of actions and steps suggested for Regional Seas to achieve this objective (Table 3.8; UN Environment, 2018, p.24).

Table 3.8. UNEP's suggested actions and steps for regional seas to align with SDGs.

Areas of actions	**Suggested steps**
1. Review and align objectives, outputs and targets with the SDGs, in coordination with regional partners and projects including fisheries management bodies	i. Identification and review of existing regional policies and reporting ii. Streamline objectives outputs and targets in line with the SDGs and other relevant Global and Regional targets
2. Harmonised indicator development and standardised reporting, including agreements on common indicators, common methodologies for indicator data collection and templates for reporting (in line with SDGs)	i. Review, revision and alignment of indicators with relevant SDG targets ii. Ensure a clear, regular and realistic reporting mechanism in place for each indicator iii. Define a data management strategy iv. Coordination with other organisations to identify additional sources of data
3. Common methodologies for indicator-based assessments and use of the existing regional reporting mechanisms for SDG reporting purposes based on agreed targets and indicators that also assess the progress in implementation of the relevant SDG targets, and can contribute to the Regular Process, WOA and GEO reporting	i. Align methodologies for state of environment and other assessments to report also on relevant SDG targets, including data assessments where appropriate

A dedicated study on the Regional Seas follow up and review of the ocean related SDGs has been carried out by UNEP (UN Environment, 2018) and a new study by UNEP-WCMC is being concluded on the topic, which will offer the most up to date information on the work of the Regional Seas vis-à-vis the ocean-related SDGs.

3.4 Monitoring and reporting: Selection and application of a coordinated set of indicators for the RSP

UNEP's 2016 Ecosystem Approaches to Regional Seas document proposed programmatic steps for RSCAPs in the implementation of EBM to regional seas, including the assessment of regional seas in terms of ecosystem quality, functions, ecosystem services and threats. It further proposed that such assessments should be based on indicators, and suggested that "*the UNEP Marine Ecosystem Unit*

lead on the development of a set of indicators focusing on a number of common regional marine ecosystem issues and major sources of stress and threats to the functioning of these marine ecosystems based on existing indicators…".[12] This global, coordinated set of indicators should be in line with global processes, such as the SDGs, and "*a sub-set of global indicators would be identified to be applicable to all the regions that should constitute key features and functions of the marine ecosystems, common to all marine ecosystems*", complemented by additional indicators selected by each RSCAP as relevant to its regional marine ecosystem issues, which "*should be linked with the ecosystem-based objectives and targets*" (UNEP, 2016, p.11-12).

In 2015 the RSP established a Working Group on Regional Seas Indicators (Makarenko, 2016; UN Environment, 2017). This Working Group agreed on a coordinated set of 22 indicators (Table 3.9; UNEP, 2016b, UN Environment, 2017). The coordinated set of 22 indicators was aligned with SDG14 indicators (Table 2.5 in UNEP, 2016b; UN Environment, 2017). It is worth noting that only SDG targets 14.1 to 14.5 are covered by these indicators, leaving out targets 14.6, 14.7, 14.a, 14.b, and 14.c. (Makarenko, n.d; cf. Table with SDG14 Targets and Indicators in Annex 6, for reference). This work took into consideration the potential contribution of the Transboundary Waters Assessment Programme (GEF-TWAP) Project implemented by UNEP (Table 3.9).

Information on three indicators was compiled and discussed remotely by the Working Group (Makarenko, n.d.):

- Chlorophyll a (Indicator 1)
- Beach litter (Indicator 3)
- ICZM (Indicator 22)

In practice, adoption and operationalisation of this Core Set of Indicators (CSI) has proved to be problematic. This reflects the capacity differences between RSCAPs (see Section 6) and lack of continuity and support from the UNEP Indicators Working Group.

[12] Since 2016, UNEP structure has changed and the Ecosystems Integration Branch is now tasked to fulfill this function.

Table 3.9. RSP's core set of indicators (UNEP, 16b). Indicators colour coded according to the linked SDG14 target.

No.	Category of Indicator	Possible Coordinated Indicator	SDG14 target	TWAP indicators	Desirability in RSCAP
1	Total inputs of N and P from agriculture, sewage and atmospheric nitrogen	Chlorophyll a concentration as an indicator of phytoplankton biomass	14.1	Chlorophyll time series; DIN, DIP (modelled data) (both concentration and flux)	Med / BS/NOWPAP/ROPME/ SACEP /HELCOM/ Nairobi
2	Inputs of marine chemical pollution Trends for selected priority chemicals	Trends for selected priority chemicals including POPs and heavy metals	14.1	POPS (Persistent Organic Pollutants) status	NOWPAP /Nairobi/BS/ CPPS
3	Overall levels of marine litter Quantification of beach litter items	Quantification and classification of beach litter items	14.1	Marine Plastic Litter	NOWPAP/ HELCOM/PERSGA /Nairobi
4	Ocean warming	Annual mean sea surface Temp. (25m below surface)	14.2	Sea Surface Temperature (SST)	Agreed
5	Fish landings	Fish catches within EEZs (tonnes) – total capture Production	14.4	Fish landings and Landed Value, Fishing effort, Fish stock status, Primary Production required, Marine Trophic Index, Fishing in Balance Index	FAO to provide inputs
6	Aquaculture	Application of risk assessment to account for pollution and biodiversity impacts	14.4		FAO to provide inputs
7	Aquaculture	Destruction of habitat due to aquaculture	-	-	FAO to provide inputs
8	Population pressure / Urbanization	Length of coastal modification and km2 of coastal reclamation	14.2	Rural / Urban population, %poor,	ROPME / MAP / NOWPAP/ SACEP
9	Eutrophication status	Locations and frequency of algal blooms reported	14.1	Index of coastal eutrophication	agreed
10	Pollution hot spots (actual pollution hotspot and source of hotspot)	1. Concentration of Status of selected pollutant contamination in biota and sediments and temporal trends 2. Number of hotspots	14.1	Floating plastic debris agreed	-
11	Ocean acidification	1. Aragonite saturation 2. pH 3. Alkalinity	14.3	Pteropods at risk	ROPME (pH)
12	Level of exploitation of commercial fisheries	FAO stock status: % stocks overfished compared to MSY	14.4	Catch Stock Status, Marine Trophic Index, Fishing in Balance Index	FAO to provide inputs
13	Species replacement as a consequence of capture fisheries	Marine trophic index	14.5	Marine Trophic Index	FAO to provide inputs
14	Endangered species	Distribution of Red List Index species	14.5	-	NOWPAP

No.	Category of Indicator	Possible Coordinated Indicator	SDG14 target	TWAP indicators	Desirability in RSCAP
15	Loss of critical habitat	Trends in critical habitat extent and condition	14.5	Mangrove status; Reefs at Risk Index; seagrass; salt marshes	NOWPAP / CPPS
16	National Action Plans to reduce input from LBS	% National action plans ratified / operational	14.1	Transboundary Legal Instruments	agreed
17	Waste water treatment facilities	1. % coastal urban population connected to sewage facilities 2. % of waste water facilities complying with adequate standards 3. % of untreated waste water	14.1	NA	agreed
18	Incentive to reduce marine litter at source	1. % port waste reception facilities available 2. Incentives to reduce land based sources (in monetary terms) 3. Amount of recycled waste on land (%)	14.1	NA	agreed
19	Climate change adaptation	1. % national adaptation plans in place 2. Sector based national adaptation plans 3. Number of existing national and local coastal and marine plans incorporating climate change adaptation	14.2	Transboundary Legal Instruments	agreed
20	Fish harvested within safe ecological limits	Fisheries measures in place (by-catch limits, area-based closures, recovery plans, capacity reduction measures) and multilateral/bilateral fisheries management arrangements	14.4	Catch Stock Status, Marine Trophic Index, Fishing in Balance Index; Fishery Production Potential of LMEs	FAO to provide inputs
21	Critical marine habitat under Protection	% Marine protected areas designated	14.5	Change in Protected Area Coverage	agreed
22	National ICZM in place	National ICZM guidelines and enabling legislation adopted	14.2	-	agreed

3.5 Concluding remarks

UNEP's RSP can play a unique role in future monitoring of achievement of the GBF Goals and Targets, as RSCAPs are the only ecosystem-based hubs and approaches to the management of regional seas and ocean basins, across national and international jurisdictions, not only across national land-sea boundaries but across the international borders of the various neighbouring contracting Parties and with ABNJ. RSCAPs encompass the vast majority of recognised Large Marine Ecosystems, can forge links with other regional entities (in particular Regional Fisheries Bodies) and in some cases include and have the mandates for sections of area beyond national jurisdiction. This provides an established and internationally recognised legal platform, which can be strengthened and enhanced, to deliver ecosystem-based management. A number of RSCAPs have already taken up Aichi Biodiversity Targets in their strategies and work plans (Annex 5).

4. Implementation challenges and potential implications of the GBF for RSCAPs

4.1 Introduction

The "level of ambition" posed by the Aichi Biodiversity Targets (to be superseded by the GBF) and the Sustainable Development Goals "*necessitates action at multiple scales, including at the regional and national levels*", recognising that there are "*notable challenges facing the achievement of these global goals and targets, including gaps in capacity, issues related to governance, lack of cross-sectoral coordination, limited information base, and constraints related to monitoring, assessing and reporting progress in implementation*" (CBD, 2016).

The established *modus operandi* for Parties to report progress (implementation, monitoring and review) against CBD Targets is on the basis of National Biodiversity Strategies and Action Plans (NBSAPs). Aichi Biodiversity Target 17 sought to strengthen this process, requiring that "*by 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan*". NBSAPs focus on actions and reflect varying degrees of compliance with the CBD COP 10 outcomes (e.g. taking into account the CBD Strategic Plan for Biodiversity 2011-2020) but are largely independent of any regional approach or coordination.

This poses some basic questions. What are the potential implications of the GBF for the programmes of work of the RSP? How can the obligations of the GBF be integrated / taken up by the RSCAPs in their own policies (link to specific regional policy recommendations, regional and national actions, data collection processes and state of the environment reporting role)? Are the institutional, legal/policy and financial frameworks of the RSCAP fit for purpose to support GBF delivery as the vehicle for reporting and follow-up of global objectives and targets? How can RSP ensure follow-up and review of regional targets and objectives associated with GBF goals and targets and associated monitoring and evaluation? What actions are needed?

This section explores these various aspects of the RSCAP capacity to implement the GBF at the regional level as well as regional coordination of national implementation. It starts with an overview of the potential implications of integrating the GBF into the programmes of work of the RSCAPs, followed by an analysis of the institutional (legal/policy/financial) frameworks of the RSCAPs and their adequacy to support GBF delivery, leading to a review of key aspects to ensure RSCAPs follow-up and review of regional targets and objectives associated with GBF goals and targets and associated monitoring and evaluation.

4.2 Integrating the GBF into the programmes of work of the RSCAPs

4.2.1 Efforts by the RSCAPs to recognise the GBF

On behalf of the RSP, UNEP is taking the GBF into consideration in the preparation of new Strategic Directions for the period 2021-2024. The RSP has also contributed to CBD GBF consultations. However, engagement to date by RSCAPs with the developing GBF varies. As of the end of July 2020, the reported contributions of different RSCAPs to engage with (and hence implement) the GBF process have ranged across a gradient from no participation (e.g. CPPS and Black Sea Commission),

translation of consultation documents (PERSGA), participation in regional consultations (Abidjan Convention and Tehran Convention), production of formal (SPREP, COBSEA) and informal (UNEP-CEP) inputs to the process, amending Protocols (Nairobi Convention), to aligning strategic documents with the GBF (OSPAR, NOWPAP, UNEP/MAP). Further information on a set of specific cases is presented in Box 4.1.

Box 4.1: Examples of RSCAPs contributions to the development of the GBF

UNEP-CEP contributed input to the second OEWG through UNEP and informally contributed in the framework of a twinning project in cooperation with Transatlantic MPA Network and with IUCN.

PERSGA translated most of the GBF to Arabic to discuss targets and monitoring in the context of ICRI (International Coral Reef Initiative).

Abidjan Convention Secretariat has participated in the regional consultation for Africa on the GBF held in Addis Ababa, Ethiopia (2-5 April 2019) and the Tehran Convention Secretariat, together with 2 representatives of the Caspian countries, participated in the regional consultation on the GBF that took place in Belgrade, Serbia (16-18 April 2019).

SPREP has been working with its Parties/Member States to provide input to the GBF. SPREP held a workshop in February 2020, which was attended by representatives from 10 Pacific countries. The workshop discussed regional priorities for the GBF. As a result of this workshop a submission was made to the Open-Ended Working Group (OEWG), which proposed amongst other things, a separate goal on oceans. This was raised at OEWG-2 by the delegate from Tuvalu. The goal has not made the latest GBF draft (CBD, 2020) but many elements on raising the profile of marine issues have been included. SPREP supported Parties to make comments on the 0.5 draft by the date of 25 July 2020.

COBSEA's Secretariat reviewed the three documents on monitoring and indicators under review for SBSTTA during July 2020. COBSEA initiated a webinar series on the GBF. The webinars provide a platform for dialogue on how COBSEA can be leveraged to support Member States during the development of the framework as well as how it can support delivery and tracking once the framework has been adopted. The first webinar, held 28 May 2020, took stock of the process for development of the framework and UNEP's role in this, including its work with and through RSCAPs. The webinars will support preparation for the next Intergovernmental meeting (IGM) as well as initial planning for COBSEA's strategic directions beyond 2022. COBSEA IGM-25 will be held in the first half of 2021 (potentially in June), providing COBSEA with an opportunity to formally consider the GBF.

OSPAR has considered the GBF in the reiteration of the North-East Atlantic Environment Strategy for the period 2020-2030. The high-level components of this strategy make reference to the CBD process. In the development of the operational objectives of the strategy the heads of delegation to the OSPAR Biodiversity Committee meeting (20-21 January 2020) used the CBD post-2020 Zero Draft as reference material. Both specific issues and high-level ambition were considered and influenced the framing of OSPAR's operational objectives proposed by this meeting. The Secretariat represented OSPAR at the GBF regional consultation meeting in Bonn on 19-21 March 2019 and OSPAR Contracting Parties are also actively engaged in the GBF as part of their national responsibilities.

In the case of **UNEP/MAP**, the GBF will be considered for the building of a "Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region" (Post-2020 SAP BIO). The Contracting Parties to the Barcelona Convention agreed that the Post-2020 SAP BIO, while being adapted to the natural specificities and to the socio-economic and political contexts of the Mediterranean region, should be aligned with the SDGs. It should also be harmonised in its orientations with the relevant overarching frameworks and processes at the global level and, in particular, the process engaged under the CBD for the elaboration of the GBF. Furthermore, the GBF is also being taken into consideration for the preparation of the next UNEP/MAP Medium-Term Strategy, which is currently under preparation and will cover the 6-year period 2022-2027.

4.2.2 Efforts to integrate the GBF in RSCAP policies

As highlighted above, UNEP is developing new strategic directions for the RSP, taking into account individual mandates and priorities of the RSCAPs. However, efforts to integrate the GBF into individual RSCAPs policies have also been variable. For some RSCAPs, such as UNEP-CEP, SACEP, HELCOM, or COBSEA, Aichi Targets are already included in the corresponding strategies, facilitating the adaptation of those strategies to the GBF (see section 3.3.1). Other RSCAPs will integrate the GBF into new protocols or into the next iterations of regional strategies, for example, the Abidjan Convention is carrying out on-going consultation processes on protocols and integrated ocean management (IOM) practices up to the next COP in April 2021, and considering the integration of the GBF in those strategic documents; UNEP/MAP intends to align the Post-2020 SAP BIO objectives with those of the GBF, tailoring them to the Mediterranean realm and specific requests of individual Parties; OSPAR's North-East Atlantic Environment Strategy 2020-2030 objectives will be clearly linked to the CBD GBF objectives, allowing for an assessment of how specific regional activities contribute to achieving global goals; SPREP will include the GBF into its State of Environment Reporting, and in its revised Framework for Nature Conservation and Protected Areas; CPPS intends to integrate GBF objectives in the revision of its Strategic Plan, taking into account priorities of its Parties, and NOWPAP is in the process of developing a Regional Action Plan on Marine and Coastal Biodiversity Conservation (RAP BIO), which will be aligned with the GBF.

Some RSCAPs prefer to relate alignment of GBF to a continuation of their work: for example, NOWPAP plans that integration of the GBF will be done through the continued implementation of NOWPAP mid-term strategy (MTS) 2018-2023 and beyond, which makes reference to Aichi Target 11. PERSGA will continue to declare new MPAs, supporting countries with management tools and preparing and updating management plans for these MPAs, to achieve, for example, enhanced coral reef ecosystem resilience. For the Nairobi Convention, the priority issues of the GBF are key components of on-going efforts and assessments of the state of the coastal and marine environment in the Western Indian Ocean. These include the importance of biodiversity and ecosystem services, the current state of biodiversity and its implications for human wellbeing, addressing the current challenges facing biodiversity, the drivers of biodiversity loss and adaptation to climate change. The Nairobi Convention is initiating the implementation of a science-policy platform, "*a multi-stakeholder platform comprising of representatives of formal and informal knowledge-generating institutions, practitioners, policymakers, communities and the private sector within the WIO region*" which will serve as an intermediary body to bridge the gaps between science, policy and catalyse implementation.

For other RSCAPs, integrating the GBF with their own policies promises to be more challenging for reasons such as a lack of mandate, or lack of funding, or both (See Section 4.3, below).

4.2.3 Showcasing examples and strengths from the RSCAPs in addressing the GBF

The work being carried out and being envisaged by the various RSCAPs is uniquely relevant to advancing many aspects of the GBF, in relation to the delivery of specific targets but also of multiple targets, in the case of initiatives addressing cross-cutting topics. A summary of the 18 RSCAPs is offered in **Error! Reference source not found.**.

Table 4.1. GBF Targets and linkages to the mandate of the RSCAPs. Cells shaded blue show areas of RSCAP work that are relevant to the GBF.

RSCAPs / GBF Targets	Mediterranean	West Africa	Wider Carib.	East Africa/Nairobi	E Asia/COBSEA	NOWPAP	Caspian Sea	ROPME	SE Pac/CPPS	PERSGA	South Pacific SPREP	Black Sea	NE Pacific/ Antigua	SAsia/SACEP	Baltic/HELCOM	NE Atl/OSPAR	Antarctic	Arctic Ocean
1- SP/ICZM	■	■	■	■	■	■			■	■	■	■		■	■	■		■
2 – MPA	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■
3 – CON	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■
4 - Sust. Harvest	■	■	■	■	■		■		■	■	■	■		■	■	■	■	■
5 – IAS	■	■	■	■		■			■	■	■	■		■	■	■	■	■
6 - Pollution	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■
7 – CC	■		■	■	■				■	■	■			■	■	■	■	■
8 - Sust. Manag.	■		■	■	■				■	■	■	■		■	■	■		■
9 - Reduce prod. Gaps				■					■		■	■		■		■		
10 - EBM Nat. bas. Sol	■		■						■	■	■	■		■				
11 - BB wellbeing		■	■	■						■	■			■				
12 - Gen. res. & TK				■							■							■
13 - Int.B in PPP	■	■	■	■					■	■	■							
14 - Sus. Sup. chains				■	■						■						■	
15 - Elim. uns. Cons.					■						■							
16 - Red. adv. biotech											■							
17 - Elim. Harm. Inc.			■								■							
18 - Finan., CB, TT		■	■	■	■				■		■						■	
19 - TK & Educ.		■		■	■				■	■	■							■
20 – IPLC			■															■

All functioning RSCAPs develop work related to MPAs (Target 2), to the recovery and conservation of wild species of fauna and flora (Target 3) and to pollution from various sources, including marine litter (Target 6). The vast majority also develops work relevant to the sustainable harvesting, trade and use of wild species of fauna and flora (Target 4), to invasive alien species (Target 5), and to spatial planning, including Integrated Coastal Zone Management and Marine Spatial Planning (Target 1) (Figure 4.1).

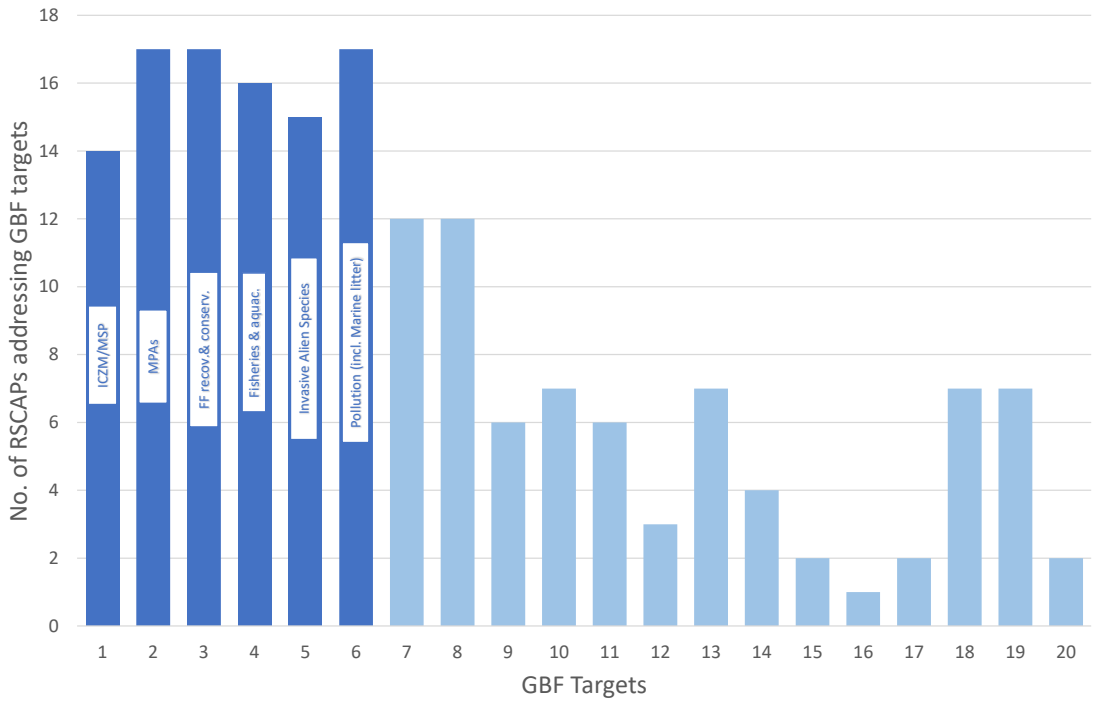

Figure 4.1. Number of RSCAPs whose work is relevant to GBF targets.

The text below offers specific examples of how the work of the different RSCAPs can be relevant to one or more GBF targets:

NOWPAP is finalising a Regional Action Plan on Marine and Coastal Biodiversity Conservation (UNEP, 2020) contributing to various GBF Targets, including 1, 2, 3, 7, 10, and has assessed major pressures on marine biodiversity in the region, including pollution/eutrophication, non-indigenous species (NIS), habitat alteration, overfishing, climate change. COBSEA's work advancing marine and coastal planning and management in the region is relevant to GBF Targets 1, 2, 7 and 10. In what concerns coastal habitat conservation, relevant to GBF Targets 1 and 7, PERSGA and SACEP are carrying out work related to coral reef conservation whereas CPPS is implementing a Regional Action Plan for Mangrove Conservation.

RSCAPs have been key in promoting the designation and implementation of MPAs (and of CBD EBSAs in specific cases) and MPA networks (GBF Target 2). The Black Sea Commission and the Tehran Convention Secretariats have worked together with their Parties on the description of EBSAs in the Black Sea and Caspian Sea (CBD, 2018). Sub-regions within the Abidjan Convention are also active in the scoping of new MPAs and EBSAs. CPPS has helped implement the south-east Pacific regional network of marine and coastal protected areas, and NOWPAP has launched the North-East Asia MPAs network in collaboration with the North-East Asian Subregional Programme for Environmental Cooperation, and carried out a Summary on Marine and Coastal Protected Areas in the NOWPAP Region, compiling information on 87 MPAs. OSPAR is working to enlarge its North-East Atlantic MPA network (including in ABNJ) and to strengthen the ecological coherence and management effectiveness of the MPAs already included in the network (see Box 4.1 below). The Nairobi Convention has carried out a Western Indian Ocean MPAs Outlook on current formal and informal MPAs, threats and challenges to their protection and management, overview of MPA effectiveness and options for proposed future MPAs (see Box 4.2 below). There is a clear opportunity for RSCAPs to coordinate/integrate efforts for the adoption of multiple area-based management tools, e.g., including those designated by RFMOs (VMEs), IMO (PSSAs), and ISA (APEI) (UN Environment, 2018b).

Several RSCAPs have also developed regional action plans for the protection of wild species (GBF Target 3): NOWPAP maintains a database on IUCN Red List species in the region supported by NOWPAP's Data and Information Regional Activity Centre (DINRAC) and OSPAR has established a list of threatened and/or declining species and habitats for priority conservation action in the region (see Box 4.1 for more details). CPPS has implemented regional plans for conservation of marine mammals and sea turtles and SPREP has developed Regional Marine Species Action Plans for Whales and Dolphins, Marine Turtles and Dugongs over several 5-yearly iterations, which are being revised; new ones for Sharks and Rays and Seabirds are to be endorsed by Parties.

COBSEA's UNEP/GEF IW projects such as 'Implementing the South China Sea Strategic Action Programme' and 'Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand' are relevant to GBF Target 4 on sustainable harvest of wild species, and to multiple other GBF targets including Targets 1, 2, and 7.

All RSCAPs that have entered into force have developed dedicated work related to reducing pollution from all sources (GBF Target 6). Examples from the COBSEA region include a focus on land-based marine pollution, specifically the revised 2019 COBSEA Regional Action Plan on Marine Litter (RAP MALI) together with the regional project SEA circular aimed to reduce marine litter and plastic pollution through better management of the plastic value chain. In the south-east Pacific, in 2000, CPPS developed a Regional Program for control and research of marine pollution, and in 2006 the Regional Program for the integrated management of marine litter. Some action highlights from these programmes are the Regional Marine Litter Contest, the Compendium of Good Practices against Marine Litter, and the Study and methodology to determine the content of microplastics in pelagic fishes.

SPREP's Pacific Ecosystem Based Adaptation to Climate Change projects in Fiji, Solomon Islands, and Vanuatu incorporate much of the thinking behind GBF Target 7.

Boxes 4.2 and 4.3 showcase the work of two RSCAPs, the OSPAR Commission and the Nairobi Convention, and how it relates to various GBF targets.

Box 4.2: Highlights of work by the OSPAR Commission (North-East Atlantic) relevant to the GBF

OSPAR's work will contribute to a range of the proposed Goals and Targets currently being considered as part of the GBF, including: Goal A on no net loss; Goal B on reducing the percentage of species threatened with extinction; Target 1 on retaining and restoring marine ecosystems; Target 2 on protected sites; Target 5 on invasive alien species; and Target 6 on reducing pollution. Specific examples include:

The OSPAR network of MPAs has been ground breaking, including recognition and application of the legal mandate of OSPAR to designate MPAs in ABNJ within the OSPAR Maritime Area. OSPAR intends to continue and further strengthen this work in the coming years, both by enlarging the network, but also by working towards strengthening the ecological coherence and management effectiveness of the MPAs already included in the network.

OSPAR has established a list of threatened and/or declining species and habitats for priority conservation action in the region. For each protected feature, an OSPAR Recommendation has been adopted, which sets out the national and collective actions to be taken by the Contracting Parties to OSPAR. This has brought in protective actions for features not protected under other legal regimes (certain species and habitats) and also supported coordination of protection of features that are covered by other legal instruments e.g. in the European Union (EU).

OSPAR has developed a common indicator on non-indigenous species (NIS), with a view of assessing the rate of new introductions. OSPAR has also engaged with the neighbouring Regional Sea Convention HELCOM through a joint task group on ballast water management, with a view to developing a scheme for managing ballast waters to limit introduction of NIS taking into account the risk in neighbouring sea areas.

OSPAR has had a strong focus on reducing pollution since its inception. Pollution from hazardous substances has been reduced in the region through the development of OSPAR legal instruments to regulate the use of substances. OSPAR has also worked to understand eutrophication processes and taken measures to reduce excess nutrients that can lead to eutrophication, in particular in coastal waters. Atmospheric and riverine nutrient inputs to the OSPAR Maritime Area have declined in the last 25 years. Whilst eutrophication still exists in areas sensitive to nutrient inputs, such as estuaries, fjords and bights, coastal waters and areas affected by river plumes, the spatial extent of eutrophication has declined. Contracting Parties are developing an updated and harmonised approach to assess eutrophication and to establish new nutrient targets.

In recent years OSPAR has been a leading actor in assessing pollution from marine litter by developing several indicators, and also by taking actions to reduce input and mitigate harm through actions in the Regional Action Plan on Marine Litter. OSPAR's beach litter monitoring was instrumental in providing an evidence base for the EU's Single Use Plastics Directive. Latest assessments of both beach litter and floating litter have shown some small positive signs of improvements. Collective actions under the Regional Action Plan have included a series of evidence reports on options for reducing litter from land and sea-based sources, and development of Recommendations on Fishing for Litter, Education and reduction of losses in plastic pellets. The implementation of the Action Plan is now being reviewed, with the aim to have an updated or new plan by 2022.

Box 4.3: Highlights of work of the Nairobi Convention (Western Indian Ocean) relevant to the GBF

The Nairobi Convention's work in the Western Indian Ocean (WIO) region covers many aspects that are relevant to the GBF. Some examples included below, with products expected in 2020 and beyond, that largely focus on biodiversity and ecosystem health are:

i. WIO MPAs Outlook on current formal and informal MPAs, threats and challenges to their protection and management, overview of MPA effectiveness and options for proposed future MPAs to attain the Aichi Biodiversity Target 10% coverage, expected to be launched by late 2020 (GBF Target 2).
ii. Guidelines for restoration of degraded critical habitats (mangroves and seagrass) in the WIO region, with planned demonstration actions (GBF Targets 1 and 3).
iii. Guidelines on Environmental Flows Assessments for the WIO region to remedy deficiencies in the management of river basins whose runoff drains to the coast through estuaries and deltas. In addition, the guidelines include building capacity for Integrated Water Resources Management implementation for allocating water to various users including water allocation for sustaining ecological systems that include coastal and marine ecosystems (GBF Target 10).
iv. Climate change vulnerability assessment toolkit for the near-shore marine social-ecological system in the WIO, in support of the implementation of the climate change strategy for marine and coastal environment in the Nairobi Convention area (GBF Target 7).
v. Development of a WIO regional ocean acidification action plan (GBF Target 7).
vi. Implementation of the regional marine litter action plan for the WIO and development of national/local marine litter action plans (GBF Target 6).
vii. Development of a strategic framework for marine water quality management in the WIO region, with a focus on maintaining or achieving receiving water quality such that marine water remains or becomes fit for all designated uses such as marine aquaculture, industrial use, recreational use, as well as biodiversity protection and ecosystem functioning (GBF Targets 8, 9, 10).
viii. Guidelines on methodologies for the valuation of coastal and marine ecosystems, with case studies being developed in the transboundary conservation area between Kenya and Tanzania (GBF Targets 8, 10, 11, 13, 15).
ix. Active engagement of coastal communities, who are among the primary users and beneficiaries of ocean resources, to reduce stress on marine resources and empower the communities in sustainable resource management (GBF Targets 8, 9, 12, 14, 15, 17, 19, 20).

Assessment of the Contribution of Maritime Sectors to Blue Economy: Values, Potentials and Governance Frameworks with case studies in Kenya (for eastern African regional economic block (IGAD)) and Tanzania (for southern African economic block (SADC)) (GBF Targets 13, 14, 15, 16, 17).

4.3 Institutional frameworks of the RSCAPs to support GBF delivery

4.3.1 RSCAP mandates to conserve biodiversity

Overall the RSCAPs have a mandate to conserve biodiversity but with differences in emphasis and regional specificity. The mandates of the different RSCAPs are defined primarily in their respective Conventions, and associated specific biodiversity protocols, or additionally in strategies or action plans (Table 4.2). However, at the same time they do not have mandates to address key human activities that affect biodiversity (particularly fisheries and shipping impacts). The GBF takes an all-inclusive interpretation of the scope of 'biodiversity'. Many of the Regional Seas Protocols relate to protected areas and endangered species and habitats (see Table 3.2 in Section 3).

Table 4.2. RSCAP legal documents establishing a mandate to conserve biodiversity.

Region	Mandate to conserve Biodiversity
UNEP Administered	
Mediterranean	**MEDITERRANEAN ACTION PLAN (MAP) AND CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT AND THE COASTAL REGION OF THE MEDITERRANEAN** (Barcelona Convention Amendments, entered into force on 9 July 2004) **Article 10 - Conservation of Biological Diversity**: The Contracting Parties shall (…) take all appropriate measures to **protect and preserve biological diversity, rare or fragile ecosystems, as well as species of wild fauna and flora which are rare, depleted, threatened or endangered and their habitats (…)**. The MAP legal framework is completed by 6 protocols including: **Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol)** *(entered into force in 1999*), which is the principal instrument available to the Contracting Parties to the Barcelona Convention to implement in the Mediterranean CBD for in situ conservation and sustainable use of the marine and coastal biodiversity.
Western and Central Africa	**CONVENTION FOR COOPERATION IN THE PROTECTION, MANAGEMENT AND DEVELOPMENT OF THE MARINE AND COASTAL ENVIRONMENT OF THE ATLANTIC COAST OF THE WEST, CENTRAL AND SOUTHERN AFRICA REGION** (Abidjan Convention, 1984) **Article 11 - SPECIALLY PROTECTED AREAS**: Contracting Parties shall (…) **take all appropriate measures to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other marine life**. To this end, the Contracting Parties shall endeavour to establish protected areas, such as parks and reserves, and to **prohibit or control any activity likely to have adverse effects on the species, ecosystems or biological processes** in such areas.
Wider Caribbean	**CONVENTION FOR THE PROTECTION AND DEVELOPMENT OF THE MARINE ENVIRONMENT IN THE WIDER CARIBBEAN REGION (WCR) CARTAGENA CONVENTION (ADOPTED IN 1983, ENTERED INTO FORCE IN 1986)** Article 4 - GENERAL OBLIGATIONS: 1. The Contracting Parties shall (…) take all appropriate measures (…) to prevent, reduce and control pollution of the Convention area and to ensure sound environmental management, using for this purpose the best practicable means at their disposal and in accordance with their capabilities." Article 10 - SPECIALLY PROTECTED AREAS: Contracting Parties shall (…) take all appropriate **measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species,** (…). To this end, the Contracting Parties shall endeavour to establish protected areas. (…) **Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region** (adopted in 1990 and entered into force in 2000) Article 3 General Obligations: 1. Each Party to this Protocol shall (…) take the necessary measures to protect, preserve and manage in a sustainable way, (…): a) areas that require protection to safeguard their special value; and b) **threatened or endangered species of flora and fauna**. Each Party shall regulate and, where necessary, prohibit activities having adverse effects on these areas and species (…). Each Party (…) shall manage species of fauna and flora with the objective of preventing species from becoming endangered or threatened."
Eastern Africa Nairobi Convention	**THE AMENDED NAIROBI CONVENTION FOR THE PROTECTION, MANAGEMENT AND DEVELOPMENT OF THE MARINE AND COASTAL ENVIRONMENT OF THE WESTERN INDIAN OCEAN (AMENDED NAIROBI CONVENTION) (adopted in 2010)** **Article 11**: The Contracting Parties shall (…) take appropriate measures to **conserve biological diversity and protect and preserve rare of fragile ecosystems as well as rare, endangered or threatened species of fauna and flora and their habitats** in the convention area; (…) establish protected areas, such as parks and reserves, and shall regulate and (…) prohibit any activity likely to have adverse effects on the species, ecosystems or biological processes that such areas are established to protect. **Protocol Concerning Protected Areas and Wild species of Fauna and Flora (1985)** Established as general undertaking (Article 2) that "the Contracting Parties shall take all appropriate measures to maintain essential ecological processes and life support systems, to preserve genetic diversity, and to ensure the sustainable utilisation of harvested natural resources under their jurisdiction. In particular, the Contracting Parties shall endeavour to protect and preserve rare or fragile ecosystems as well as rare, depleted, threatened or endangered species of wild fauna and flora and their habitats in the Eastern African region".
East Asian Seas	**ACTION PLAN FOR THE PROTECTION AND SUSTAINABLE DEVELOPMENT OF THE MARINE AND COASTAL AREAS OF THE EAST ASIAN REGION** (originally adopted in April 1981 and revised in 1994) II. **Scientific activities leading towards management**: (…) Scientific aspects of **rehabilitation of vital ecosystems and restoration of ecologically or economically important species and communities;** Scientific aspects of marine protected areas; Utilisation and protection of marine resources; Biological and ecological effects of pollution

Region	Mandate to conserve Biodiversity
Northwest Pacific NOWPAP	**NORTHWEST PACIFIC ACTION PLAN (NOWPAP, 1994)**[13] *The overall goal of the NOWPAP is: the wise use, development and management of the coastal and the marine environment so as to obtain the utmost long-term benefits for the human populations of the region, while protecting human health, ecological integrity and the region's sustainability for future generations.* NOWPAP states five short- and medium-term objectives including **Objective 4**: *To develop and adopt a harmonious approach towards the* ***integrated management of the coastal and marine environment and its resources, in a manner which combines protection, restoration, conservation and sustainable use.***
Caspian Sea	**FRAMEWORK CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE CASPIAN SEA (TEHRAN CONVENTION) (ENTERED INTO FORCE IN 2006)** Article 2. The objective of this Convention is the protection of the Caspian environment from all sources of pollution including **the protection, preservation, restoration and sustainable and rational use of the biological resources of the Caspian Sea.** **Protocol for the Conservation of Biological Diversity** ("Ashgabat Protocol") (adopted in 2014, not yet entered into force)
NON-UNEP ADMINISTERED	
ROPME Sea Area	**KUWAIT REGIONAL CONVENTION FOR CO-OPERATION ON THE PROTECTION OF THE MARINE ENVIRONMENT FROM POLLUTION** (1978) **Protocol concerning the conservation of biological diversity and the establishment of protected areas**
South East Pacific	**CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT AND THE COASTAL ZONE OF THE SOUTHEAST PACIFIC (LIMA CONVENTION, 1981)** Establishes the duty "to prevent, reduce and control pollution of the marine environment and coastal area of the south-east pacific and to ensure appropriate environmental management of natural resources." **Action Plan for the Protection of the Marine Environment and Coastal Areas of the Southeast Pacific (1997)** Activities in the Plan of Action include: 5. Protected Marine and Coastal Areas; 6. Conservation of Southeast Pacific Marine Mammals; **7. Marine and coastal biodiversity** (identification of marine ecosystems associated to high biodiversity and productivity levels and other habitat zones especially important and the establishment of the limitations, i.a., the creation of protected areas and the inventory of the flora and fauna in high biodiversity areas)
Red Sea & Gulf of Aden	**THE REGIONAL CONVENTION FOR THE CONSERVATION OF THE RED SEA AND GULF OF ADEN ENVIRONMENT** (Jeddah Convention **1982**) **Protocol Concerning the Conservation of Biological Diversity and the Establishment of Network of Protected Areas in the Red Sea and Gulf of Aden (2005)** Article 1: 1. To provide for the **conservation, protection and restoration of the health and integrity of the ecosystems and biological diversity** in the PERSGA region. 2. To safeguard the threatened species, the critical habitats, sites of particular importance, as well as representative types of coastal and marine ecosystems, their biodiversity and their sustainable use and management, to ensure long-term viability and diversity.
South Pacific SPREP	**CONVENTION FOR THE PROTECTION OF THE NATURAL RESOURCES AND ENVIRONMENT OF THE SOUTH PACIFIC REGION AND RELATED PROTOCOLS** (Adopted at Noumea in 1986; Entered into force in 1990) **Article 14** - Parties shall: (…) take all appropriate measures to **protect and preserve rare or fragile ecosystems and depleted, threatened or endangered flora and fauna as well as their habitat** in the Convention Area; (…) establish protected areas, such as parks and reserves, and prohibit or regulate any activity likely to have adverse effects on the species, ecosystems or biological processes that such areas are designed to protect. **2017–2026 SPREP Strategic Plan**: Regional goal **2. Ecosystem and Biodiversity Protection**
Black Sea	**CONVENTION ON THE PROTECTION OF THE BLACK SEA AGAINST POLLUTION** Article V: The Contracting Parties shall take (…) all necessary measures (…) to prevent, reduce and control pollution thereof in order to **protect and preserve the marine environment** of the Black Sea. **Black Sea Biodiversity and Landscape Conservation Protocol** (signed in 2002, entered into force in 2011) "to maintain the Black Sea ecosystem in the good ecological state and its landscape in the favourable conditions, to protect, **to preserve and to sustainably manage the biological and landscape diversity** of the Black Sea in order to enrich the biological resources."

[13] As highlighted in Section 3, the Antigua Convention is not in force, however, their Action Plan is valid.

Region	Mandate to conserve Biodiversity
North East Pacific	**CONVENTION FOR COOPERATION IN THE PROTECTION AND SUSTAINABLE DEVELOPMENT OF THE MARINE AND COASTAL ENVIRONMENT OF THE NORTHEAST PACIFIC (ANTIGUA CONVENTION)** *ARTICLE 6* - (…) *Contracting Parties shall adopt measures aimed at: (d)* ***identification and protection of endangered species of flora and fauna****, and those that may possibly require protection measures*; *ARTICLE 10:* (h) Establish protected coastal areas with the objective of maintaining biological integrity and **diversity**; 5. (…) **adopt appropriate measures to protect and preserve rare or vulnerable ecosystems** in the area within the scope of this Convention, as well as the **habitats of species with low populations or that are threatened or endangered**. To this end, the Contracting Parties shall endeavour to establish protected areas (…)
South Asian Seas	**Colombo Declaration on the South Asia Co-Operative Environment Programme (SACEP) (1981)** **ACTION PLAN FOR THE PROTECTION AND MANAGEMENT OF THE MARINE AND COASTAL ENVIRONMENT OF THE SOUTH ASIAN SEAS REGION (1995)** 6. General goals of the action plan, include i.a.: (c) to provide for protection and rational development of the marine and coastal resources of the region, which are a natural heritage with important economic and social values and potential, through **the preservation of habitats, the protection of species** and careful planning and management of human activities that affect them;
INDEPENDENT PROGRAMMES /PARTNERS	
Baltic Sea	**CONVENTION ON THE PROTECTION OF THE MARINE ENVIRONMENT OF THE BALTIC SEA AREA (HELSINKI CONVENTION)** Article 4. 1. This Convention shall apply to the protection of the marine environment of the Baltic Sea Area which comprises the water-body and the seabed including their **living resources and other forms of marine life.** **Baltic Sea Action Plan (BSAP, 2007)**: includes a Biodiversity and nature conservation segment "towards a favourable conservation status of Baltic Sea Biodiversity" (BSAP, 2007, 18)
North East Atlantic	**CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF THE NORTH-EAST ATLANTIC** **ANNEX V - ON THE PROTECTION AND CONSERVATION OF THE ECOSYSTEMS AND BIOLOGICAL DIVERSITY OF THE MARITIME AREA** ARTICLE 2 - (…) Contracting Parties shall: a. take the necessary measures to **protect and conserve the ecosystems and the biological diversity of the maritime area,** and to restore, where practicable, marine areas which have been adversely affected as well as their obligation under the Convention on Biological Diversity of 5 June 1992 to develop strategies, plans or programmes for the conservation and sustainable use of biological diversity, Contracting Parties shall: a. take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area, and to restore, where practicable, marine areas which have been adversely affected; and b. cooperate in adopting programmes and measures for those purposes for the control of the human activities.
Antarctic	**CONVENTION ON THE CONSERVATION OF ANTARCTIC MARINE RESOURCES** Article II - 1. The objective of this Convention is the **conservation of Antarctic marine living resources.**
Arctic	**ARCTIC MARINE STRATEGIC PLAN 2015-2025** Goal 2: **Conserve and protect ecosystem function and marine biodiversity** to enhance resilience and the provision of ecosystem services.

As stated previously, the GBF also covers threats to biodiversity, such as pollution from various sources, that are in the remit of the RSCAPs and that are the subject of legally binding measures, via agreed Protocols (see Table 5.1). Sustainable use and access to benefit sharing, however, are not comprehensively covered.

Notwithstanding the caveat explained above, the majority of RSCAPs have a clear mandate to conserve marine biodiversity as a whole either directly through their Regional Seas Conventions (Nairobi Convention, UNEP/MAP and OSPAR), through dedicated protocols (Black Sea, Caspian Sea, PERSGA, and ROPME), or via their Strategic/Action Plans (Arctic Council, HELCOM, SPREP, CPPS). Other RSCAPs focus on the conservation of marine living resources (CCAMLR) or on the protection of rare or endangered species (Abidjan Convention, Antigua Convention, Cartagena Convention), while other RSCAPs make mention of protection of species *sensu lato* (SACEP), or resources, phrased as "*integrated management of the coastal and marine environment and its resources, in a manner which combines* ***protection, restoration, conservation and sustainable use***" (NOWPAP, emphasis added), or as "*scientific activities leading towards management*", including the "*scientific aspects of marine protected areas"* and the *"utilization and protection of marine resources*" (COBSEA). As such,

more or less explicitly, all eighteen RSCAPs have a biodiversity related mandate relevant to the GBF (Tables 4.2 and 3.2).

However, the existence of biodiversity-related mandates either via the corresponding Conventions or Protocols may not always be enough to give RSCAPs the legal authority to impose the consideration or integration of GBF-related topics by their Parties[14]. As established in Section 2, the GBF takes a broad interpretation of biodiversity (covering pollution from land-based sources, coastal zone management, ecosystem services, equitable sharing of genetic resources, and sustainable production), and the RSP may need to respond to this and consider wider remits for individual RSCAPs on a case-by-case basis.

The Nairobi Convention reported on the need for an amendment to its Protocol on protected areas and wild flora and fauna related, *i.a.* to the GBF. The Protocol recognises that natural resources constitute a heritage of scientific, cultural, educational, recreational, and economic value that needs to be effectively protected, and stresses the importance of protecting and improving the state of the wild fauna and flora and natural habitats of the region through the establishment of specially protected areas in the marine and coastal environment. The need for an amendment to the Protocol was agreed to by Contracting Parties under Decision CP.9/5 of 2018 and is expected to be discussed, negotiated and adopted by May 2021. This amendment is a response to the intensification of pressures resulting both from anthropogenic and natural factors that have led to the degradation of coastal and marine biodiversity, habitats and ecosystems in the Nairobi Convention area (WIO region). Additionally, the amendment of the Protocol is deemed necessary to incorporate recent and on-going global commitments and processes on biodiversity. The amendment is therefore being guided by global responses and commitments on biodiversity, including the SDGs, Aichi Biodiversity Targets, CBD GBF processes, advances in blue economy and ocean governance, the Marine Protected Areas Outlook and Critical Habitats Outlook for the WIO region, Paris Agreement, African Union Agenda 2063, and negotiations and processes on biodiversity conservation in ABNJ. The amendments to the Protocol will strengthen the legal framework of the Protocol to enable a more effective regime for biodiversity conservation and management of marine and coastal ecosystems across sectors and national boundaries to achieve EBM and sustainable development. The amendments will provide a stronger framework for addressing current and emerging threats to the marine and coastal environment of the WIO region.

The Black Sea Commission (BSC) and its Secretariat are not formally considering the on-going GBF process at regular/annual meetings because they do not consider that their mandate is significantly well aligned to consider or provide input into these issues, although the BSC Secretariat tries to follow CBD related processes and contribute on behalf of the Commission, not necessarily involving the Member States. The possibility of enlarging the mandate of the Bucharest Convention in the near future is not seen as a possibility but the Secretariat would welcome the possibility of a means to oblige Parties to consider the GBF at the regional level.

In the case of the Tehran Convention, the GBF could be integrated in the implementation of the Protocol for the Conservation of Biological Diversity, which is not yet in force, and/or in the Convention's Programme of Work. Protocol ratification would entail allocation of financial and human resources for its implementation. The BSC and the Tehran Convention are mostly funded through Parties' contributions, and do not have enough resources to do substantive additional work. However, even with limited financial resources, if implementation, monitoring, reporting and review of the GBF at a regional level became legally binding, the Secretariats of both Conventions believe Parties would dedicate staff to its implementation.

[14] One extreme case is the Antigua Convention, in the Northeast Pacific Ocean, which was adopted in 2002 but has not yet come into force.

4.3.2 Regional partnerships to support/promote the GBF

As discussed in Section 3, regional organisations such as the RSCAPs are well placed to provide a bridge between national and global goals, a role that could be set out in new or updated guidance, guidelines or standards as NBSAPs are aligned with the new framework, perhaps on the basis of common elements (See Section 6).

RSCAPs play a unique role as regional hubs to support/promote the GBF in various fronts: supporting the work of their Parties to protect biodiversity, which is particularly relevant for those RSCAP Parties that are not themselves Parties to the CBD. This includes: developing harmonised approaches at the regional scale; establishing, collaborating with and strengthening regional partnerships; sharing experiences notably with other regional seas organisations or Regional Fisheries Bodies (see subsection below) or with global organisations (such as IMO and ISA); and promoting/encouraging governments and businesses to adopt sustainability practices (UN Environment, 2017b). Various case studies on policies and institutional arrangements to enable cross-sectoral cooperation to achieve ocean-related SDGs are illustrated in a recent publication (UNEP/EC, 2017, see summary in Box 4.4).

Box 4.4: Studies on policies and institutional arrangements to enable cross-sectoral cooperation to achieve ocean-related SDGs (UNEP/EC, 2017)

- Delivering the Mediterranean Strategy for Sustainable Development 2016- 2025 through a highly inclusive process to transpose Agenda 2030 and its sustainable development goals at the regional level
- Fostering cooperation in the Mediterranean and the Black Sea in the context of SDG 14: On-going efforts promoted by the General Fisheries Commission for the Mediterranean of the Food and Agriculture Organization of the United Nations (GFCM)
- HELCOM cross-sectoral cooperation and partnerships on clean and safe Baltic Sea shipping
- Regional co-operation on marine pollution preparedness and response in the Northwest Pacific Region
- Cooperation in the Danube-Black Sea Basin: Example of the Commission on the Protection of the Black Sea Against Pollution (BSC) and the International Commission for the Protection of the Danube River (ICPDR)
- 2050 Africa's Integrated Maritime Strategy and African Ocean Governance Strategy
- Update on the design of an integrated regional ocean policy for the Permanent Commission for the South Pacific
- Potential cooperation between the Regional Organization for the Protection of the Marine Environment (ROPME) and the Regional Commission for Fisheries (RECOFI)
- Cooperation between the Abidjan Convention and the Sub-Regional Fisheries Commission
- OSPAR cooperation with the North East Atlantic Fisheries Commission (NEAFC) and other relevant intergovernmental organisations, with particular reference to area-based management

Examples of good practice by the RSCAPs specifically relevant to the GBF are set out below:

The **Cartagena Convention** (UNEP-CEP) is the only regional legally binding instrument in the Wider Caribbean Region addressing biodiversity, making it the most appropriate instrument for the implementation of the CBD at the regional level. Some of its Parties are not Parties to the CBD and become legally bound to implement the CBD in the framework of the Cartagena Convention. The Secretariat of the Cartagena Convention works as a regional hub/facilitator, and has strong

partnerships with a wide range of stakeholders, including environmental NGOs, political actors, the Organisation for Economic Co-Operation and Development (OECD), Central American Commission for Environment and Development (CCAD) (e.g. CLME+ Project), *i.a.*, and works closely with the focal points of the CBD, promoting collaboration, capacity-building and synergies, making the most of available resources (funding, technical resources), coordinating policy-making, distributing funds, avoiding duplications to maximize benefits for all involved.

NOWPAP supports member States in protecting marine and coastal biodiversity guided by Ecological Quality Objectives (EcoQO 1: No significant effect on biological and habitat diversity from anthropogenic pressure; EcoQO 2: Alien species do not adversely alter ecosystems) whereas COBSEA's Green Fins initiative encourages businesses and governments to have plans for sustainable consumption and production (relevant to GBF Targets 4, 8, 15) as well as minimising anthropogenic pressures on coral reefs (GBF Targets 1, 7).

In the Mediterranean region, **UNEP/MAP** is working on spatial protection, conservation and management through tailored support to riparian countries at the different levels needed to approach it, including legal reforms, policy tools development, habitat assessment and research for conservation prioritising, management framework development, public awareness and MPAs declaration and their management and conservation support. A notable example to showcase is the collaboration between UNEP/MAP, GFCM, CBD, IUCN-Med, and ACCOBAMS[15] for the definition and support to listing current Mediterranean EBSAs, to aid their future sustainable management as priority areas, including biodiversity conservation and life resources management within them (UNEP/CBD, 2014).

OSPAR's Contracting Parties are developing an updated and harmonised approach to assess eutrophication and to establish new nutrient targets. In recent years OSPAR has also been a leading actor in assessing pollution from marine litter by developing several indicators, and by taking actions to reduce input and mitigate harm through actions in the Regional Action Plan on Marine Litter. OSPAR has engaged with the neighbouring Regional Seas Convention HELCOM through a joint task group on ballast water management, with a view to developing a scheme for managing ballast waters to limit introduction of non-indigenous species taking into account the risk in neighbouring sea areas. The four RSCAPs in the area of the European Union, OSPAR (Northeast Atlantic), HELCOM (Baltic Sea), UNEP/MAP (Mediterranean) and Black Sea Commission all collaborate within the framework of the EU Marine Strategy Framework Directive (see Box 4.5).

CPPS participated in the Globallast Partnership Project, from the IMO, establishing a regional plan for control of ballast waters, which recently has been extended to a Regional Strategy to prevent and reduce risks and effects of the introduction of exogenous marine species in the Southeast Pacific.

The **Black Sea Commission Secretariat** also places a strong emphasis on coordination with other organisations to avoid duplication of work. For example, in 2015 collaboration with CBD involved working closely to describe and identify EBSAs in collaboration with the Tehran Convention. The Black Sea Commission also cooperates with ACCOBAMS (MOU since 2001) on matters concerning cetaceans, and has a trilateral collaboration with UNEP/MAP and with FAO General Fisheries Commission for the Mediterranean (GFCM) on what concerns fisheries (for more information on the relationship of RSCAPs with Regional Fisheries Bodies see below). The Black Sea Commission also

[15] ACCOBAMS is an intergovernmental Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area signed on November 24th, 1996 and entered into force on June 1st, 2001. It is a legal conservation tool to reduce threats to cetaceans, notably by improving current knowledge and is based on cooperation and consultations between Secretariats of UNEP/MAP and its Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean; the Bonn Convention on the Conservation of Migratory Species of Wild Animals, the Bern Convention on the Conservation of European Wildlife and Natural Habitats and the Black Sea Commission. Given the migratory characteristics of these species, the Agreement was established under the auspices of the Bonn Convention (UNEP/CMS) (ACCOBAMS Permanent Secretariat, 2020).

cooperates with the International Commission for the Protection of the Danube River (ICPDR), linking a freshwater convention and a Regional Seas Convention, and thus mutually reinforcing each other's work contributing to the delivery of MEAs such as the SDGs and the GBF (UNEP/EC, 2017).

Box 4.5: The EU's Marine Strategy Framework Directive (MSFD)

The EU's Marine Strategy Framework Directive (MSFD) was/is the first EU legislative instrument related to the protection of marine biodiversity. It was adopted in June 2008 and established a framework within which EU member states were to achieve or maintain good environmental status (GES) in the marine environment by 2020. Good environmental status was defined in the Directive as "*the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations*" (MSFD, 2008, L 164/25) and determined on the basis of 11 qualitative descriptors:

1. Biological diversity is maintained
2. Non-indigenous species (NIS)
3. Populations of all commercially exploited fish and shellfish are healthy
4. All elements of the marine food webs ensure long-term abundance and reproduction
5. Eutrophication is minimised
6. Sea-floor integrity ensures that the structure and functions of the ecosystems are safeguarded
7. Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems
8. Concentrations of contaminants are at levels not giving rise to pollution effects
9. Safe levels of contaminants in fish and other seafood
10. Marine litter does not cause harm to the coastal and marine environment
11. Energy introduced in the marine environment, including underwater noise, does not adversely affect it

In the terms of the Directive, for the purpose of achieving GES, EU Member States have had to develop and implement marine strategies applying an ecosystem-based approach. The European Commission (EC) produced a set of detailed criteria and methodological standards to help Member States implement the MSFD, revised in 2017 to include standardised methods for monitoring and assessment to be used, namely, when establishing coordinated monitoring programmes, and to enhance linkages between ecosystem components, anthropogenic pressures and impacts on the marine environment with the MSFD's 11 descriptors of GES (DG Environment, 2020). The preparation and implementation of Marine Strategies followed a common approach and deadlines under the Directive:

- An initial assessment of current environmental status of the waters concerned and the environmental impact of human activities thereon (2012);
- A determination of good environmental status (what GES means) for the waters concerned (2012);
- Establishment of a series of environmental targets and associated indicators to achieve GES by 2020 (2012);
- Establishment and implementation of a monitoring programme for on-going assessment and regular update of targets (2014);
- Development of a programme of measures designed to achieve or maintain GES (2015);
- Entry into operation of the programme (2016).

Marine Strategies must be updated and reviewed every six years, in a cyclical process whose second iteration started in 2018. In June 2020 the EC published a report on the implementation of the MSFD. The MSFD is considered "*one of the most ambitious international marine protection legal frameworks (…) protecting the full range of marine biodiversity from unicellular algae to huge cetaceans*" (EC, 2020, 4) but the report stresses that "*Biodiversity loss was not halted in Europe's seas during the first MSFD cycle*" (EC, 2020, 16). The report highlights the main achievements of the MSFD to date (EC, 2020):

- Making the ecosystem-based approach to managing the EU's entire marine environment become

legally binding

- Harmonised data gathering legal framework, including by fostering comprehensive marine monitoring programmes within national marine strategies (but while recognising that integrating and harmonising that knowledge at EU level remains a challenge)
- Triggered applied research on topics that were poorly understood prior to the MSFD, such as seafloor integrity, food webs, underwater noise, and marine litter, increasing knowledge in those fields and in the latter case prompting the adoption of new legislation to curb single-use plastics and lost fishing gear
- Identification of knowledge gaps, improving the knowledge on the state of EU's marine waters
- Public involvement and ocean literacy: the implementation of the MSFD can be publicly followed through open information sharing platforms and has been instrumental in raising awareness on the importance of healthy marine ecosystems and fostering action on pollution related issues
- Joining efforts via a common implementation strategy, coordinated through an informal coordination programme, which includes Member States and the Commission together with Regional Seas Conventions and other stakeholders organised by the Marine Strategy Coordination Group. The strategy's structures are considered important platforms both for building trust among members and for information exchange and to improve reporting

Two important achievements of the MSFD recognised in the report are related to regional cooperation and to meeting global commitments. In the former, the Regional Seas Conventions are considered particularly important to the MSFD to address the transboundary nature of ecosystems and certain human pressures and recognised as constituting good regional platforms for implementing the MSFD, and helping to support cooperation with non-EU member states in spite of their differences "*in terms of structure, scientific and operational capacity, governance (including compliance monitoring) and degree of facilitation they offer to participating EU member states*" (EC, 2020, 8). The report recognises that while the four European RSCs share overall aims and embrace EBM, not all have incorporated GES and environmental target setting, describing trends rather than setting criteria to determine status. Nevertheless, Regional Seas Conventions also benefit from substantial knowledge generated for the MSFD, as well as from human/technical and financial resources and regularly report on the state of the marine environment, seeking to align their timetables to the MSFD six-year cycle. In terms of global commitments, the MSFD is seen as providing a legal framework to implement requirements of UNCLOS and commitments related to the SDGs (again assisted by the regional coordination provided by the Regional Seas), and to the EU biodiversity strategy to 2030 (EC, 2020).

4.3.3 Cooperation with Regional Fisheries Bodies to ensure more harmonised implementation of GBF Goals and Targets

Recognising that "*biodiversity, a healthy environment and resilient ecosystems underpin sustainable fisheries and food security, and that the ecosystem approach to fisheries contributes to sustained environmental functions and the provisioning of ecosystem services*", the CBD, in collaboration with UNEP and the FAO, *i.a.*, promoted in 2016 the Sustainable Ocean Initiative (SOI), which included a Global Dialogue with Regional Seas Organisations (RSCAPs) and Regional Fisheries Bodies (RFBs) on Accelerating Progress towards the Aichi Biodiversity Targets. The vision was to "*enhance cross-sectoral collaboration among regional seas organizations and regional fishery bodies, to further strengthen their complementary roles in supporting national implementation of the Strategic Plan for Biodiversity 2011-2020 towards achieving the Aichi Biodiversity Targets and the relevant Sustainable Development Goals*" (CBD, 2016).

As with other elements of the RSP, initiatives to enhance cooperation between RSCAPs and RFBs are at different stages of development in various regions. They range from non-existent, to dialogue being established to support cooperation, to strengthening existing cooperation through facilitating cooperation with regional scientific bodies and Large Marine Ecosystem projects, including through cross-sectoral ecosystem-based scientific assessment and/or through the adoption of Memoranda of Understanding (MoUs) between RSCAPs and RFBs. As mentioned in Section 3, around half of the

RSCAPs have signed MoUs with the RFBs. In other regions, such as the Red Sea and Gulf of Aden there is a political impasse. Much depends on Parties driving their own regional mechanisms.

Ecosystem services considerations can provide common ground. Specific actions are relevant to GBF targets and indicators. For example, under the OSPAR/NEAFC 'Collective Arrangement' (Hoydal et al., 2014; NEAFC and OSPAR, 2015) information is exchanged on NEAFC's Vulnerable Marine Ecosystem closures and implementation reporting of measures for OSPAR's MPAs (GBF Target 2, Core Set Indicator (CSI) 21). Collaboration on respective measures for threatened and/or endangered species, such as deep-sea sharks (GBF Target 3, CSI 14) brings together conservation measures Recommendations (NEAFC Recommendation 10:2017 and OSPAR Recommendations 2014/3, 2014/4, and 2014/5) and a series of actions (information campaign, data generation collection and processing, and managing human activities and pressures).

In future this could extend to cooperation on RSCAP CSIs and/or GBF Targets such as fish landings, level of exploitation of commercial fisheries and fish harvested within safe ecological limits.

4.4 Follow-up and review of RSCAPs regional targets and objectives associated with GBF Goals and Targets and associated monitoring

4.4.1 How can regional targets be better aligned with global targets?

For RSCAPs the alignment between regional and global targets is a two-way process that implies the integration of regional concerns at the global level and a translation of those global aspects relevant to specific regions and sub-regions. The process is driven by Parties, whose data can be collated by regional bodies that analyse information with a focus on data harmonisation and streamlining monitoring to avoid duplicating efforts and to maximise results (for a more detailed discussion of monitoring and indicators, see Section 5). Whilst recognising the inevitable existence of regional differences or specificities because of different ecosystems and ecological baselines, different uses of the seas and different threats, the main issues at a global level are common to most regions. So, while global targets will inevitably be high level and generic, regional targets should (and are likely to) align with and contribute towards the achievement of global targets. Setting the GBF Targets at the right level will ensure that regions can align their targets to the relevant global target (see HELCOM's approach in Box 4.6). As previously illustrated, the Pacific region is actively participating in the GBF process to ensure that global targets are concordant with their regional targets. For the Abidjan Convention a regional (continent-level) consultation is important but a sub-regional consultation (at the Regional Seas scale) is critical.

One of the concerns stated by the RSCAPs is that the new targets under the GBF will add reporting burden to their Parties. Aligning the development of regional targets and indicators to global targets is therefore important for RSCAP Contracting Parties, to avoid duplication of efforts and to facilitate data collection. For that same reason, it is also important to have indicators that show the links between both levels of targets (regional and global), as envisaged by SPREP, for example, which has provided input to the CBD on the draft indicators of the GBF including relevant Pacific Island regional indicators where relevant. Aligning regional and global targets can be achieved through promoting standards and global best practices in the development, establishment and regional alignment of environmental quality objectives and targets; development and harmonisation of regional standards for marine biodiversity; adoption of best practice framework models for ecosystems indicator monitoring (see EU MSFD case study in Box 4.5), use of case studies, and development and use of tools for stakeholder sensitisation on the benefits of attaining regional and global targets for a healthy ocean.

Box 4.6: Measuring progress for the same targets in the Baltic Sea (HELCOM, 2017)

In 2017, marking the 10th anniversary of the Baltic Sea Action Plan (BSAP), HELCOM published a report entitled "Measuring progress for the same targets in the Baltic Sea", highlighting some of the trends and accomplishments over the preceding decade and demonstrating concrete progress towards the achievement of a healthy marine environment (HELCOM, 2017).

The report shows that HELCOM targets, SDG targets and Aichi Biodiversity Targets are aligned, and that HELCOM's regional indicators, some of which directly relate to proposed SDG indicators, and HELCOM's reporting system, can be used/useful in reporting regional progress towards the implementation of the SDGs (see Table). As such, full implementation of the BSAP will strengthen national and regional implementation of Aichi Biodiversity Targets and of the SDGs and directly contribute to achieving these global commitments.

The report recognises that while Member States bear the main responsibility for implementing actions, regional cooperation fostered by HELCOM (including with other Regional Seas Conventions and Action Plans and UN Environment), and involving a wide range of stakeholders, advances the application of the ecosystem approach in real life and ensures that all are working towards the same goals.

Below: Examples of the links established by HELCOM among SDG targets (here only for SDG 14), Aichi Biodiversity Targets, and HELCOM regional targets, and of the corresponding indicators used by HELCOM.

SDG Targets	**Planned SDG Ind.**	**Aichi Target**	**HELCOM Reg. Targets**	**HELCOM Indicators**
14.1	14.1.1	8	Inputs of nutrients	- Ind.: Chl. a; N/DIN; P/DIP; Water clarity; O_2 debt - Progress achieving Max. Allowable Level of inputs of N & P in individualsubbasins - - Progress reaching country-allocated reduction targets (N & P)
			Marine litter	- Indicators on litter on the seafloor and microliter in the water column under develop. - - Status of implementation of HELCOM Reg. Action Plan on Marine Litter
			Pollution hotspots	- Progress of individual countries in removal of hotspots from the HELCOM list
			Hazardous substances	Status of hazardous substances (HBCDD, PBDE, Radioactive subs., White-tailed eagle product.)
14.2	14.2.1	5, 6, 14, 15	GES by 2021 (BSAP and MM)	- Proportion of sea areas with GES (based on integrated assessment using HELCOM quantitative core indicators) - Status of biodiversity (assessed i.a. through spp. composition, abundance and distribution) - No. threatened spp., habitats and biotopes - Ind. on harbour porpoise (under development) - - Status of implementation of individual commitments in the BSAP.
			Underwater Noise	- Under development
			MSP	- No. of countries having MSP coherent across borders and applying EBM
14.3	14.3.1	10	HELCOM target under SDG 13.2	- Evaluation based on indicators developed by ICES
14.4	14.4.1	6, 7	MM	- HELCOM core indicator on no. drowned mammals and water birds in fishing gear (data to operationalize indicator is lacking)
14.5	14.5.1	11	MM	- Coverage of protected areas in relation to marine areas; - - % of HELCOM MPAs having management plans or measures in place
14.6	14.6.1	3	MM	-
14.c	14.c.1	-	BSAP 2007	(Recommendations accomplished)

4.4.2 Data collection and data management implications of integrating the GBF in RSCAP policies

Some RSCAPs do not anticipate relevant changes or significant additional burdens of integrating the GBF in their data collection and data management processes as they are a continuation of previously established commitments and/or of on-going work (e.g. OSPAR, UNEP/MAP, SPREP, Abidjan Convention, CPPS). For others, integrating the GBF would/will require additional (sometimes quite substantial) financial resources and additional capacity of the secretariats (Black Sea Commission, Tehran Convention). Some RSCAPs recognise a lack of efficient data collection and management process currently in place. Added financial resources are needed for the establishment of monitoring stations, calibration of results and coordination between countries. Considerable effort is also needed in terms of capacity building, *i.a.* in relation to interpretation of global datasets, data sharing and reporting and negotiation and confidence building with other providers (such as industry). The latter is particularly important in those instances where there is cultural mistrust about data and information sharing, that could, for example, be addressed by data policies and agreements.

Various RSCAPs see the integration of the GBF in their policies as an opportunity to strengthen their biodiversity-related mandate and their current data collection and data management mandate/ capacity, in case the GBF becomes one of the standards for data collection and data management (COBSEA, NOWPAP, Nairobi Convention). It is also anticipated that a clearer alignment of objectives may give the outputs of regional work greater global visibility (OSPAR). Such integration may also facilitate inter-comparison exercises of similar phenomena at global and regional scales, helping to extrapolate and predict from lessons learnt in other areas of the world; conversely, it may lend complexity to on-going processes at national, sub-regional, and regional scales (UNEP/MAP).

4.4.3 Coordination between national CBD focal points and national RSCAP focal points

The coordination between national focal points of the CBD and the national focal points of RSCAPs is important and relevant to maximise resources in the implementation of actions to reach established targets. While coordination between the national focal points of both processes may reportedly work well in some instances, there is generally a perceived need among RSCAPs to improve that coordination. Currently a continuum of situations exists, ranging from having the same person or persons, or close collaborators integrated in the same ministry, as national focal points for the CBD and the corresponding RSCAP, to having completely different teams, be it in different branches of the same ministry or in entirely different ministries.

Additionally, some CBD national experts are based in terrestrial-focused teams and marine issues inevitably receive less attention. There is generally a need to raise the profile of marine biodiversity issues globally. This could be achieved for example by a closer collaboration between national CBD and RSCAP focal points but also by making sure that national CBD experts engage effectively with their marine policy and RSCAP colleagues, *i.a.*, by providing more opportunities for collaborating more effectively on an institutional level where these issues could be discussed, and solutions identified to maximise the contributions of RSCAPs to delivery of the GBF with the support of the CBD and of UNEP. Feedback from the regions also suggests the link between the CBD focal point and those working in the field is not always in place: many of them are from different departments/institutions and don't always have the necessary dialogue.

Greater interaction and exchange of information on experiences and activities on crosscutting issues emanating from and feeding to the different organisations would improve coordination and help avoid duplication of efforts at the national level, not only between the RSCAPs and the CBD, but also other

global processes and organisations such as UNCLOS, ISA, Regional Fisheries Bodies, and Regional Economic Communities (see sections 5.4.4 and 6.4 below).

4.4.4 Capacity building issues envisaged by the RSCAPs

A plethora of pressing or immediate capacity building issues/needs are identified by the different RSCAPs, some noting that capacity needs are at the forefront of nearly all issues and processes, from biodiversity data and reporting, to policy formulation and development of management strategies, monitoring, control, surveillance, and enforcement. More specifically, the main capacity building issues identified by the RSCAPs are:

- **Greater technical support** to carry out monitoring, including increased capacity for long-term measurement of indicators as well as support of integrated monitoring frameworks (coordinated monitoring stations, producing intercalibrated results) within different regions/subregions of the world, and on harmonised monitoring/reporting protocols and other data related aspects, such as efficient data collection, data management, and training on data sharing and reporting for MEAs;
- Securing **sufficient resources** (technical, financial, and other) to carry out the work required from the RSCAPs. There have been issues around lack of resources to collect environmental data, which are fundamental to ensuring a sufficiently strong knowledge base to inform policy decisions. A well-resourced effort is needed to sustain monitoring and assessment systems in line with reporting cycles. A continuous involvement of high-level policy and decision makers in marine biodiversity issues is needed.
- **Capacity related to specific GBF aspects**: familiarise experts with the GBF, its targets and indicators, including tools and training for RSCAPs national focal points to contribute to implementation of the GBF, namely by supporting countries to adjust their NBSAPs to meet requirements under the GBF (and ensure they will not require additional monitoring and collection of data which cannot be met by member states), aligning the work and the targets of the RSCAPs with the GBF, and understanding the role of Regional Seas Organisations in relation to the GBF.
- **Strengthening the role of the RSCAPs**: Strengthen the regional biodiversity agenda by reinforcing the RSCAPs biodiversity-related mandates, MoUs with Regional Fisheries Bodies, and opportunities for knowledge transfer.
- **Strengthening other global, regional, and national alliances/synergies**, for example the IMO regulates at a global level and Parties implement at the national level but the regional dimension is not ignored. For example, Port State Control mechanisms have a regional dimension through 9 MoUs. IMO has extensive cooperation with RSPCAPs on capacity building and harmonisation, for example through the Globallast Project[16] developing regional ballast water strategies together with RSCAPs and oil spill response in West, Central and Southern Africa[17] (GEF-UNDP-IMO, 2017). Obligations under the London Convention and London Protocol are replicated in all RSCAPs. The prospective Glolitter Project[18] envisages regional dimensions. This deserves stronger recognition by the GBF. Such opportunities for regional partnership could also be developed with regional economic organisations and with research projects and universities, including but not limited to benefiting from academic research/knowledge in relation to biological and socio-economic indicators. Some regions also have bespoke regional maritime administrations. For example, in

[16] http://archive.iwlearn.net/globallast.imo.org/index.html

[17] https://www.giwacaf.net/en/

[18] https://www.imo.org/en/OurWork/PartnershipsProjects/Pages/GloLitter-Partnerships-Project-.aspx

Latin America ROCRAM (Red Operativa de Cooperación Regional de Autoridades Marítimas de Centroamérica y República Dominicana, ROCRAM-CA) leads on shipping related issues.

- **Making a case for biodiversity**: Showcasing the importance of (marine) biodiversity at the national and regional levels, including translating it into economic terms when necessary, to foster increased public awareness and engage local communities and donors in policy making process and marine environment protection, including the GBF, to assist the implementation of RSCAPs.

4.5 Conclusions

4.5.1 Implementation

RSCAPs have addressed a common mandate very differently. Protocols and Strategies are generally in place but some regions are more active than others, with differences in institutional arrangements, financial mechanisms and the degree of influence of the RSCAPs on national agendas.

Progress towards integrating the GBF into the programmes of work of the RSCAPs is evident as illustrated by specific examples. However, engagement with the GBF thus far is inconsistent, with a variety of plans to integrate GBF targets into RSCAPs policies. This integration will build on efforts to include the Aichi Biodiversity Targets into corresponding RSCAP's Strategies:

- Some RSCAPs have already included Aichi Targets in their corresponding strategies, facilitating the adaptation of these strategies to the GBF (UNEP-CEP, SACEP, COBSEA, HELCOM, UNEP/MAP);
- Others intend to integrate the GBF into new Protocols or the next iteration of Regional Strategies (ABC, SPREP, OSPAR, CPPS, NOWPAP);
- some RSCAPs prefer to relate alignment of the GBF to a continuation of their work (PERSGA, Nairobi Convention);
- For other RSCAPs integration of the GBF with their own policies promises to be more challenging for lack of specific mandate or lack of funding, or both.

The broad definition of biodiversity under the CBD is reflected by the GBF, in particular those targets relating to 'meeting peoples' needs' (e.g. food and water security, ethical investment and benefit sharing), may also prompt RSCAPs to consider complex linkages. A simple useful and practical administrative mechanism, successfully adopted by the UN Convention on Migratory Species of Wild Animals (CMS), is to reference links to targets on all meeting documents.

In common with the Aichi Biodiversity Targets, the GBF envisages a combination of quantitative and qualitative targets. Experience suggests there is value in both. For example, Parties have been driven by the 10% MPA targets contributing to coherent and representative Regional Seas networks of MPAs. Equally, targets on implementation of international law as reflected in UNCLOS have also driven Regional Seas policies and encouraged Parties to accede to Treaties and Guidelines.

GBF Targets also lend themselves to partnerships. In particular, for RSCAPs, closer relationships with Regional Fisheries Bodies could help address the 'tools and solutions' targets of the GBF. Implementation also has implications for coordination between regional/national CBD and regional/national RSCAP focal points.

4.5.2 A template for regional reporting of marine elements

National planning and national reporting will continue to be the main instrument for monitoring and reporting to the CBD under the GBF. However, for a subset of marine elements a regionally coordinated approach, where a number of Parties can cooperate to ensure standardisation, has the potential to add value, drawing from national reports (and where appropriate including supplementary information).

For marine elements, coordination can be provided by the RSP. However, the RSP includes a very diverse group of RSCAPs, where no two are alike and where any role to help implement the GBF has to take into account different contexts (environmental, cultural, political) and capacities. A proposed solution, for consideration by the OEWG, is for the CBD to introduce in the GBF (to be supported by guidelines as appropriate) a regional planning, reporting, monitoring and review mechanism for marine elements under the GBF, which could be coordinated by the RSCAPs.

5. RSCAP monitoring and reporting relevant to the GBF

5.1 Introduction

As set out in Section 2 the GBF is intended to be a universal framework that goes beyond the strict consideration of biodiversity-related aspects, reaching across the biological scale from genes to species and across the ecological scale from organisms to ecosystems, and ultimately to the biosphere/ecosphere, and of biological conservation. Fundamentally, it also includes the benefits and services that biodiversity provides and various aspects related to drivers of biodiversity loss, such as pollution from all sources (GBF Target 6); inter-linkages and interdependencies between biodiversity and climate change (GBF Target 7); targets related to "Meeting people's needs through sustainable use and benefit-sharing" as well as "tools and solutions for implementation and mainstreaming", including the importance of traditional knowledge in informing decisions (GBF Target 19), and the involvement of indigenous peoples and local communities, including women and youth, in decision-making (GBF Target 20), *i.a.* (UNEP, 2020, UNEP-WCMC, 2020).

Monitoring and reporting on progress towards achieving the targets of this comprehensive framework promises to be challenging. However, rather than adding to existing reporting burdens, the GBF may be considered as an opportunity: a chance for regional bodies to contribute to harmonising efforts and ensure streamlined, synergistic efforts, including with other Multilateral Environmental Agreements (MEAs) and processes, such as the 2030 Agenda for Sustainable Development by using or adapting established reporting mechanisms (WCMC, 2020; UNEP, 2014; UNEP-WCMC, 2020).

The CBD thematic consultation on transparent implementation, monitoring, review and reporting (Rome, 20-22 February 2020) sought to discuss existing elements of planning, monitoring, reporting and review under the Convention and options for an enhanced review mechanism to strengthen implementation under the GBF[19]. Discussions reiterated NBSAPs as the main national planning and reporting instrument. Views on national planning noted the need for synergies with biodiversity-related conventions and the need for stronger alignment of NBSAPs with monitoring at the global level (and an eventual global stocktake). The use of a core set of indicators for monitoring and reporting of progress in the implementation of the GBF to enhance global assessment and comparability was also considered. Monitoring was also recognised as a crucial element for both national reporting and a global stocktake. The latter could/should (amongst other suggestions) be overseen by the Subsidiary Body on Implementation, be based on global headline indicators, and involve private companies. No consideration was given to a regional dimension.

The objective of this section is to present an overview of the work of the RSCAPs that can be aligned with the GBF, including specifically monitoring and reporting mechanisms, with a focus on indicators that can be of use to the GBF.

This section starts with an overview of the eighteen RSCAPs' monitoring and evaluation systems, and their potentially relevant links to the GBF, illustrated with examples. A topic-oriented analysis follows, illustrating how some marine relevant themes, identified in the GBO-5 as being key to the sustainable fisheries and ocean transition, are monitored by different RSCAPs. These include ICsM/MSP (GBF Target 1), MPAs (GBF Target 2), invasive alien species (GBF Target 5), and marine litter (GBF Target 6). An analysis of the range of marine ecosystem services indicators already being considered by various RSCAPs (relevant, *i.a.,* to GBF Target 13) is also presented and is considered particularly

[19] www.cbd.int/meetings/POST2020-WS-2020-01

important as it is an area where the GBF is currently lacking information. The analysis then focuses on the draft monitoring framework for the GBF (2050 Goals and 2030 Targets), opened for consultation during July 2020, reiterating the importance of strengthening the reporting of marine aspects in the GBF, and the potentially unique role of the RSCAPs, concluding on the merits of using a subset of the core set of indicators of the RSP to monitor specific marine aspects of the GBF.

5.2 RSCAPs monitoring and indicator systems

This section provides an overview of the range of development of indicator-based monitoring and evaluation systems either in place or being developed by RSCAPs that can be relevant to the GBF. The work carried out by the different RSCAPs is oriented by strategic documents defining their regional goals and targets and is often, although not always, associated with monitoring schemes. Table provides an overview of the types of strategic documents setting the goals and targets of the different RSCAPs and the related monitoring/indicator systems, which will be detailed in the following subsection.

Table 5.1. RSP strategic documents and related indicator systems potentially relevant to the GBF.

Region	RSP strategic documents potentially relevant to the GBF	Related monitoring/indicator systems
UNEP Administered		
Mediterranean	**Regional Strategies and Action Plans fully (F) or partially (P) under the SPA/BD Protocol:** - SAP for the Conservation of Biological Diversity in the Mediterranean Region (SAP BIO) (**F**) - Regional Working Programme for Coastal and MPAs in the Mediterranean Sea including the High Sea (**F**) - Roadmap for a Comprehensive, Coherent Network of Well Managed MPAs to Achieve Aichi Target 11 in the Mediterranean (**F**) - Action Plan for the management of Monk Seal in the Mediterranean (**F**) - Regional Strategy for the Conservation of Mediterranean Monk Seal (**F**) - Action Plan for the conservation of Mediterranean Marine Turtles (**F**) - Action Plan for the conservation of Cetaceans in the Mediterranean Sea (**F**) - Action Plan for the conservation of Marine Vegetation in the Mediterranean Sea (**F**) - AP for the conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (**F**) - AP for the Conservation of Marine and Coastal Bird Species listed in Annex II to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (**F**) - AP concerning Species Introductions and Invasive Species in the Mediterranean Sea (**F**) - AP for the conservation of the Coralligenous and other calcareous bio-concretions in the Mediterranean Sea (**F**) - Action Plan for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic hard beds and chemo-synthetic phenomena in the Mediterranean Sea (Dark habitats) (**F**) - Strategy of the Ecosystem Approach (**P**) - Integrated Monitoring and Assessment Programme of	The Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) sets out 11 comprehensive regional Ecological Objectives (Eos) aligned with the MSFD and includes agreed common indicators in relation to biodiversity. Indicators have also been developed within the Mediterranean Sustainability Dashboard for the Monitoring of the Implementation of the MSSD 2016-2025

Region	RSP strategic documents potentially relevant to the GBF	Related monitoring/indicator systems
	the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) (**P**) - Regional Framework for ICZM in the Mediterranean(**P**) - Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas(**P**) - Other key strategic guiding documents of a more general nature relevant to biodiversity: - UNEP/MAP Mid-Term Strategy 2016-2021 - Mediterranean Strategy for Sustainable Development 2016-2025 (MSSD).	
West Africa	4 protocols to the Abidjan Convention on: mangroves, LBSA, oil and gas and Integrated Coastal Zone Management (ICZM). National and regional action plans for the implementation of those protocols. Protocol on MPA under elaboration and an Integrated Ocean Management Policy to be adopted during the COP in 2021.	The Secretariat has just finalised its strategic monitoring plan. Baseline studies are scheduled this quarter.
Wider Caribbean	Regional Strategy and Action Plan for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021-2030 (RSAP)	The RSAP proposes indicators and includes a chapter on implementation and monitoring mechanisms, recognising that specific alignment with GBF targets and indicators may need to be considered.
Eastern Africa	Strategic Action Programme for the sustainable management of the two Western Indian Ocean Large Marine Ecosystems (LME) (2013) Strategic Action Programme for the protection of the Western Indian Ocean from land-based sources and activities	WIOSAP and SAPPHIRE projects are jointly developing a regional ecosystems monitoring framework for the Western Indian Ocean drawing from the targets set out in the two SAPs, which, after adoption by Parties, will enter an implementation phase.
East Asian Seas	ACTION PLAN FOR THE PROTECTION AND SUSTAINABLE DEVELOPMENT OF THE MARINE AND COASTAL AREAS OF THE EAST ASIAN REGION COBSEA Strategic Direction (2018-2022) COBSEA Regional Action Plan on Marine Litter (RAP MaLi)	No indicator system connected with regional targets (progress against actions e.g. in the Strategic Directions is tracked and reported).
Northwest Pacific	NOWPAP Midterm-term Strategy for 2018-2023.	Regional Overview of Possible Ecological Quality Objective Indicators for the NOWPAP REGION Development of NOWPAP Ecological Quality Objective targets aligned (where possible) with SDG indicators (phase 1 Regional synthesis report
Caspian Sea	Strategic Action Programme (never been enforced); Strategic Convention Action Plan (outdated; new SCAP as of 2020 or 2021). Programme of Work (PoW) of the Tehran Convention	Currently no indicators related to the biological objective, only 2011 and 2019 State of the Environment (SoE) reports
Non-UNEP Administered		
ROPME Sea Area	Action Plan for the Protection and Development of the Marine Environment and the Coastal Areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (KUWAIT ACTION PLAN, 1978)	Periodical assessment of the state of the marine and coastal environment of the ROPME Sea Area (RSA), of the trends in the quality of the environment, sources of its degradation and the impacts of the degradation on human health, ecosystems and amenities.
South East Pacific	- CPPS' Strategic Action Plan - RAP for Mangrove Conservation. - Regional Network of Marine and Coastal Protected Areas. - RAP for Sea Turtles Conservation - RAP for Marine Mammals Conservation - Regional Program to control Marine Litter - Regional Strategy to prevent and reduce risks and effects	Existing system of regional indicators for marine and coastal management (SPINCAM Project). The Parties periodically provide the CPPS with the information on these indicators, which has a quality control check to update the information in the system (http://www.spincam3.net/).

Region	RSP strategic documents potentially relevant to the GBF	Related monitoring/indicator systems
	of the introduction of exogenous marine species in the Southeast Pacific Some plans and programs are being updated, considering the goals and priorities of parties	
Red Sea & Gulf of Aden	- Action Plan for the Conservation of the Marine Environment and Coastal Areas in the Red Sea and Gulf of Aden (1982). - Protocol Concerning Regional Co-operation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency (1982). - Protocol Concerning the Conservation of Biological Diversity and the Establishment of Network of Protected Areas in the Red Sea and Gulf of Aden (2005). - Protocol Concerning the Protection of the Marine Environment from Land-Based Activities in the Red Sea and Gulf of Aden (2005). - Protocol on cooperation in management of fisheries and rearing of aquatic organisms (under development). - Regional and national action plans for conservation of coral reefs, mangroves, seagrasses, marine turtles, sea birds and marine mammals.	PERSGA has recently selected 41 indicators to observe and monitor the state of marine environment in the Red Sea & Gulf of Aden.
South Pacific	2017–2026 SPREP Strategic Plan: Regi. goal 2. Ecosystem and Biodiversity Protection Regional Waste and Pollution Management Strategy 2016-2025: Cleaner Pacific Pacific Ocean Pollution Prevention Programme (PACPOL) Regional Marine Species Action plans 2013-2017	Inform Project: 29 Core National Indicators developed in consultation with Members for National SoE Reporting and other reporting obligations (SDGs, MEAs such as CBD. Indicators monitored through environment ministries of member countries.
Black Sea	Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea (BS SAP 2009)	Black Sea Integrated Monitoring and Assessment Programme 2017-2022 (BSIMAP 2017-2022) Indicators coordinated with member states to promote coordinated reporting to MSFD, CBD/Aichi. Also coordinated with ACCOBAMS and GFCM indicators
North East Pacific	-	-
South Asian Seas	Marine and Coastal Biodiversity Strategy for the South Asian Seas Region: Living in Harmony with our Oceans and Coasts (2014)	Monitoring Framework of the Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030
Independent Programmes/Partners		
Baltic Sea	Baltic Sea Action Plan (BSAP, 2007)	HELCOM's Core indicators (with quantitative threshold values) contribute to an evaluation of progress towards the goal of achieving good environmental status in the Baltic Sea. Core indicator evaluations are regularly updated and published as core indicator reports.
North East Atlantic	North-East Atlantic Environment Strategy 2010-2020 (Evaluation of progress towards achieving these goals expected in December 2020). North-East Atlantic Environment Strategy 2020-2030 (adoption expected at an OSPAR Ministerial Meeting in summer 2021):	Set of regionally agreed common indicators, directly linked to EU MSFD criteria. The common indicators have been developed to use national environmental monitoring data whenever possible, to enable regular updates. Direct references to SDG targets and indicators in the next round of assessment for the QSR 2023.
Antarctic	CCAMLR CONVENTION	CCAMLR Ecosystem Monitoring Program (CEMP): There is an agreed set of CCAMLR Ecosystem Monitoring Program Standard Methods including how data should be collected, formats for submission of the data to the CCAMLR Secretariat and procedures for data analysis.

Region	RSP strategic documents potentially relevant to the GBF	Related monitoring/indicator systems
Arctic	ARCTIC MARINE STRATEGIC PLAN 2015-2025 Goal 2: Conserve and protect ecosystem function and marine biodiversity to enhance resilience and the provision of ecosystem services.	CIRCUMPOLAR BIODIVERSITY MONITORING PROGRAMME (CBMP). Data is managed through the Arctic Biodiversity Data Service

The work of six RSCAPs in relation to the GBF is synthesised in **Error! Reference source not found.** nd presented in more detail in Annex 7. The six RSCAPs are: Arctic Council (CAFF, PAME, ACAP, AMAP), Black Sea Commission, Nairobi Convention, COBSEA, SPREP and CPPS. All 20 Targets of the GBF including at least one of the monitoring elements and indicators they encompass have been considered by at least one of these six RSCAPs. For the first eight targets most of the RSCAPs showcased here are developing work that is directly relevant or related to proposed GBF monitoring efforts. Different RSCAPs use different approaches to the same topics and harmonisation between the different regions may be required to allow global reporting.

Table 5.2 GBF Targets and SDG/RSCAPs potential role GBF Targets and SDG/RSCAPs potential role (in grey, activities which relate indirectly with the targets).

RS / GBF Targets	Arctic Ocean	Black Sea	East Africa/Nairobi	E Asia/COBSEA	SPREP	SE Pac/CPPS
1 - SP/ICZM	CAFF's ABT & CBMP	BS SoE Status of ICZM	WIO-SAP/WIO LME SAPPHIRE/ WIO-SOCRep	EASAP & COBSEA SD Guid./ SDG14.2 rep./ Green Fins/Marine and Coastal Spatial Planning activitiesUNEP/GEF IW portfolio	FNCPA14-20/ CNEI/ PIPRF	MSP Planning framework/ RAP Mangroves
2 - MPA	CAFF's ABT & CAFF/PAME PAs ind. Report; PAME's AMSA 2009 Report	BSIMAP 2b (MPAs)	WIO-SAP/ Regional MPA outlook website	EASAP & COBSEA SD Guidance/SDG14.5 rep./ UNEP/GEF IW projects	FNCPA14-20/ CNEI/ PIPRF/ PIRMSP	SPINCAM 1. Marine and Coastal Protected Areas Indicators
3 - CON	CAFF's ABT & CBMP	BSIMAP 2 /MSFD D1	WIO-SOCRep	EASAP activ./ SDG14.5 rep	FNCPA14-20/ CNEI/ PIPRF/ PIRMSP	SPINCAM 4. Key Coastal and Marine Ecosystems
4 - Sust. Harv.	CAFF's ABT	BSIMAP 1 /MSFD D3 & D4	WIO-SOCRep	EASAP activities UNEP/GEF IW projects	FNCPA14-20/ CNEI	SPINCAM 5. Sustainability of traditional artisanal fishing
5 - IAS	CAFF's CBMP / PAME's AMSA 2009 Report	BSIMAP 2c/MSFD D2	WIONIS		FNCPA14-20/ CNEI/ PIPRF/	Globallast
6 - Pollution	ACAP (incl. IPCAP); AMAP work; PAME's RAP on ML/ PAME's AMSA 2009 Report	BSIMAP 3,4/MSFD D10	WIO-SAP/WIO LME SAPPHIRE/RAPMaLi	EAS Action Plan and COBSEA SD COBSEA RAP MALI 2019/ SEA Circular/ SDG 14.1 rep. Foundational activities on nutrients	Cleaner Pacific 2025; Pac. Reg. ML Action Plan 18-25 FNCPA14-20/ CNEI/ PIPRF/ PIRMSP	SPINCAM 7. Coastal water quality
7 - CC	Work of AMAP and PAME		CC Strategy for Nairobi Conv.	COBSEA SD act./ Green fins/ UNEP/GEF IW projects	FNCPA14-20/ CNEI/ PIPRF/ PIRMSP	SPINCAM 6. Coastal vulnerability
8 - Sust. Manag.	CAFF's ABT	BSIMAP 1a	WIO-SOCRep Fisheries	EASAP activities	FNCPA14-20/ CNEI/ PIPRF	SPINCAM 5. Sustainability of traditional artisanal fishing
9 - Reduce prod. gaps		BSIMAP 1a	WIO-SOCRep Mariculture		FNCPA14-20/ CNEI	SPINCAM 2. Concessions in the coastal zone
10 - EBM Nat.bas.sol		BSIMAP 4 (Bath. water qual)			FNCPA14-20/ CNEI	SPINCAM 6. Coastal vulnerability/RAP Mangroves
11 - BB wellbeing			WIO-SOCRep Tourism and Recreation	Green Fins initiative	FNCPA14-20/ PIRMSP	
12 - Gen.res.&TK	CAFF's ABT		WIO-SOCRep Marine Genetic Resources		FNCPA14-20/ PIPRF	
13 - Int.B in PPP			WIO-SAP/WIO-LME SAPPHIRE	COBSEA SD	FNCPA14-20/ CNEI/ PIPRF/ PIRMSP	RAP Mangroves
14. S. sup. chain			WIO-LME SAPPHIRE	SEA circular; Green fins	FNCPA14-20/ PIRMSP	

15. Uns. Cons.				SEA circular; Green fins initiative	FNCPA14-20/ CNEI	
16. Adv. biotech					FNCPA14-20	
17. Elim. H. Inc.					FNCPA14-20	
18 - Finan., Cap.build, TT			WIO-SAP/WIO-LME SAPPHIRE	COBSEA SD Activities	FNCPA14-20/ CNEI/ PIRMSP	RAP Mangroves
19 - TK & Educ.	CAFF's ABT & CBMP		WIO-SAP/WIO-LME SAPPHIRE	EASAP and COBSEA SD Activities	FNCPA14-20/ PIPRF/ PIRMSP	RAP Mangroves
20-IPLC	CAFF's ABT & CAFF's AYSI					

Different RSCAPs have developed their own data protocols and database systems (Table 5.3). Some of these are more sophisticated than others. In particular, for example, some have benefitted from the data demands of the EU MSFD and data support from EMODnet[20]. Some monitoring and reporting systems are incipient, whereas others are very comprehensive.

Table 5.3. Data portals of the RSCAPs.

Geographic area (Convention)	**Data Portal**	**Link**
UNEP Administered		
Mediterranean (Barcelona)	Barcelona Convention Reporting System/ Info-MAP Portal	http://bcrs.info-rac.org/infomap/bcrs/acl_users/credentials_cookie_auth/require_login?came_from=http%3A//bcrs.info-rac.org/infomap/bcrs/en
Western and Central Africa (Abidjan)	Project under development	
Wider Caribbean (Cartagena)	?	
Eastern Africa (Nairobi)	Nairobi Convention Clearing House	https://nairobiconvention.org/clearinghouse/about
East Asian Seas	?	
NW Pacific	Data and Information Network Regional Activity Centre (DINRAC)	http://dinrac.nowpap.org/
Caspian Sea (Tehran)	?/-	
Non-UNEP Administered		
ROPME Sea Area (Kuwait)	ROPME Integrated Information System (RIIS)	http://ropme.org/23_RIIS_EN.clx
SE Pacific (Lima)	GEOPORTALS: SIBIMAP Information System SPINCAM ATLAS CPPS' OBIS node	 http://sibimap.net/ http://atlasspincam.net/ http://cpps-int.org/index.php/2015-04-28-20-21-16/nodo-obis
Red Sea and Gulf of Aden (Jeddah)	?	
South Pacific (Noumea)	Pacific Environment Portal Pacific Islands Protected Areas Portal	https://pacific-data.sprep.org/ https://pipap.sprep.org/
Black Sea (Bucharest)	?	
NE Pacific (Antigua)	-	
South Asian Seas	?	
Independent programmes /Partners		
Baltic Sea (Helsinki)	HELCOM Map and Data Service	https://helcom.fi/baltic-sea-trends/data-maps/
NE Atlantic (Oslo-Paris)	OSPAR's Data & Information Management System (ODIMS)	https://odims.ospar.org/
Antarctic (Antarctic Treaty)	CCAMLR GIS	https://gis.ccamlr.org/
Arctic/PAME	Arctic Biodiversity Data Service	https://www.abds.is/

[20] The European Marine Observation and Data Network (EMODnet) is a network of organisations, supported by the EU's integrated maritime policy, that work together to observe the sea, process data according to international standards and make that information freely available as interoperable data layers and data products (https://emodnet.eu/en/what-emodnet).

5.2.1 RSCAPs yet to establish coherent systems

The Tehran Convention currently has no indicators related to biological objectives. The environmental monitoring programme has a recommendatory character and is not in place, and national monitoring programmes are not necessarily aligned with each other. State of the Environment (SoE) reports (2011, 2019) are a collection of different sources: most of the countries provide reports on the implementation of the Tehran Convention (primary source of the information). National liaison officers are responsible for the collection of information and data, and international consultants are hired to carry out the SoEs, which are organised and coordinated on an *ad hoc* basis. A working group on monitoring and assessment in the Caspian Sea region provides expertise when it comes to the Protocol and on the current work on monitoring and assessment in the countries. They also provide inputs to the SoE reports. The main source of information comes from national consultants. The SoE tries to collate information to make it comparable (with varying degrees of success), and is endorsed by the Parties. A Protocol on Monitoring, Information Exchange and Assessment is currently being developed which hopefully will lay down provisions for information sharing, indicators, etc.

COBSEA presently also does not have an indicator system connected with regional targets, but progress against actions, e.g. in the Strategic Directions, is tracked and reported. The 'Outlook on COBSEA follow-up and review of ocean-related Sustainable Development Goals' is under development and includes indicator-based assessments focusing on priorities defined in the Strategic Directions, and may include establishing a working or expert group on indicators and assessment, mapping currently used indicators as well as development of COBSEA common core indicators. Efforts are also underway to establish harmonised national marine litter monitoring programmes based on which regional reporting would be conducted, carried out through COBSEA's Working Group on Marine Litter (WGML).

The Abidjan Convention Secretariat has just finalised its strategic monitoring plan, and baseline studies are scheduled.

5.2.2 RSCAPs where systems are envisaged but not yet fully operational

NOWPAP has carried out a Regional Overview of Possible Ecological Quality Objective (EQO) Indicators for the NOWPAP region and where possible aligned EQO targets with SDG indicators.

PERSGA has recently selected 41 indicators to observe and monitor the state of marine environment in the Red Sea & Gulf of Aden using the following criteria: (i) relevance to the Chapter structure of the UNCLOS regular process; (ii) relevance to the region; (iii) relevance to Agenda 2030 and SDG targets, particularly SDG14 and relevant vision 2030 of the member states; and (iv) access to, and availability of, information. A standard format for providing information on the status of each indicator was prepared. Key attributes required for each record include: (a) the name of the indicator; (b) the unit of measurement; (c) a numeric value; (d) the location of measurement (latitude, longitude in degrees, decimal degrees and the height/depth of measurement relative to mean sea level in meters); (e) the date and time of each measurement; (f) an attribution for the information (a named personal communication or document). Such information as has been obtained in support of the State Of the Marine Environment Report (SOMER) is documented in an Microsoft Access database and Google Earth-compatible '.kmz' file. In this region accepted practice is that developers and users of coastal and marine natural resources are legally obliged to monitor and report on the status of these indicators, which should enable and catalyse capacity building in monitoring and reporting.

UNEP-CEP's Regional Strategy and Action Plan (RSAP) proposes indicators, and includes a chapter on implementation and monitoring mechanisms, with reference to the GBF, recognising that specific

alignment with GBF targets and indicators may need to be considered. Indicators should enable assessment of changes in process, stress reduction and status. Lack of data (for example on coverage and status of ecosystems) is considered a key challenge and baselines will also need to be determined. Parties and regional agencies should undertake to determine baselines as part of programmes and initiatives to implement the RSAP. The process will draw on, and findings will be fed into, the long-term reporting and decision-support mechanism State of the Marine Environment and associated Economies (SOMEE) to support implementation of the CLME+ SAP.

5.2.3 RSCAPs where monitoring informs State of the Environment reporting

CPPS, together with IOC-UNESCO, joined efforts in the framework of the SPINCAM project, to help CPPS Parties develop a long-term science-based strategy for sustainable growth of coastal areas in the Southeast Pacific, which includes a core set of coastal and marine indicators of the Southeast Pacific. The SPINCAM project has created a framework of environmental and socioeconomic indicators at national and regional level to assist in determining the state of the coast, support decision-making, foster partnerships and improve inter-institutional collaboration. Each indicator includes a package of data with the following information: technical report, methodological sheet, metadata, results, disaggregated data and graphical maps. This information as well as other environmental and biodiversity data is available from the regional geoportal (www.atlasspincam.net). Some of these indicators may be relevant in the monitoring of various targets of the GBF related to the following topics: marine and coastal protected areas (GBF Target 2); aquaculture concessions in the coastal zone (GBF Target 9), key coastal and marine ecosystems (GBF Target 3), sustainability of traditional artisanal fishing (GBF Target 4), coastal vulnerability (GBF Targets 7, 10) and coastal water quality (GBF Target 6). CPPS also coordinates a Regional Action Plan (RAP) for Mangrove conservation in the Southeast Pacific (CPPS/UNESCO/CI/Hivos. 2016), which includes Specific Objectives (SOs) and indicators, in addition to indicators of financial and institutional management. Some indicators of this RAP may also be useful to inform various targets of the GBF (e.g., Targets 1, 10, 13, 18, 19).

In the Western Indian Ocean (WIO), within the framework of Nairobi Convention, the WIO-LaB Project, implemented from 2005-2010, was a means to assist WIO region governments to build the necessary capacity for addressing the challenges faced in the management and protection of their marine and coastal environment from impacts originating from land. The resulting Transboundary Diagnostic Analysis (TDA), detailing key problems and causes of degradation of the coastal and marine environment in the WIO region, with a special emphasis on land-based sources and activities (LBSA), was the basis for a Strategic Action Programme (WIOSAP) on Protection of the Coastal and Marine Environment of the Western Indian Ocean from Land-based Sources and Activities addressing water quality, protection, restoration and management of critical habitats, wise management of river flows, and strengthening governance and awareness and two cross-cutting themes: climate change adaptation and mitigation and small-island developing states. The SAP identified 29 activities across these four target areas. Within each activity, short (5-year), medium (10-15 year) and long-term (25 year) objectives were set out (The SAP's horizon is 2035) (UNEP/Nairobi Convention Secretariat, 2009). The WIO LME SAPPHIRE project (Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonisation and Institutional Reforms) builds on work completed under the UNDP/GEF Agulhas and Somali Current LME (ASCLME) Project, which delivered a regional TDA and ministerial endorsed SAP for western Indian Ocean LMEs and created the Western Indian Ocean Sustainable Ecosystem Alliance (WIOSEA). The SAPPHIRE Project aims to support and assist in the sustained delivery of the SAP, addressing cross-cutting themes such as poverty alleviation, early warning of disaster and climate change, SDGs, gender mainstreaming and youth (UNDP, 2019). Both SAPs include indicators. Drawing from the targets set out in the two SAPs, the WIOSAP and

SAPPHIRE projects are jointly developing a regional ecosystems monitoring framework for the Western Indian Ocean, which, after adoption by Parties, will enter into an implementation phase. The Regional State of Coast Report for the Western Indian Ocean (WIO-SOCRep) was the first RSCAP report based on the format and structure of the UN-coordinated World Oceans Assessment (UNEP-Nairobi Convention and WIOMSA, 2015). It includes assessments of marine biological diversity and habitats including mangroves, saltmarshes, seagrasses, and the deep sea. It offers a list of state and impact indicators for threatened WIO marine species; major marine ecosystem services, including aesthetic, cultural and spiritual services; food security from marine resources, including fisheries and mariculture; other human activities in the marine environment, including tourism and recreation, coastal development and vulnerability; marine genetic resources and bioprospecting. It also considers scenarios, policy options and capacity building, including chapters on governance and marine research and capacity building.

In the South Pacific Ocean, SPREP has been developing various sets of indicators relevant to various aspects of the GBF. SPREP's Inform Project has developed a set of 29 Core National Environmental indicators (CNEI)[21], in consultation with Members for National Reporting to State of Environment, which are designed to be applied to other reporting obligations including SDGs and MEAs such as CBD. Indicators are monitored through member countries' environment ministries and associated data are typically available on their national environment data portals (and can be accessed through the Pacific Environment Portal; https://pacific-data.sprep.org/). SPREP's Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20) provides guidance for the South Pacific region on key priorities for biodiversity conservation and ecosystem management specifically linking global Aichi Biodiversity Targets and NBSAPs, with examples of performance indicators (Table 4.12). Another relevant initiative is SPREP's Pacific Islands Regional Marine Species Programme 2013–2017 (PIRMSP), which outlines a regional strategy for the cooperative conservation and management of dugongs, marine turtles, whales and dolphins, to be implemented through dedicated action plans. Each action plan identifies objectives, distributed through cross-cutting themes, and the corresponding indicators.

The Arctic Council's working group on Conservation of Arctic Flora and Fauna (CAFF) has defined a set of selected indicators of change to assess Arctic biodiversity trends (CAFF, 2010). CAFF's cornerstone programme is the Arctic Coastal Biodiversity Monitoring Plan (CBMP) (CAFF, 2019). It defined eight key Arctic coastal ecosystems (termed "Coastscapes"): fjords, rapidly eroding shores, lagoons and barrier islands, rocky shores and sea cliffs, estuaries, low gradient soft shores and ice fronts. The CBMP hinges on Focal Ecosystem Components (FECs), groups of ecologically related coastal species that are considered together to enable international reporting and identifies the corresponding monitoring attributes and parameters. Integration of traditional knowledge is a key element of this CBMP.

5.2.4 RSCAPs where monitoring informs Quality Status reporting

The RSCAPs within the European Union area – OSPAR, HELCOM, UNEP/MAP and the Black Sea Commission – are, to varying extents, proposing or already carrying out quality status reporting to assess progress towards predefined targets, often in line with a majority/some of their Parties' obligations under the EU MSFD (see Section 5).

The Black Sea Integrated Monitoring and Assessment Programme 2017-2022 (BSIMAP 2017-2022) lists ecological quality objectives and establishes interim and ultimate targets. It includes a set of

[21] https://pacific-data.sprep.org/dataset/sprep-core-national-environment-indicators

common indicators to promote harmonisation of approaches and comparability among national assessments, and integrates MSFD and CBD/Aichi requirements at the regional level. Indicators and monitoring are coordinated with other organisations acting in the Black Sea, such as ACCOBAMs and GFCM, to facilitate Parties reporting to the various MEAs. The approach has varying degrees of success as reporting is not always available, not all the countries report, not all countries report using the proper forms, but nevertheless the coordination mechanism is quite successful. The Black Sea Commission Secretariat works with UNEP/MAP on a regular basis with very good bilateral collaboration on marine litter and ICZM activities, and EBM. Monitoring also contributes to State of the Environment reporting, such as the Black Sea's State of the Environment (SoE) 2009-2014/5 report which includes, *i.a.,* assessments of ecological quality status of coastal waters based on phytoplankton integrated biological index (IBI), macrophytes, mesozooplankton, and level of overfishing for certain fish stocks. It also reports on the status of alien species in the Black Sea, and offers concrete progress indicators for ICZM (BSC, 2019). As yet there are no data systems connected with the indicators.

UNEP/MAP's Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) set out comprehensive regional Ecological Objectives (EOs) aligned with the MSFD and includes agreed common indicators in relation to biodiversity (UNEP/MAP, 2016) (See box 5.1 below).

HELCOM's Core indicators contribute to an evaluation of progress towards the goal of achieving good environmental status in the Baltic Sea, and core indicator evaluations are regularly updated and published as core indicator reports.

OSPAR carries out quality status reporting (2000 and 2010) and has a set of regionally agreed common indicators, directly linked to EU MSFD criteria, which have been developed to use national environmental monitoring data whenever possible to enable regular updates. The source of data is documented in the Common Environmental Monitoring Programme (CEMP) with its associated annexes and guidelines. Data generated from the monitoring programmes is handled and hosted either by OSPAR, by ICES or by a Contracting Party. All data streams are made accessible and visible through the OSPAR regional data hub, OSPAR's Data & Information Management System (ODIMS). The assessments are based on the OSPAR Measures and Actions Programme overview.

Box 5.1: Integrated monitoring and assessment programme of the Mediterranean Sea and Coast and related assessment criteria (UNEP/MAP, 2016)

In the 2016, at their 19th COP Meeting, the Contracting Parties to the Barcelona Convention adopted an Integrated Monitoring and Assessment Programme of the Mediterranean Seas and Coast and related Assessment Criteria (IMAP). IMAP describes the strategy, themes, and products that the Parties are aiming to deliver during the second cycle of the implementation of the Ecosystem Approach Process (2016-2021), with the ultimate goal of assessing the status of the Mediterranean sea and coast, as a basis for enhanced action. IMAP set out 11 comprehensive regional Ecological Objectives (EOs) and related common and candidate indicators, detailed in the table below.

Regional Ecological Objectives (EOs)	**Agreed common indicators in relation to biodiversity (bold); Additional agreed and candidate indicators (CI) (it.)**
1. Biodiversity is maintained or enhanced.	**1.** Habitat distributional range (EO1) to also consider habitat extent as a relevant attribute; **2.** Condition of the habitat's typical species and communities (EO1); **3.** Species distributional range (EO1 related to marine mammals, seabirds, marine reptiles); **4.** Population abundance of selected species (EO1, related to marine mammals, seabirds, marine reptiles); **5.** Population demographic characteristics (EO1, e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates related to marine mammals, seabirds, marine reptiles **12.** Bycatch of vulnerable and non-target species (EO1 and EO3)
2. Non-indigenous species do not adversely alter the ecosystem	**6.** Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species, particularly invasive, non-indigenous species, notably in risk areas (EO2, in relation to the main vectors and pathways of spreading of such species);
3. Populations of commercially exploited fish and shellfish are within biologically safe limits	**7.** Spawning stock Biomass (EO3); **8.** Total landings (EO3); **9.** Fishing Mortality (EO3); **10.** Fishing effort (EO3); **11**. Catch per unit of effort (CPUE) or Landing per unit of effort (LPUE) as a proxy (EO3); **12.** Bycatch of vulnerable and non-target species (EO1 and EO3)
4. Alterations to components of marine food webs do not have long-term adverse effects	
5. Human-induced eutrophication is prevented	*13. Concentration of key nutrients in water column (EO5);* *14. Chlorophyll-a concentration in water column (EO5);*
6. Sea-floor integrity is maintained	
7. Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems	*15. Location and extent of the habitats impacted directly by hydrographic alterations (EO7) to also feed the assessment of EO1 on habitat extent;*
8. The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved	*16. Length of coastline subject to physical disturbance due to the influence of man-made structures (EO8) to also feed the assessment of EO1 on habitat extent;* *25. CI: Land use change (EO8);*
9. Contaminants cause no significant impact on coastal ad marine ecosystems and human health	*17. Concentration of key harmful contaminants measured in the relevant matrix (EO9, related to biota, sediment, seawater);* *18. Level of pollution effects of key contaminants where a cause and effect relationship has been established (EO9);* *19. Occurrence, origin (where possible), and extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances) and their impact on biota affected by this pollution (EO9);* *20. Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood (EO9);* *21. % of intestinal enterococci concentration measurements within established standards;*

10. Marine and coastal litter does not adversely affect coastal and marine ecosystems	*22. Trends in the amount of litter washed ashore and/or deposited on coastlines (including analysis of its composition, spatial distribution and, where possible, source.) (EO10);* *23. Trends in the amount of litter in the water column including microplastics and on the seafloor;* *24. CI: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds and marine turtles (EO10);*
11. Noise from human activities cause no significant on marine and coastal ecosystems	*26. CI: Proportion of days and geographical distribution where loud, low, and mid-frequency impulsive sounds exceed levels that are likely to entail significant impact on marine animals (EO11);* *27. CI: Levels of continuous low frequency sounds with the use of models as appropriate (EO11).*

IMAP is considered a key achievement for the Mediterranean region, enabling for the first time a quantitative, integrated analysis of the state of the marine and coastal environment, including pollution and marine litter, biodiversity, non-indigenous species, coast, and hydrography, based on common regional indicators, targets and Good Environmental Status (GES) descriptions. IMAP implementation relies on cooperation between countries and with key regional partners such as fisheries bodies, and on the application of Shared Environmental Information System (SEIS) principles, both at national and regional level, and on the development of an IMAP-compatible Integrated Data and Information System within UNEP/MAP.

5.3 Key RSP indicators in relation to the GBF

As mentioned in Section 2, the Global Biodiversity Outlook 5 report (SCBD, 2020) stressed the need for a significant shift away from 'business as usual' to achieve the 2050 Vision for Biodiversity and identified eight important transitions to sustainable pathways. The integrated work of the various RSCAPs, related to their mandates and geographical coverage (including the terrestrial domain in some cases), can be relevant to many if not all of these eight transitions to sustainable pathways and is certainly very much related to the sustainable fisheries and oceans transition, particularly in view of its six key components:

- Promotion of MSP and ICZM, in line with the ecosystem approach;
- Sustainable fisheries management;
- Sustainable mariculture production;
- Protection of critical habitats, including through MPAs;
- Pollution abatement from land and sea-based sources, including excess nutrients and plastic waste;
- Control the spread of invasive species, including through ballast water and aquaculture.

The RSP's Core Set of Indicators (CSI) for all RSCAPs (see Section 3.4 and Table 3.9), which is related to specific SDG 14 targets, overlaps significantly with this set of topics and with their related GBF Targets (Figure 5.1):

- Promotion of the ecosystem approach through ICZM and MSP relates to SDG 14.2 and to GBF Target 1, and is covered by indicators 22 and 8 of the CSIs
- Protection of critical habitats, including through MPAs relates to SDG 14.5 and the GBF Target 2, and is covered primarily by indicator 21 and also by indicator 15 of the CSI
- Sustainable fisheries and mariculture relate to SDG 14.4 and more directly to GBF Targets 4 and 8, and are covered primarily by indicators 5, 12, and 20 of the CSI
- Pollution abatement, including eutrophication and marine litter relate to SDG 14.1 and to GBF Target 6 and are extensively covered in the CSI, specifically, indicators 1, 2, 3, 9, 10, 16, 17, 18.

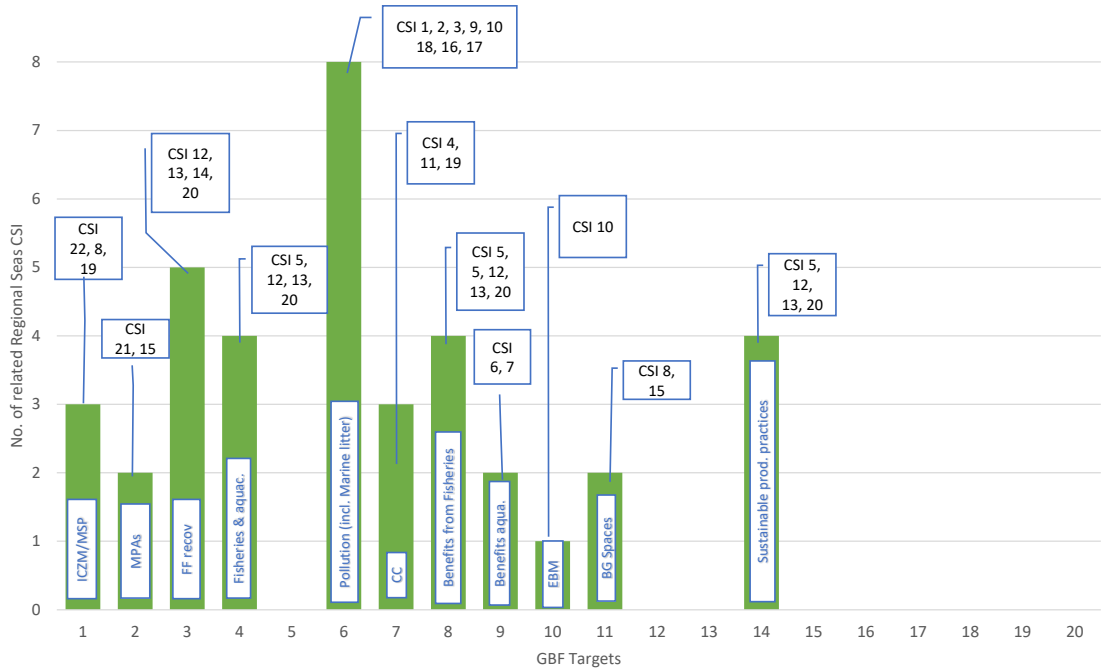

Figure 5.1. Overlap between the RSP's Core Set of Indicators (CSI) and GBF Targets.

Only one of these key topics, invasive alien species, is not covered by the RSP's CSIs but this is also already being pursued by various RSCAPs Additionally, other topics, which are key to the GBF such as indicators of ecosystem services, are also already being considered by some Regional Seas.

A summary of information on indicators for the assessment of ICZM/MSP, MPAs, Invasive Alien Species, Marine Litter, and Ecosystem Services used by different regional seas and how the experience of different RSCAPs can help to reinforce and strengthen their assessment is presented below (Box 5.2). For more information cf. Annex 8.

Box 5.2: Summary of potential selected indicators

Integrated Coastal Zone Management and Marine/Maritime Spatial Planning (ICZM/MSP) (GBF Target 1)

Indicator no. 22 of the RSP CSIs on 'National ICZM in place' recommends the use of 'National ICZM guidelines and enabling legislation adopted' as a coordinated metric for the RSCAPs (UNEP, 2016). Other indicators and associated metrics of the CSI potentially relevant to this topic include CSI no. 8 on Population pressure/ urbanisation: Length of coastal modification and km^2 of coastal reclamation; and CSI no. 19 on Climate change adaptation: 1) % national adaptation plans in place; 2) Sector based national adaptation plans; 3) No. of existing national and local coastal and marine plans incorporating climate change adaptation.

In the EU, as per the MSP Directive, all coastal Member States have to implement MSP until 2021 and to report on progress every 4 years. RSCAPs in the EU such as HELCOM are also monitoring MSP implementation under the Directive. In the Mediterranean region, partly within the EU, reporting on ICZM is carried out under the ICZM Protocol and the Regional Framework for ICZM.

Marine protected areas (MPAs) (GBF target 2)

Different RSCAPs have adopted indicators for monitoring MPAs, from numbers designated and areal coverage (CPPS, SPREP, PAME, Nairobi and Abidjan Conventions), sometimes categorised (various IUCN categories, RAMSAR, EBSAs and others), to existence of management plans and monitoring and management efficiency, including if MPA management is documented, if measures are implemented, if monitoring is taking place, are MPAs moving towards or have they reached their conservation status (PERSGA, SACEP), to evaluations of

ecological coherence, including geographical distribution, coverage across biogeographic regions, and representation and replication of marine habitats and species within MPAs (OSPAR, HELCOM, UNEP/MAP).

Invasive alien species (IAS) (GBF Target 5)

Invasive species, a.k.a. invasive alien species (AIS), or non-indigenous species (NIS) have been considered one of the greatest threats to marine and coastal ecosystems (GISP/UNEP Regional Seas, n.d.). EU Member States are bound to implement the MSFD on effective protection of the European marine environment. Progress towards good environmental status (GES) is assessed through the evaluation of eleven descriptors (D) including D2 on Non-Indigenous Species (EC, 2020). TWAP's set of core indicators for the assessment of LMEs includes one Ecosystem health state indicator Cumulative Human Impact, which measures the additive cumulative impact of 19 different potential human stressors, including invasive species.

RSCAPs focus on various aspects of IAS or NIS, such as number and names of introduced NIS (Black Sea), trends in arrival of new NIS (HELCOM Core indicator), changes to NIS communities (OSPAR Common indicator with three associated parameters: new introductions, community abundance, and dispersal; UNEP/MAP common indicator: trends in abundance, temporal occurrence, and spatial distribution), environmental impact of alien species (NOWPAP), ratio between alien species and native species and their interaction at the level of ecosystem, habitats and species (NOWPAP). Other RSCAPs also cover monitoring and management aspects related to IASs, such as development of regional databases and IAS related training (SACEP) and availability and level of uptake of monitoring and management protocols and actions (UNEP-CEP, SPREP, Abidjan Convention).

Marine litter (GBF Target 6)

Marine litter is a global concern and a threat to all marine life. Combating marine litter is a priority challenge to preserve the marine ecosystem and human health (Addamo et al., 2018). UNEA's 2016 Resolution 2/10, on Oceans and Seas recalled "*three priority source categories for work (nutrients, marine litter, and waste water) under the 2012 Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based activities*" and acknowledged UNEP's contributions "*to tackling emerging issues and activities adding to pressure on the marine environment and to increasing knowledge on issues such as marine litter*" (UNEA, 2016, 2). TWAP's core indicators for LMEs include a pollution indicator on Floating Plastic Debris, which considers macro plastics (weight density, $g.km^{-2}$) and micro plastics (count density, $counts.km^{-2}$). Marine litter is also one of the descriptors of GES (D10) in the MSFD, which all EU member states must monitor.

OSPAR, HELCOM, UNEP/MAP, and NOWPAP have identified indicators to monitor the state of marine litter in the environment (including beaches and the seafloor) and its impacts on marine life (e.g. OSPAR EcoQO). PERSGA monitors CSI no. 3 (Overall levels of marine litter Quantification of beach litter items), 16 (National Action Plans to reduce input from LBS), and no. 18 (Incentive to reduce marine litter at source). SACEP and SPREP also focus *i.a.,* on metrics related to management such as the number of national and regional initiatives including the number of marine litter management plans, policies and rules etc. in place.

Ecosystem services indicators

As originally defined, ecosystem services are "*the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfil human life*" (Daily, 1997). The Millennium Ecosystem Assessment (MA) offered a simpler definition followed by a more detailed explanation: "*Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling*" (MA, 2005). This illustrates the complexity and reach of ecosystem services even when not explicitly recognised as such and adds significantly to the challenge of finding appropriate indicators or metrics.

Aichi Biodiversity Targets 11 and 14 included ecosystem services and in the GBF biodiversity related ecosystem services are transversal to various Goals and Targets (even when they are not explicitly named as such). The various targets of SDG 14 do not explicitly mention ecosystem services (although they are implicit in some targets) and the CSIs also do not address them as such. However, various indicators may be used as

proxies of marine ecosystem services, namely indicators for MPAs, ICZM/MSP, IAS. With minor exceptions, dedicated ecosystem services indicators are conspicuously lacking in the GBF, not only in various monitoring elements of the GBF's 2050 Goals but also in relation to both components of Target 13 (and their corresponding monitoring elements) that specifically mention ecosystem services.

Several RSCAPs are already specifically addressing ecosystem services and proposing related indicators. The Abidjan Convention's Performance Measurement Plan identifies two main types of results (outcomes) related to ecosystem services, with the corresponding indicators, covering a wide range of topics including changes in the quantity and quality of benefits derived from marine and coastal ecosystems and social and environmental value of exploited goods and species. The Nairobi Convention's WIO LME SAPPHIRE project includes Outcome Indicators related to ecosystem services. UNEP-CEP's Regional Strategy and Action Plan for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021 – 2030 (CANARI, 2020) identifies a number of ecosystem services related actions and activities and the corresponding indicators and SACEP's Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030 Implementation Monitoring Framework identifies various axes, the first one being "Ensuring Ecosystem Services and Wellbeing", including specific indicators.

Error! Reference source not found. offers an overview of those RSCAPs that carry out work elevant to ICZM/MSP, MPA, IAS, marine litter and ecosystem services indicators. This analysis, which is not meant to be exhaustive, shows that there is a body of work and knowledge within the purview of the RSP that can be harmonised with the GBF and thus support global scale indicators.

Table 5.4. Work by RSCAPs relevant to ICZM/MSP, MPA, IAS, marine litter, and ecosystem services indicators.

RSCAP	**ICZM/MSP (GBF Target 1)**		**MPAs (GBF Target 2)**	**Invas. Alien Spp. (GBF Target 5)**	**Marine Litter (GBF Target 6)**	**Ecosystem services (GBF Target 13)**
Mediterranean UNEP MAP	ICZM Fram.	MSP Direc	SPA/BD Protocol	SAP BIO/IMAP	IMAP	
Western/Central Africa (ABC)	ICZM Protocol		Perfor. Meas. Plan Ind.	Perfor. Meas. Plan Ind.		Perfor. Meas. Plan Ind.
Wider Caribbean UNEP-CEP			RSAP 2021-2030	RSAP 2021-2030		RSAP 2021-2030
Eastern Africa WIO Nairobi Conv.			Regional MPA Outlook	WIONIS	SAPPHIRE WIO-RAPMaLi	SAPPHIRE
East Asian Seas (COBSEA)	COBSEA's CMSP work		SDG 14.5 reporting		COBSEA RAP on ML 2019	
NW Pacific (NOWPAP)				NOWPAP POMRAC	NOWPAP POMRAC	
Caspian Sea Tehran Conv.			Topics mentioned in Caspian Sea State of the Environment Report			
ROPME Sea Area			Prot. BD cons.& establish. of PAs.			
SE Pacific (CPPS)		MSP in ABNJ	SPINCAM Project	Globallast	Reg. prog.for int. man. of ML	
Red Sea and Gulf of Aden (PERSGA)			RSs CSI		RSs CSI	
South Pacific (SPREP)			FNCPA14-20, CNEI, PIPRF	FNCPA14-20, CNEI, PIPRF	Cleaner Pacific 2025 FNCPA14-20	
Black Sea BSCommission	BS SoE		BSIMAP	BSIMAP	Mar. Litter Action Plan	

RSCAP	ICZM/MSP (GBF Target 1)		MPAs (GBF Target 2)	Invas. Alien Spp. (GBF Target 5)	Marine Litter (GBF Target 6)	Ecosystem services (GBF Target 13)
NE Pacific Antigua Conven.						
South Asian Seas (SACEP)			Mar. coastal BD Strategy	Mar. coastal BD Strategy	Mar. coastal BD Strategy	Mar. coastal BD Strategy
Baltic Sea HELCOM	-	MSPDirc	Core Set	Core Set	Pre-core indicators	
NE Atlantic OSPAR	-	MSPDirec	CEMP	CEMP	CEMP	
Antarctic CCAMLR					Marine debris program	
Arctic/PAME			PAME CAFF MPAs Ind. Rep	Arctic IAS Strategy and Action Plan	PAME's Regional Action Plan on ML	

Despite the existence of the RSP CSIs, the various RSCAPs have adopted different approaches to common topics and these have not really been implemented as a common reference. It would be beneficial to ensure that all Regional Seas have at a minimum the capacity to implement common elements (which would equate to headline or primary indicators) that could then more effectively contribute to the assessment of global targets. Pragmatically this could constitute an agreed subset of the UNEP Core Set. **Error! Reference source not found.** highlights those GBF Targets more directly elevant to the RSCAPs (and related SDG 14 targets), and the related CSIs, with suggested candidates for primary indicators (in **bold** font)[22]. The remaining indicators in the same category could be considered secondary or accessory indicators. Pollution (Target 6) is mixed because it includes chemical pollution (excess nutrients, etc.) and physical pollution (plastics/marine litter). Whereas many RSCAPs are working on marine litter, not all are looking at chlorophyll *a*, but that could easily be looked at using remote sensing at a regional scale. Recognising that the core set of 22 indicators is too ambitious to be effective and well implemented, streamlining as suggested would make implementation more feasible (both by national constituencies and custodial agencies like UNEP).

[22] This would bring marine more in line with freshwater, the latter being more targeted with fewer indicators.

*Table 5.5. RSP's core set of indicators (CSI), synergy with SDG 14 targets and potential synergies with the GBF Targets. Suggested candidates for primary indicators in **bold**.*

GBF Target	SDG14 target	CSI No.	Category of Indicator	Possible RS Coordinated Indicator
1	14.2	**22**	**National ICZM in place**	**National ICZM guidelines and enabling legislation adopted**
		8	Population pressure / Urbanization	Length of coastal modification and km^2 of coastal reclamation
		19	Climate change adaptation (CCA)	1. % national adaptation plans in place 2. Sector based national adaptation plans 3. No. of existing national and local coastal and marine plans incorporating CCA
2	14.5	**21**	**Critical marine habitat under Protection**	**% Marine protected areas designated**
		15	Loss of critical habitat	Trends in critical habitat extent and condition
3		14	Endangered species	Distribution of Red List Index species
6	14.1	**3**	**Overall levels of marine litter Quantification of beach litter items**	**Quantif. & classification of beach litter items**
		18	Incentive to reduce marine litter at source	1. % port waste reception facilities available 2. Incentives to reduce land based sources (in monetary terms) 3. Amount of recycled waste on land (%)
		1	**Total inputs of N and P from agriculture, sewage and atmospheric N**	**Chlorophyll a concentration**
		9	Eutrophication status	Locations and frequency of algal blooms reported
		10	Pollution hot spots (actual pollution hotspot and source of hotspot)	1. Concentration of Status of selected pollutant contamination in biota and sediments and temporal trends 2. No. of hotspots
		2	Inputs of marine chemical pollution Trends for selected priority chemicals	Trends for selected priority chemicals (incl. POPs and heavy metals)
		17	Waste water treatment facilities	1. % coastal urban pop. connected to sewage facilities 2. % of waste water facilities complying with adequate standards 3. % of untreated waste water
		16	National Action Plans to reduce input from Land-Based Sources (LBS)	% National action plans ratified / operational

5.4 Strengthening the reporting of marine aspects in the GBF

The previous analyses suggest an opportunity for a role of the RSP in coordinating the reporting of marine aspects in the GBF. **Error! Reference source not found.** summarises the proposed draft onitoring framework for the GBF 2050 Goals, as put forward during the July 2020 consultation period, focusing on those monitoring elements most directly relevant to the marine ecosystem.

Table 5.6. Draft monitoring framework for the GBF 2050 Goals (according to the July 2020 consultation documents). The first three columns are taken from the original document, retaining only those aspects more relevant to coasts and ocean. Column 4 offers suggestions to strengthen monitoring of marine elements. CSI: RSP Core Set of Indicators (see Table 3.9). Cells shaded blue highlight those elements that already include or refer to marine aspects.

Components 2050 Goal	**Monitoring elements (rel. to marine envir./issues)**	**Indicators**	**Our comments /suggestions**
A1. Increased extent of natural ecosystems (terrestrial, freshwater and marine ecosystems)	Trends in area of mangroves	Continuous global mangrove forest cover	SDG 6.1 indicator includes mangrove forest cover
		Change in extent of water-related ecosyst. over time (SDG 6.6.1)	-
		Trends in mangrove extent	-
	Trends in area of coral reefs	Live coral cover	Please see the ICRI submission.
		Global coral reef extent	Please also see ICRI submission
	Trends in area of seagrass ecosystems	Global seagrass extent	Please see the most recent report on seagrasses
	Trends in area of other marine and coastal ecosystems	Global saltmarsh extent	-
		Cumulative human impacts on marine ecosystems	In parallel with 14.5; CSI15
A2. Ecosystem integrity and connectivity (terrestrial, freshwater and marine ecosystems)	Trends in fragmentation and quality of mangroves	Continuous global mangrove forest cover	-
	Trends in fragmentation and quality of coral reefs	Red list index (coral species)	-
		Average marine acidity (pH) (SDG 14.3.1.)	CSI11
	Trends in fragmentation and quality of other marine and coastal ecosystems	Ocean Health Index	-
		Red List Index (Marine Species)	In parallel with 14.5; CSI 15, CSI 21
A3. Prevent extinction and improve the conservation status of species	Trends in species extinctions	No. spp. Extinctions (birds & mammals)	Red list index (marine species); CSI 14, CSI21
		No. extinctions prevented by conservation action	Info from the RSCAPs
		Red list index	-
	Trends in conservation status of species	Red list index	-
		Species protection index	Only for terrestrial spp.; and for marine?
A4. Increase population and health of species	Trends in species abundance	Living Planet Index (LPI)	Species Habitat Index is only for land. For the marine environment cf. Marine trophic index (CSI13)
		Species Habitat index (SHI)	
A5. Maintain genetic diversity	Trends in the diversity of wild species		Focus on terrestrial genetic diversity. Needs to incorporate marine genetic diversity
	Trends in the diversity of cultivated plants, farmed and domesticated animals	Comprehensiveness of conservation of socioeconomically as well as culturally valuable species	
		No. plant and animal genetic resources for food and agriculture … (SDG 2.5.1)	
		Proportion of local breeds, classified as being at risk, extinction	

Components 2050 Goal	Monitoring elements (rel. to marine envir./issues)	Indicators	Our comments /suggestions
	Trends in the diversity of wild relatives	Red list index (wild relatives of domesticated animals)	Apparent focus on terrestrial genetic diversity
		Comprehensiveness of conservation of socioeconomically as well as culturally valuable species	
A6. Protection of critical ecosystems	Trends in area of coastal and marine areas conserved	Protected area coverage	14.5, CSI21
		Coverage of other effective area-based conservation measures	Data from RFMOs
	Trends in areas of particular importance for biodiversity conserved	Protected area coverage of key biodiversity areas	Marine biodiversity hotspots
		Species habitats index	
	Trends in areas of particular importance for ecosystem services conserved		coral reef extent; seagrass extent; saltmarsh extent
	Trends in ecological representativeness of areas conserved	Protected Area Representativeness Index (PARC-Representativeness)	Does not include marine aspects; CSI 15, CSI 21
B1. Nature's regulating contributions including climate regulation, disaster prevention and other	Trends in habitat creation and maintenance	No. **certified forest areas** under sustainable management with verified impacts on habitat conservation/restoration	Consideration of the contribution of blue carbon (e.g. UNEP/CEP's 2021-2030 Regional Strategy and Action Plan)
		Species habitat index	Only terrestrial
		Biodiversity habitat index	Mangroves, coral reef, seagrasses and kelp beds
	Trends in regulation of climate	No. certified forest areas under sustainable management w/verified impacts on C sequestration/storage	Blue carbon: Mangroves, seagrasses, climate change vulnerability of some coastal ecosystems (please also see the Intergovernmental Panel on Climate Change report on Oceans and Cryosphere)
	Trends in regulation of ocean acidification	-	SDG 14.3.1; CSI 11
	Trends in regulation of coastal water quality	-	SDG 14.1.1; CSI 1, CSI 2, CSI 3, CSI 9, CSI 10, CSI 16, CSI 17, CSI 18
	Trends in regulation of hazards & extreme events	SDG 11.5.1	14.2 and CSI19
	Trends in regulation of detrimental organisms and biological processes	-	Marine invasive alien species: Marine Strategy Framework Directive and various RSCAPs (see Section 4.4 above)
B2. Nature's material contributions including food, water and others	Trends in the provision of energy supply from biological resources	-	Mangrove data (fuel)
	Trends in the provision of food and feed from BD	-	SDG 14.4.1. CSI 5, CSI 6, CSI 12, CSI 20
	Trends in the provision of materials and assistance from biodiversity	-	mangrove data (construction)

Components 2050 Goal	Monitoring elements (rel. to marine envir./issues)	Indicators	Our comments /suggestions
	Trends in the provision of medicinal, biochemical and genetic resources from biodiversity	-	work needed
B3. Nature's non-material contributions including cultural	Learning and inspiration	-	Indicators of marine ecosystem goods and services (see Section 4.4 above)
	Physical and psychological experiences	-	
	Supporting identities	-	
	Maintenance of cultural values	-	
C1. Access to genetic resources	Trends in access to genetic resources	No. users that have provided information relevant to the utilisation of genetic resources to designated checkpoints	Need to ensure focus also on marine genetic resources
		No. of checkpoint communiqués published in ABS clearing house	
C2. Sharing of the Benefits	Trends in benefits from the access to genetic resources shared	-	Need to ensure focus also on marine genetic resources
	Trends in utilisation of genetic resources	-	
	Trends in monetary and non-monetary benefits from access to genetic resources shared	-	
D1. Availability of sufficient financial resources	Trends in the mobilisation of financial resources from public int. financial flows	SDG15.a.1	CSI focused on Ecosystem-based management and not on management. SDG 14.A.1, i.a.
	Trends in public domestic resource mobilisation	SDG15.a.1	
	Trends in the mobilisation of financial resources from private sector	-	
	Trends in the mobilisation of financial resources from charitable organisations	Amount of BD related philanthropic funding	
D2. Sufficient capacity building, technology transfer and scientific cooperation	Trends in support of capacity building	-	SDG 14.A.1, i.a.
	Trends in capacity building activities	-	
	Trends in technology transfer	-	
	Trends in scientific cooperation	-	
D3. Access to technology	Trends in access to relevant technologies	-	

As explained in Section 2, the GBF's Goals and their components have been reworked (reduced in number and clarified) (CBD, 2020) but the analysis presented here relates to the version made available during the consultation period. Blue shaded cells in Table 5.6 highlight those elements that already include or refer to marine aspects, showing the need throughout the various monitoring elements of the four goals for indicators reflecting the evolution of marine related topics. As an example, in what concerns GBF Goal B1, and nature's regulating contributions including climate regulation, in addition to 'green' carbon it seems appropriate to factor in a consideration of "blue" carbon from coastal ecosystems (seagrasses, mangroves, saltmarshes). Some RSCAPs are already considering "blue" carbon (e.g. UNEP/CEP and NOWPAP) and indicators of marine ecosystem services (see Section 4.4 above), which may be useful for the GBF. The last column in this table offers specific suggestions to increase the marine focus of the monitoring framework (shown in blue font). The suggestion is not to burden the GBF with more goals or monitoring elements, but, as much as possible, to include "marine" indicators as counterparts of "land" indicators so as to ensure that the GBF offers a balanced and truly global ecosystem perspective. Such "marine" indicators should be chosen from among the ranks of indicators already being monitored. There are numerous instances where one or more indicators of RSP's CSI may be directly relevant to the assessment of various monitoring elements, often in parallel with indicators of SDG 14 targets. There is also an opportunity to include and/or strengthen indicators on a number of other marine issues not yet covered by the CSIs or by SDG 14 indicators, including but not limited to, blue carbon, marine genetic resources, and marine ecosystem services.

Table 5.7 summarises those components of the GBF 2030 Targets and associated monitoring elements and indicators potentially relevant to coastal and ocean/marine issues. As before, cells marked in blue highlight components already focusing on ocean issues, again showing that there is ample room for "blueing" the GBF Targets, not by rewording the targets but by relating them to marine monitoring elements. The last column includes suggestions to improve the marine focus of these monitoring elements (in blue font), again, in many instances reflecting the RSP's CSIs, often potentially in parallel with indicators of the various SDG 14 targets.

The number of monitoring elements and associated indicators is likely to be daunting for many States. There is a potential role for RSCAPs to help coordinate relevant data and undertake regional assessments. In particular, RSCAPs have the potential to coordinate aspects related to processes such as trends in integrated coastal zone management and marine spatial planning, marine protected areas, and outcomes, such as coastal water quality (including marine/beach litter), invasive alien species, marine ecosystem services provision of food and feed from biodiversity (see Section 4.4 and aspects related to implementation in Section 5) (UNEP, 2014).

This subset of the RSP CSIs, retains a focus on what RSCAPs know and do well. It also reflects the role of the RSCAPs as the implementing arms of the Global Programme of Action (GPA), as they are on the ground coordinating at the regional level (Table 5.8).

Table 5.8. Linking process and result/outcome indicators

Process	**Results/Outcomes**
ICZM to address pollution from land-based sources	Controls/limits on nutrients, hazardous substances, marine litter
Prevent impact on ecosystems, threatened habitats and species	As selected by individual RSCAPs (e.g., mangroves, seagrasses, corals, kelp)
MPAS to ensure conservation and restoration to retain ecosystem services	Prevention/eradication of invasive alien species
Partner with others (RFMOs, IMO, ISA) e.g. area protected from bottom fishing	

Table 5.7. Components of the GBF 2030 Targets associated monitoring elements and indicators potentially relevant to coastal and ocean/marine issues. Cells shaded blue highlight those components already focusing on ocean issues. The last column includes our comments/suggestions.

Components of the 2030 targets	**Monitoring elements**	**Indicators**	**Suggestions**
T1.1. Increase in area of terrestrial, freshwater and marine ecosystems under spatial planning	Trends in area under spatial land-use plans	Proportion transb. basin area for water coop. (SDG 6.5.2)	proportion of transboundary managed areas in marine env.
		No. countries using EBM to marine areas (14.2.1.)	-
	Trends in area under ICZM	-	CSI 22, SDG14.2.1
	Trends in area under MSP	-	CSI 22, SDG14.2.1
	Trends in the area under integrated water resources management	SDG 6.5.1.	Some of the regional seas include this as indicator in their framework
T1.2. Prevention of reduction and fragmentation of natural habitats due to land/sea use change	Trends in extent and rate of change of mangroves	Continuous global mangrove forest cover	SDG 6.1 indicator includes this.
	Trends in extent and rate of change of coral reefs	Red list index (coral species)	-
		Live coral cover	Please see International Coral Reef (ICRI) submission
	Trends in extent and rate of change of seagrass ecosystems	Global seagrass extent	See UNEP (2020). Out of the blue: The value of seagrasses to the environment and to people. UNEP, Nairobi.
	Trends in extent and rate of change of other marine and costal ecosystems	Red list index for ecosystems	-
		Cumulative human impacts on marine ecosystems	Assessment metrics devised e.g. by HELCOM, OSPAR, Arctic Council
		Ocean health index	-
T1.3. Priority retention of intact / wilderness areas	Trends in extent of intact /wilderness ecosystems	Ecoregion intactness index	Biodiversity intactness index does not include marine areas, only land. Anything for marine? Something for the UN Ocean Decade to consider
T1.4. Restoration of degraded ecosystems	Trend in area of degraded corals restored	-	
	Trend in area of degraded marine and coastal ecosystems restored	Cumulative human impacts on marine ecosystems	
		Ocean health index	
T1.5. Maintenance and restoration of connectivity of natural ecosystems	Trends in habitat connectivity	Bioclimatic ecosystem resilience index (BERI)	Does not include marine aspects
		Protected connected	Does not include marine aspects
		Red list index (15.5.1)	Include marine elements: CSI 14
		Red list index (migratory species)	Include marine elements e.g. IBAs, International Marine Mammal Areas

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
		Proportion of land that is degraded over total land area (15.3.1)	Marine counterpart of this indicator e.g. Ocean Health index
T2.1. Area of terrestrial, freshwater & marine ecosystem under prot. & conser.	Trends in extent of protected areas	Coverage of PAs in relation to marine areas (14.5.1)	CSI 21
	Trends in extent of areas under other ABCM	Coverage of other effective ABCM	Other Effective Conservaton Measures (marine) as defined by CBD
T2.2. Areas of particular importance for BD are protected and conserved as priority	Trends in proportion of areas of particular importance for Biodiversity protected and conserved	Protected Area Coverage of key biodiversity areas	Needs to ensure a focus on marine ecosystems and ocean biodiversity hotspots, e.g. those areas described as EBSAs, also the MPA networks designated under Biodiversity Protocols of the Regional Seas Conventions and Action Plans (RSCAPs)
		Proportion of important sites for terrestrial and freshwater diversity covered by Protected Areas	
		Species protection Index	
		Proportion of important sites for terrestrial and freshwater Biodiversity… (15.1.2)	
T.2.3. Representative system of protected areas and other effective ABCM	Trends in ecological representativeness of areas conserved	Protected Area Representativeness Index	Does not include marine elements
		Proportion of terrestrial, freshwater and marine ecological regions conserved by PAs or OECMs	14.5.1; Protected Planet Database Regional Seas MPA networks
T2.4. Effective management and equitable governance of the system of PAs and other effective ABCMs	Trends in management effectiveness	Protected Areas Management effectiveness	Focus on MPAs: 14.5.1, CSI 13,15,21
		Trends in Protected Area downgr., downsizing & degazet. (PADDD)	Marine equivalents are needed
	Trends in proportion of PAs and other effective ABCMs under various governance regimes	No. certified forest areas under sustainable management w/ verified impacts on BD conservation	Proportion of MPAs that fall under the different IUCN categories (see MPA indicator case study below)
T2.5. Connectivity within the system of PAs and other effective ABCMs	Trend in connectivity within the system of PAs and other effective ABCMs	Protected Area Connectedeness Index	Do not include marine.
		Protected connected	Connectivity within MPAs?
T2.6. Increased protection and conservation effectiveness	Trend in conservation effectiveness of PAs & other effective ABCMs	Protected Areas Management Effectiveness	MPA effectiveness as per CBD MPA Guide
T2.7. Integration into landscape and seascape context	Policy and governance practices outside of PAs and OECMs compatible w/ their management objectives	-	14.2.1 and CSI 22
T3.1. Active recovery and conservation management actions	Trend in ex-situ conservation measures	Red list index (15.5.1)	Consider marine elements: CSI14
	Trends in species recovery programmes	% threatened spp. Improving in status	CSI 14
T3.2. Reduced human-wildlife conflicts	Trend in human-wildlife conflicts	-	Collisions with vessels; Ghost fishing
T4.1. Harvest is legal, sustainable and safe for human health and BD	Trends in proportion of biological resources harvested legally	Degree of implementation of international instruments aiming to combat IUU fishing (14.6.1)	

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
	Trends in proportion of biological resources harvested within the established harvest limits	Proportion of fish stocks within biologically sustainable levels (14.4.1)	
	Trends in prop. of BR harvested through sust. harvest practices	-	14.6.1, 14.7.1
	Trends in measures ensuring safe harvesting operations	-	
T4.2. Trade is legal, sustainable and safe for human health and BD	Trends in proportion of biological resources traded legally	Proportion of traded wildlife poached or illicitly trafficked (15.7.1. 15.c.1)	14.6.1; CITES (relevant marine species)
	Trends in proportion of BR traded within established harvest limits/quotas	-	14.4, CSI 5,12,20
	Trends in measures ensuring safety of trade operations	-	
T4.3. Use is legal, sustainable and safe for human health and BD	Trends in proportion of biological resources (BR) used legally	-	
	Trends in proportion of BR within estab. harvest limits/ quotas	-	14.4.1.
	Trends in measures ensuring safe use of BD	-	As above
T5.1. Identification, control and management of pathways for introduction of invasive alien species	Trends in timely identification of pathways for introduction	-	For the marine environment: EU Marine Strategy Framework Directive (MSFD); Various Regional Seas initiatives e.g. comb jellyfish (Black Sea), lionfish (Mediterranean, Caribbean)
	Trends in development of control and management measures for pathways of introduction	Prop. of countries adopting relevant natl. legisl. & adequately resourcing prev. or control of IASs (15.8.1)	
		Trends in the nos. of IASs introduction events	
T5.2. Effective detection, identification, prioritisation and monitoring of IAS	Trends and efficiency of detection of IASs	-	For the marine environment: MSFD, Various Regional Seas
	Trends in identification of IASs	-	
	Trends in monitoring of IASs	-	
T5.3. Establishment of measures for eradication, control & management of IAS	Trends in the rate of invasive species eradication	Trends in IAS vertebrate eradications	Same as above
	Trends in establishing control measures	Trends in policy responses, legislation & management plans to control & prevent spread of IASs	RSs and MSFD 14.C
		Proportion of countries adopting relevant nat. legislation & adequately resourcing the prevention and control of IASs (15.8.1)	
	Trends in establishing management measures	-	Info from RSs needed
T5.4. Eliminated or reduced impacts of IAS	Trends in the impact of IASs	Red list index (impacts of IASs)	Regional seas monitoring programs

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
T5.5. Eradication, control or management of IAS in priority sites	Trends in elimination of AIS and their impacts in islands	-	Regional seas monitoring programs
	Trends in elimination of AIS and their impacts in PAs and ABCMs	-	Regional seas monitoring programs
	Trends in elimination of AIS and t. impacts in intact/wilderness	-	Regional seas monitoring programs
T6.1. Reduction of pollution from excess nutrients	Trends in levels of pollution from N	a) index coast. Eutroph.; b) plastic debris dens. (14.1.1)	14.1.1, CSI 1 (Chlorophyll a)
	Trends in levels of pollution from P	Phosphorus balances	14.1.1, CS1 1 (Chlorophyll a)
T6.2. Reduction of pollution from biocides	Trends in levels of pollution from excess pest./herbic./biocides	-	CSI2, 10, RSs
T6.3. Reduction of pollution from plastic	Trends in levels of pollution with marine plastic	a) index coast. Eutroph.; b) plastic debris dens. (14.1.1)	CSI 3; CSI 18
T6.4. Reduction of pollution from other sources	Trends in levels of pollution from organic wastes	-	CSI 9, 17
	Trends in levels of pollution from noise	-	EU Marine Strategy Framework Directive (MSFD); UNEP/MAP
	Trends in levels of hazardous waste	12.4.2	14.1.1
T7.1. Increased BD contribution to CC mitigation, adaptation and disaster risk reduction	Trends in C stocks in different ecosystems	-	Mangroves, seagrasses, deep sea C sequestration
	Trends in contribution to CC adaptation	-	Mangroves (coastal buffers)
	Trends in contribution to disaster risk reduction	13.1.2 and 13.1.3	Mangroves (coastal buffers)
T7.2. Minimised negative impacts on BD from any mitigation, adaptation and disaster risk reduction measures	Trends in integration of BD consideration in design of mitigation, adaptation and disaster risk reduction	13.b.1	Mangroves (coastal buffers)
	Trends in EIAs of mitigation, adaptation & disaster risk red.	-	
T8.1. Sustainable management of aquatic wild spp. of fauna and flora, including fisheries	Trends in fish stocks	Proportion fish stocks within biolog. sust. levels 14.4.1	CSI 5, 12, 20
		Sustainable fisheries SIDS 14.7.1.	
	Trends in sustainable fisheries management	Proportion of fish stocks 14.4.1	CSI 5, 12, 20
		Combating IUU fishing 14.6.1	
		Small-scale fisheries 14.B.1 (repeated in two rows)	
		MSC certified catch	
	Trends in population and extinction risk in	Red list index (albatrosses & large petrels)	

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
	bycatch spp.	Living planet index (trends in target and bycatch spp.)	
	Trends in aquatic plants	-	Mangroves, seagrasses saltmarshes
	Trends in invertebrate stocks	Proportion of fish stocks under sustainable management certification schemes	Coral health and coverage Molluscs and crustacean harvesting
T8.2. Sustainable management of terrestrial wild species of fauna and flora	Trends in terrestrial wild species of fauna used for food and medicine	2.5.1 2.3.2 …	Shouldn't there be a marine counterpart? (shark fins, etc.)
T9.2. Sustainable manag. of aquaculture	Trends in production of aquaculture under sustainable practices	-	CSI 6 (eventually 7)
T10.1. Regulation of air quality	Trends in ecosystems contributing to air quality	-	SDG target 14.2 mentioned for target 10 in linkages document but missing here… CSI 19; Mangrove cover as coastal protection
T10.2. Regulation of hazards & extreme events	Trends in hazardous and extreme events	No. deaths.. (11.5.1)	
T10.3. Regulation of freshwater…	Trends in natural freshwater ecos. proving good ambient water	6.3.2, 6.b.1, 6.6.1	
T11.1. Access to green/blue spaces	Trends in access to green/blue spaces	Open built-up city areas (11.7.1)	Access to blue /coastal areas Spatial planning (ICZM and MSP): CSI22 No. recreational fishing licences
T11.2. Contributions of BD to human health (HH) and well being	Trends in species that provide essential services	-	Marine Ecosystem Services indicators needed (provisioning, regulating, cultural), which do not exist. Please refer to ongoing UNEP's TEEB for the Coast.
	Trends in contributions to HH and well-being from mangroves	-	
	Trends in contributions to HH and well-being from coral reefs	-	
	Trends (…) from other marine and coastal ecosystems	-	
T12.1. Access to genetic resources	Trends in access to genetic resources	6 proposed indicators related to International treaty on plant genetic resources for food and agriculture and ABS clearing house, and 15.6.1	Needs to include marine genetic resources
T12.2. Benefit shared from the use of genetic resources	Trends in the benefits from access to genetic resources shared	-	What about marine genetic resources? International Legally Binding Instrument on BBNJ? Research cruise permits Patents from marine products Examples from MPAs may be useful.
	Trends in no. countries that have adopted legislative, administrative or policy frameworks to ensure fair and equitable sharing of benefits	ABS clearing house 15.6.1	
	Trends in the contribution of benefits to conservation and sustainable use	Estimated % of monetary & non-monetary benefits towards conservation and sustainable	

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
		BD use of BD	
T12.3. Benefits resulting from use of traditional knowledge (TK) associated with genetic resources	Trends in use of TK associated w/ genetic resources	-	In the marine environment perhaps 14.7 .1; Regional Seas work with traditional knowledge
	Trends in benefits generated and shared from the use of TK associated with genetic resources	-	
T13.1. Biodiversity reflected in policies and planning at all levels	Trends in integration of BD & ES values into planning processes	SDG indicator 15.9.1 and 17.14	focus on land. Indicators; 14.2.1; CSI 22
	Trends in integration of BD & ES values into develop. Processes	-	Perhaps 14.c.1
	Trends in integration of BD & ES values into poverty red. Strat.	-	Perhaps 14.b.1
	Trends in integration of BD and ES values into sectoral plans	-	Perhaps 14.c.1
T13.2. BD reflected in national and other accounts	Trends in integration of BD and ES values into national accounts	15.9.1	Marine ecosystem services
	Trends in integration of BD and ES values into other accounts	-	
T13.3. BD values are reflected in policies and regulations (PR), including on BD inclusive EIAs and SEAs	Trends in no. of PR which incorporate BD considerations	-	14.2.1; Marine biodiversity considerations. Many regional seas have provisions on EIAs and SEAs
	Trends in no. of PR on EIA which incorporate BD considerations	-	
	Trends in no. of PR requiring use of SEA incorporate BD consid.	-	
T14.1. Reduction of at least [50%] in negative impacts on biodiversity	Trends in ecological limits reached or surpassed	Ecological Footprint	
		Human appropriation of Net PP (HANPP)	Land focused
		Domestic material consumption (8.4.2&12.2.2)	14.4, Marine trophic index CSI12,20
		Change in water use efficiency over time (6.4.1)	
		Level of water stress: freshwater withdrawal (6.4.2)	
T14.2 Sustainable production practices, including circ. economy & waste manag. & sust. supply chains at natl.&inter.levels	Trends in sustainable production in sectors	No. of MSC chain of custody cert.holders/ dist. country	14.4; 14.7.1 and CSI 5, 6, 12
	Trends in application of circular economy principles/practices	-	
	Trends in waste management	a) haz.waste/cap.; b) prop.hazard.waste treat. (12.4.2)	SDG 14.1.1. and CSI 3 (beach litter)

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
T14.3. Sustainable supply chains at natl/intl. levels	Trends in certification of supply chains	Area of forest under sustainable management: total FSC and PEFC forest management certification	This monitoring element could include fisheries (Marine Stewardship Council MSC)
	Trends by financial sector in developing and applying BD risk assessment policies and processes, demonstrating decreasing negative impacts on ecosystems and bd …	-	
	Trends in proportion of supply chains which are legal and sustainable	MSC certified catch	Why not merge with monitoring element above?
T15.1. Sustainable consumption patters	Trends in use of non-renewable natural resources	8.4.1, 12.2.1, 12.1.1., 8.4.2, 12.2.2, 12.5.1	
	Trends in the use of renewable natural resources	12.3.1, 6.4.2	14.4.1
	Trends in the use of biological resources	-	14.4.1
	Trends in ecological limits reached or surpassed	Ecological footprint; 8.4.2. and 12.2.2.	
T15.2. New vision of good quality of life based on sustainability and new social norms for sustainab.	Trends in public engagement and attitudes towards BD	BD engagement ind., BD barometer; WAZA bio-literacy survey	
T15.3. People's responsibility for their choices	Trends in demand for more environmentally friendly products	-	MSC data?
T16.1. Measures to prevent potential adverse impacts of biotechnology on BD and human health (HH)	Trends in development and adoption of the necessary biosafety legal, administrative, and other measures	4 indicators: % of parties…	How are the impacts of biotechnology accounted for in the marine environment, for instance in what relates to aquaculture and Marine Genetic Resources. ILBI on BBNJ may have reporting mechanisms.
16.2. Measures to manage adverse impacts of biotechnology on BD and HH	Trends in scientifically sound risk assessments and management of the identified risks	3 indicators	
16.3. Measures to control adverse impacts of biotech. on BD and HH	Trends in no. of countries that share and have access to biosafety-related info. for the safe use of biotech. products	2 indicators	
16.4. Restoration and compensation for damage to BD by LMOs	Trends in no. of countries that have systems in place for restoration and compensation for damage to BD	2 indicators	
T17.2. Elimination, phasing out or reform of incentives and subsidies the most harmful to BD	Trends in the no. and value of subsidies harmful to BD	Trends in pot. harm. ele. government support to agric.	SDG 14 Target 6 and Indicator 14.6.1 were mentioned in the linkages document but not in this document.
		Trends in no. & value of gover. fossil fuel support meas.	
		Amount of fossil fuel subsidies (12.c.1)	

Components of the 2030 targets	Monitoring elements	Indicators	Suggestions
T18.1. Identification of funding needs to meet ambition of GBF goals and targets	Trends in no. of countries which have assessed funding needs	No. countries… (Decision X73)	-
T18.2. Increase in financial resources from international sources	Trends in the mobilisation financial resources from public international financial flows	Includes: SDG 15.a.1; 17.19.1, 17.9.1, Funding through GEF allocated to BD (decision X/3), amount & comp. of BD related finance reported to OECD creditor report.	Focus on marine: RS and 14.A.1
	Trends in the mobilisation of financial res. from private sector	-	
	Trends in the mobilisation of financial res. from charitable org.	-	
T18.4. Implementation of the strategy for capacity-building	Trends in support to capacity building Trends in capacity building activities	--	SDG 14.A.1
T18.5. Implementation of the strategy for TT and scientific cooperation	Trends in technology transfer (TT)	17.7.1	SDG 14.A.1
	Trends in scientific cooperation	-	SDG 14.A.1
T19.1. Availability of reliable and up-to-date BD related information	Trends in the availability of BD related information	6 proposed indicators, including SDG 14.A.1; No. companies publish. Sust. Reports (12.6.1)	No SDG14 target/ind. in the linkages doc for this target; GOOS, MBON, OBIS (essential ocean var. & RSs data)
T19.2. Promotion awareness of BD values	Trends in awareness of BD values	BD barometer; WAZA bio-literacy survey	SDG 14.7.1
T19.3. Promotion of BD in education	Trends in the integration of BD in academic curricula	SDG indicators 4.7.1 and 12.8.1	
T19.4. Availability of research and knowledge, inc. traditional knowledge, innovations and practices of IPLC w/ their free, prior and informed consent	Trends in the development of BD related knowledge	No. assessments on IUCN Red List of threatened spp.	SDG 14.7.1., 14.B.1 RSs (e.g. Arctic, Pacific)
	Trends in access to BD related knowledge	-	
	Trends in documentation and use of TK, innovations and practices w/ their free, prior and informed consent	Trends of linguistic diversity…	
T20.1 Equitable participation of indigenous peoples and local communities in decision-making relating to BD and rights over relevant resources	Trends in the participation of IPLCs in decision-making	Trends in degree to which TK and practices are respected…	SDG 14.7.1., 14.B.1; RSs initiatives
	Trends in recognition of rights over relevant resources	Trends in the practice of traditional occupations	Strengthen the marine component by including SIDS and marine dependent local communities 14.7.1., 14.B.1
		Trends in land-use change and land tenure in the traditional territories of ind. Local. Com.	
T20.2. Equitable participation of women & girls in decision-making related to BD…			Some regional Seas work with gender and youth issues
T20.3 Equitable participation of youth in BD decision-making &rights over rel. res.			

5.5 Conclusions

5.5.1 Promoting a subset of the coordinated indicator set

RSCAPs play a key role as an interface between global policies and national efforts on coastal and marine environmental issues. However, standardisation in terms of indicators is difficult given regional specificities. Targets and indicators adopted by RSCAPs have been agreed with Parties and are specific to regional needs.

Indicator-based monitoring and evaluation implies long-term engagement and resource allocation, and the selection of core indicators generally occurs after there are collective efforts to define them and their use becomes widespread, hence the importance of coordinating as much as possible the common use of the same ones, avoiding multiplying efforts to obtain similar monitoring results. The existing core set of indicators adopted by the RSP is already a summary of the work of the regional seas, and so there is merit in reflecting them in the GBF.

Uptake of globally comparable and regionally applicable indicators can vary according to mandate/focus, data collection frameworks, and capacity, all of which can differ substantially between regions. The core set of 22 indicators is too ambitious to be effective and well implemented by all RSCAPs. An initial subset can be more targeted and therefore, more “implementable” by national constituencies, and may also enable/further sharing best practices, approaches and methods, and enhanced use of common tools (e.g. standardised data/information and reporting tools), as well as comparison of regional results to contribute to periodic global reporting. Even then regional differences can be a barrier. For example, marine litter challenges and problems may require monitoring to be tailor-made to specific hotspots, to what is possible and in support of established data gathering.

5.5.2 The RSP can play a unique role in future monitoring of achievement of the GBF Goals and Targets

Its contribution includes, but is not limited to:

- Use of a limited subset of the core set of indicators that can be up-scaled and linked with the GBF Goals and Targets. These indicators are already fully developed and monitored although the extent of their monitoring differs from one RSCAP to another. These indicators are supported by existing data and information systems.
- The RSCAPs offer basin-wide (ecosystem-wide and transboundary) information on ocean issues, which reflects concerted effort of the Parties and Member States that are part of these ecosystems towards achieving and monitoring global Goals and Targets. The RSCAPs have established functioning reporting mechanisms, which are associated with the target monitoring mechanisms with attached indicators. Some good practices of these reporting mechanisms are included in “Regional Seas Follow up and Review of the Ocean related Sustainable Development Goals (SDGs): Case Studies Supplementary Annex - UN Environment Regional Seas Reports and Studies No 209”.[23]

[23] https://wedocs.unep.org/handle/20.500.11822/27515

- The RSP's core set of 22 indicators is of relevance to various targets of the GBF (**Error! eference source not found.** 5.1) and UNEP has already made an analysis (and submission to OEWG-2 as well as a response to the consultation on the three CBD SBSTTA 24 draft documents related to the GBF: CBD Notification 2020-045) of best practices that could be replicated and the relationship between these and the SDGs.
- UNEP is a co-custodian agency for the development and monitoring of SDG indicator 14.1.1 and 14.1.2. UNEP intends to use the network of the RSCAPs to collect necessary reporting related to SDG indicators 14.1.1 and 14.2.1.

6. Potential future role for the RSP in the GBF: capacity needs and gaps

6.1 Introduction

This study has explained the rationale that the RSCAPs have a role to play in coastal and ocean-related aspects of the GBF, building on a recognised body of work and achievements established over a 45-year period. At the same time it is widely recognised that the eighteen RSCAPs are not a homogenous group. They vary in capacity, knowledge, technology, financial and human resources. It is therefore important to address capacity needs and gaps.

In terms of regional governance there is a tension between hard and soft law. The IMO for example can highlight measures that are mandatory and enforceable for Parties. The RSCAPs are also binding but do not always have strong regulatory power. Furthermore, some external experts have suggested that because of the RSCAPs' intermediate, 'soft-power' position between the national and the global level, they suffer from a problem of recognition (under-appreciation) and attribution. Successes at the national level, such as the designation of MPAs, are often celebrated at the national level without due recognition of the role of the RSCAP (i.e. encouraging their Parties or Member States to contribute to a regional MPA network, highlighting transboundary situations, supporting national efforts with access to regional baseline information etc.). Reiterating the RSCAPs' potential in relation to the GBF, recognising gaps and capacity needs, and proposing possibilities for overcoming them is the object of this section.

6.2 Capacity needs: tiers and implementation thresholds for RSCAPs

While the analyses presented in the previous sections contribute to a global picture of the potential contributions of the various RSCAPs to the GBF, they also highlight significant differences between them on the range of topics covered and on their choice of indicators. RSCAPs are at different stages of sophistication in terms of the strategic documents setting regional goals and targets, and their associated systems of environmental monitoring and evaluation, including the adoption of indicators and potential integration with the GBF. An indicative survey on the capacity needs of the RSCAPs (Table 6.1) highlights some common needs.

Table 6.1. Capacity needs of selected RSCAPs informing the virtual UNEP/EC Workshop (27-28 October 2020).

	SACEP	NOWPAP	UNEP-CEP	BSC	COBSEA	UNEP/MAP
1. Strategic documents relating to the GBF						
a. already in place	X					
b. currently under review and easily adapted			X			
c. partial alignment possible/envisaged		X				
d. active initial consideration is being given to future alignment (e.g. expert WG formed)						x
e. Not fully developed or outdated				X	X	
f. No relevant strategic documents		X				
Support to refine and/or develop relevant strategic documents would be welcome	Yes			Yes	No	no
2. Indicators						
a. A significant % (@75% of RSP core set) of indicators are accepted by Parties (give an example)	X					
b. Indicators have been defined or prospective indicators discussed (give an example)				√ E-TRIX (BSIMAP)		IMAP
c. Indicators have not been defined or agreed by Parties (state barriers)		X			X	
Support to develop and/or exchange indicator methodologies would be welcome	Yes		Yes	Yes	yes	yes
3. Monitoring of indicators						
a. Arrangements in place and assessments generate (give an example)		X (SOMER-3 Report is under preparation) – POMRAC				X Medpol
b. Contribution to SoE reporting but significant shortcomings (e.g. data gaps)			X Findings from SOCAR	X		X

		SACEP	NOWPAP	UNEP-CEP	BSC	COBSEA	UNEP/MAP
c. No regular monitoring of indicators		x				X	
Support to encourage effective monitoring and assessment would be welcome.		Yes		Yes	Yes	yes	yes
4. Mandate							
National action to implement Regional Seas instruments is well synchronised with NBSAP and other national programmes for implementation of the GBF	Yes	X					
	Maybe				X	X	
	No		X	X			x
	Don't know					X	
How can this be improved? Please comment:		1. Adequate fund support 2. More technical support UN 3. Strengthening the co-ordination mechanisms with other regional seas region.	Member States are supporting some update of the NOWPAP mandate and focus of the Regional Activity Centres. However, there is no clear understanding or discussion going on this. Different attitude in different countries.	Contracting Parties must endorse at the COPs biannual reports aligned with GBF. The goal will be to have a unified integrated online reporting supported by well-established national harmonised data and information systems that feed into a regional framework.. Ideally most Biodiversity Conventions must have a unique integrated online report covering different targets.	Monitoring of relevance of national efforts with regional ones should be formalised and enforced	The situation varies across countries. In some instances COBSEA and CBD have different focal ministries, in many cases they sit in different departments within a ministry. Further and more detailed mapping/situation analysis warranted, followed by a process that may include consultation and training to promote stronger linkage between COBSEA and BD processes at national level, including strengthened regular dialogue between COBSEA NFP and CBD NFP; and coordination and alignment in reporting	Support to countries to develop marine component of NBSAPs (through creation of National Post 2020 SAP BIO after adoption of Regional Post 2020 SAP BIO under current elaboration
5. Funding and human resources							
a. The Secretariat and/or RAC has resources in place to implement the GBF							

		SACEP	NOWPAP	UNEP-CEP	BSC	COBSEA	UNEP/MAP
b. Some resources can be directed to GBF obligations but additional dedicated support would be welcome			X (specifically technical support and guidance)			X	x
c. It will not be possible to implement the GBF without additional resources		X		X	X		
Do you require additional finance or human resources or both?	$		?				
	Person		?				
	Both	X	?	X	X	X	x
Please justify your answer if possible:		1. MSP, 2. Resilience based management of MPAs and 3. Marine pollution prevention for sustainable blue economy	This issue has not been analysed yet to put estimates. The funds seem to be available but technical and methodological work is required with RACs (CEARAC, DINRAC) to lead this process. PoW 2020-2021 has been approved without GBF, so real incorporation in activities – 2022 on. Before this, only analysis could be carried out and recommendations for the member states developed.	The GBF will require capacity development, monitoring, reporting, in situ implementation and policy development. Secretariat has two Programme Officers: BD and pollution. Additionally, CEP counts with a constellation o partners and networks. We need to strengthen this networks of specialists in MPAs, species, EBM, etc.	PS is already facing difficulties in both funds and people involved, therefore, GBF will require additional resources to be implemented	COBSEA Trust Fund contributions support a very small Secretariat. Human capacity for the regional process is therefore limited, and project funding is essential for activities as well as for a number of core functions of the Secretariat. The region/countries have significant human and financial capacity, technical/human/financial support can help leveraging this more effectively.	Both Secretariat and RACs work at the limit of resources, being additional activities impossible without ensured external funding
6. Technical capacity (e.g. databases, ability to access global datasets, scientific expertise							
a. Sufficient to address priorities set by Parties			X				
b. Some but insufficient to address GBF demands				X		X	x
c. Lacking		X			X		
Please specify up to 3 areas/topics where additional technical capacity would help:		-	1: Regional targets – the countries are reluctant to take on commitments on regional values 2: Re-organising of the focus of one of the RACs to focus	1: Coordination among partners collecting data, establish a central hub, unify variables and units of measure (Square Km	1: _Funds to involve experts; 2: _Funds to finance relevant publications and meetings 3: _Funds to improve	1: Establishment of regional indicators and harmonised methods, and associated training 2: Data management, towards establishment of	Data processing for feeding and linking diverse Databases, including georeferenced

	SACEP	NOWPAP	UNEP-CEP	BSC	COBSEA	UNEP/MAP
		on Biodiversity issues, now 3 of the 4 RACs are somehow have BD in their focus 3: Involvement of regional experts and relevant RACs focal points into discussion on GBF	or Ha), etc. 2: Use of the platforms for data collection and reporting. 3: Coordinate with universities and research institutions.	monitoring capacities of countries	proper regional database building on national data systems 3: Data sharing arrangements, including e.g. training based on experience from other RS and MEAs	ones
7. Focal points						
a. Regional focal points from different MEAs cooperate well and liaise regularly						
b. Regional focal points from different MEAs are in touch and cooperate sporadically	X	X		X	X	
c. Not designated or not in contact			X			x
Some form of **Biodiversity Liaison Group** both regionally and/or nationally would improve communication and understanding	Yes			Yes	Yes	yes
8. Collaboration between regional entities						
a. Strong/formal collaboration arrangements are in place	X	X				x
b. Some/ad hoc collaboration takes place			X	X	X	
c. No collaboration is taking place						
Can you see value in additional support (e.g. CBD SOI) to facilitate regional collaboration and information exchange?	Yes		Yes	Yes	Yes	yes

As a means of recognising different needs, this study proposes a tier structure (Table 6.2), with a range of thresholds, highlighting potential/appropriate elements to assist RSCAPs in addressing and delivering their Parties' GBF commitments and contributing to global reporting under the CBD.

Table 6.2: Proposed model/thresholds to assess the maturity/capacity of individual RSCAPs in relation to the implementation of GBF targets and indicators.

Tier	Key elements
1	- **Legally binding** Convention/Action Plan and/or **mandate** to conserve biodiversity (e.g. Protocol/Annex/Strategy) is in place/in force to **synchronise national actions** - **Funding and human resources** are available and sufficient to implement the GBF within the mandate of the RS - **Strategic documents** in place setting regional goals and targets explicitly related to the GBF or to regionally relevant Aichi targets - RSCAP common **indicators** have been defined and are regularly monitored, including, at least, a subset of the RSP's Seas core set of indicators in all three axes of the GBF (reducing threats to biodiversity, meeting people's needs through sustainable use and benefit sharing and tools and solutions for implementation and mainstreaming) - **Monitoring** results are capable of generating assessments of progress against regional/global targets (quality status reporting). - Available **technical capacity and data management resources** are sufficient to fully address a range of GBF topics selected by Parties - **National focal points** for the CBD and for the RSCAP's work in close contact - Strong **collaboration**/articulation **with other regional governance bodies**, such as RFMOs, including through formal arrangements such as MoUs
2	- **Convention/Action Plan includes relevant elements** of a legally binding mandate to conserve biodiversity and **coordinate national actions** - Some **funding and human resources** available but (clearly) insufficient to fully implement the GBF - **Strategic documents** setting RSCAPs existing goals and targets overlap to some extent/can be aligned with the GBF and/or regional goals and targets explicitly related to the GBF are under development - **Indicators** have been defined; some indicators are reported sporadically, including a subset of the RSP's CSI - **Monitoring** results contribute to regional state of the environment reporting - Some **technical capacity and data management resources** are in place but are insufficient to address the range of GBF topics selected by Parties - **National focal points** for the CBD and for the RSCAPs have been designated and are sporadically in contact - Some/*ad hoc* collaboration/articulation **with other regional governance bodies**, such as RFMOs
3	- **Convention/Action Plan not in force** and/or no legally binding mandate to conserve biodiversity to support **national actions** - No/insufficient **funding and/or human resources** available to implement the GBF - **Strategic documents** setting regional goals and targets relevant to GBF related aspects have not been fully developed or discussed by Parties or, when they have, they are outdated - **Indicators** have not been defined or agreed on by Parties - Indicators are not regularly **monitored** and reported by Parties - No **technical capacity / data management resources** in place to deliver/address the requirements of the GBF - **National focal points** for the CBD and for the RSCAPs have not been designated or when they have they are not in contact - No collaboration/articulation **with other regional governance bodies**, e.g. RFMOs

In tier 3, the essential foundations for the RSCAPs to envisage a coordination role for the GBF are seriously lacking or incipient. In tier 2, while some basic elements may be in place to allow State of the Environment reporting or reporting on a subset of indicators, existing conditions are nevertheless insufficient to fully implement the GBF. RSCAPs meeting the requirements for tier 1 are expected to be in a position to implement the GBF within the breadth of their mandates. It may be that some RSCAPs fulfil specific aspects of different tiers depending on the elements being considered. The next subsection offers recommendations for overcoming perceived gaps and suggested tools to support RSCAPs in delivering their full potential in contributing to the GBF.

6.3 Levelling the playing field: RSCAPs implementation toolbox to address the GBF

Table 6.3 highlights capacity building elements (enabling conditions) for any RSCAP to have the capability to support the GBF, suggesting appropriate building blocks. These building blocks are detailed in the sections below.

Table 6.3. Eight essential elements for effective contribution of RSCAPs to the GBF

Tier criteria	Elements of a toolbox for capacity building
Legally binding mandate	Legal support Consensus mechanism Generating political will
Sufficient/dedicated human and financial resources	Ensuring an appropriately qualified staff member in the RS Secretariat + CPD updating (by CBD or UNEP)
Strategic documents in place and aligned with GBF (building on Aichi Targets and UNEA resolutions)	Common terminology Guidance to raise biodiversity as a priority Scientific and technical support Recognising RSCAPs Strategic Directions Selection of regional goals and targets Updating Regional Strategic Action Plans
Indicators adopted	Technical guidance for 3 headline indicators/methodologies: - Extent of areas under spatial planning (ICZM/MSP) (GBF Target 1 and SDG 14.2) - Extent of MPAs (GBF Target 2 and SDG 14.5) - Marine (beach) litter (GBF Target 6 and SDG 14.1) - Proxy indicators (e.g. Chlorophyll A rather than modelling nutrients, not everyone can achieve modelling)
Monitoring operational	Training on harmonised reporting
Technical capacity and data management	Training on harmonised data collection methods for the three headline indicators + metadata Resources to maintain databases Resource mobilisation support Inter-regional collaboration
National focal point collaboration	Communication strategy
Regional collaboration	MoU templates Twinning expertise information sharing SOI Global Dialogue Opportunities to identify common concerns

6.3.1 Legally binding mandates and reporting under legal frameworks

Authority is the first enabling condition for any organisation to carry out its mandate (Ehler, 2006). For RSCAPs to be able to formally contribute to the GBF they have to have some type of legal mechanisms to embody the political will of their Parties or Member States. The present CBD reporting system mostly lacks a regional dimension.

Concrete proposals for enhanced planning, implementation, reporting, monitoring and review mechanisms under the GBF reflect the prominence of the established system of existing National Biodiversity Strategies and Action Plans (NBSAPs). Many NBSAPs recognise data gaps, perhaps accentuating a terrestrial bias (see Box 6.1).

Box 6.1: Sri Lanka's National Biodiversity Strategic Action Plan

Sri Lanka was one of five Parties that presented their efforts to implement the CBD and the Strategic Plan for Biodiversity 2011-2020 at the Trial Phase of an Open-Ended Forum on Review of Implementation held online on 16-17 September 2020 (CBD, 2020b). Sri Lanka is an island country in the Indian Ocean and is one of the world's biodiversity hotspots (Abeykoon, 2020). Sri Lanka's NBSAP 2016-2022 (MoMD&E, 2016) considers coastal and marine ecosystems and species but shows a bias towards terrestrial aspects, despite the size of the nation's maritime area (territorial sea and exclusive economic zone), which is c. eight times larger than its terrestrial area (https://www.marineregions.org/). Currently, MPAs only cover 0.3% of marine waters (Abeykoon, 2020). In preparing for the GBF, monitoring elements such as the area of various marine and coastal ecosystems including mangroves, coral reefs and seagrasses are mentioned suggesting an opportunity to increase the focus on these ecosystems (Abeykoon, 2020). Sri Lanka is a Party to the South Asia Co-operative Environment Programme, but SACEP is only mentioned once in the 2016 NBSAP document as a provider of technical assistance for Sri Lanka to develop its National Clearing House Mechanism (MoMD&E, 2016), and the regional level (UNEP/GEF project) is only referred once in the 2020 NBSAP Implementation Review Report (Abeykoon, 2020b).

States focusing on their NBSAPs (aligned to the Aichi Targets and SDGs) report directly to the CBD and the CBD's Global Biodiversity Outlook reports (effectively periodic litmus tests of collective progress against targets) do not include or compare regional evaluations (Figure 6.1).

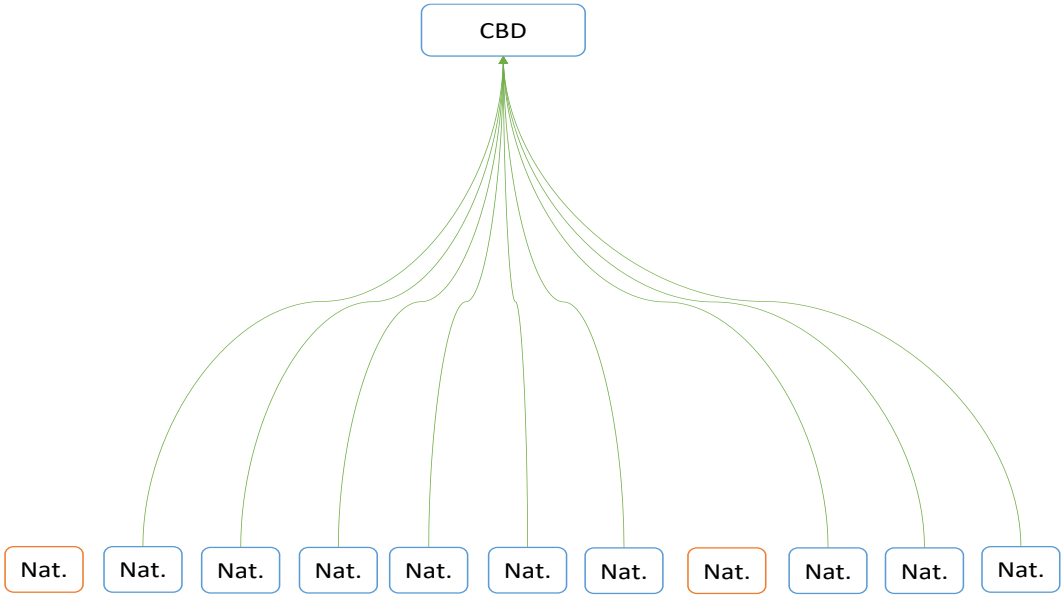

Figure 6.1. Schematic representation of the current biodiversity reporting mechanism for the CBD, showing the national and the global reporting levels. NBSAPs and the associated reporting usually cover mostly terrestrial related topics (hence the green lines).

RSCAPs can help demonstrate how Parties and Member States are contributing marine elements to the GBF, reacting to assessments by IPBES and IPCC, and delivering commitments that align with the SDGs. Additionally, the RSP can help include efforts by non- Parties to the CBD (Figure 6.2).

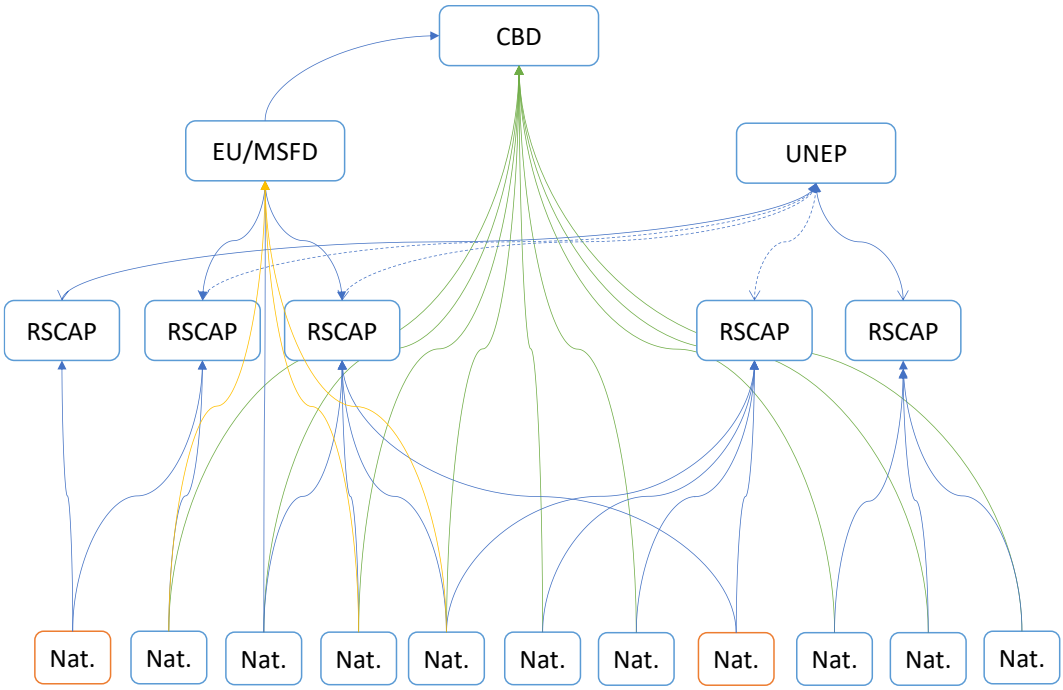

Figure 6.2. Schematic representation of the current reporting mechanism for the CBD with the Regional level superimposed highlighting the inclusion of nations not bound to the CBD and the availability of information on marine related topics.

To take advantage of the established governance platform provided by the RSP and the Regional Strategy 2020-2030, we suggest CBD could be requested to develop guidelines that would empower the RSP and its implementing RSCAPs to gather, aggregate and communicate relevant marine data, reporting against an agreed subset of targets and indicators to the CBD COP, supplementing evaluations made by NBSAPs (Figure 6.3).

Thus RSCAPs can support monitoring and implementation of the GBF, whilst recognising national reporting as the main instrument and providing an interface with the global level. In the case of the EU, which is a Party to the CBD, additional integration of marine issues results from gathering/compiling/ receiving information from its Member States in the framework of the MSFD (see Box 5.2).

RSCAP's strengths as regional platforms/hubs (e.g. common indicators, convening power and co-ordinated assessment and monitoring including common methodologies) can be utilised to support Parties to assess and report on their marine commitments under the GBF (Figure 6.3). This can address specific issues. For example, UNEP is currently trying to give new impetus to the Global Coral Reef Partnership, working with ICRI, to involve relevant RSCAPs to support their implementation of coral reef protection/conservation policies and actions. In this way RSCAPs can take a more prominent role in coral reef conservation policies and actions, addressing both GBF targets and UNEA resolutions for coral reefs.

This should provide a regional role, encouraging national consultation to achieve additional regional supplementary information. Where no RSCAP exists, national reports could be expanded as appropriate. Care is needed not to add another layer of complexity: there are already too many monitoring requirements, too many expert working groups and too many coordination groups, and too much duplication of effort. It is important to avoid an extra burden, particularly for developing countries and Small Island States.

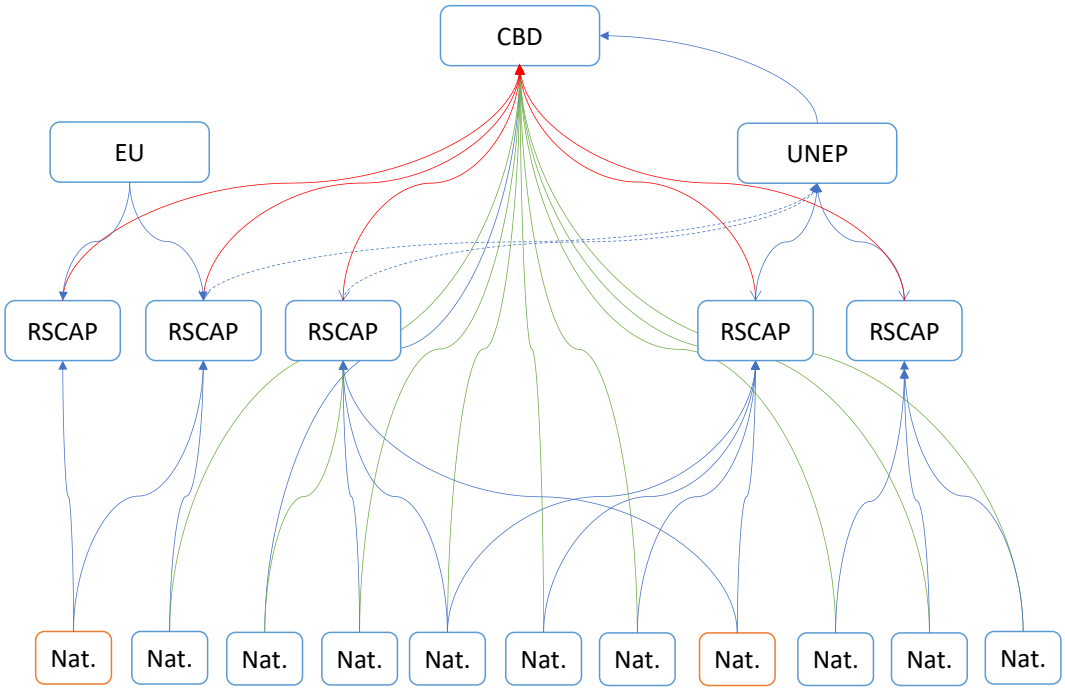

Figure 6.3. CBD could be requested to develop regional guidelines that would empower the RSP, via its RSCAPs to gather, aggregate and communicate relevant marine data, reporting against an agreed subset of targets and indicators to the CBD COP.

A key question is whether regional coordination can be explicitly inserted in the GBF. We suggest SBSTTA 24 and the OEWG should consider a regional dimension, encouraging the delivery of Regional Biodiversity Strategic Action Plans (RBSAPs), building from Contracting Parties NBSAPs but incorporating additional relevant information from diverse sources (global datasets, industry, peer reviewed scientific literature). Many RSCAPs already have relevant strategic documents and produce State of the Environment or Quality Status Reports that can embrace the GBF. In particular Parties want streamlined reporting, increasing complementarity and reducing duplication.

Another question is whether RSCAP mandates need to be altered, e.g. new protocols and/or processes to enable implementation. If CBD adopts a regional reporting requirement this should be interpreted by each RSCAP and integrated with their existing governance frameworks according to their individual needs.

There is an opportunity to influence negotiating positions, to introduce a marine regional element in the GBF, based upon a policy brief/summary of this report.

***RECOMMENDATION**: **UNEP** propose a regional mechanism (e.g., regional reporting guidelines ensuring harmonisation and links to NBSAPs) under the GBF for consideration by CBD COP or propose to have existing regional frameworks validated by CBD COP.*

6.3.2 Dedicated human and financial resources

Dedicated human and financial resources are key for RSCAPs to implement the GBF and for many RSCAPs, existing human and financial resources are markedly insufficient to do so. While different in focus, these two needs (human and financial) are strongly interrelated.

Human resource needs to implement the GBF include, *i.a.*, support and expertise within RSCAP Secretariats, empowerment and motivation of national focal points; data gathering, analysis and reporting; twinning and exchange between RSCAPs (e.g. biodiversity liaison opportunities). Funding is needed to support such dedicated human resources and any corresponding work plan.

Arguably, upper tier Regional Seas should already have the human and financial capacity in place to implement the GBF. All other RSCAPs should be able to attract additional externally funded resources (human and financial) dedicated to the GBF. A model to be considered for guiding a need for further human/financial resources for individual RSCAPs is provided by Regional Coordinators of the IMO reporting to the Technical Cooperation Division[24]. IMO also has an audit scheme to support and direct the award of additional resources. Similarly, FAO has implemented independent performance reviews of Regional Fishery Bodies (RFBs) with the aim of assessing and bridging gaps and needs (e.g. FAO, 2015).

Potential sources of funding are varied and it is important to consider all potential financial sources. Ordinary/mandatory contributions due from Parties are key to support the regular functioning of Conventions/Action Plans and to foster a sense of ownership towards them, but are often insufficient to meet needs (especially in developing countries, where the payment of dues is sometimes late and/or compromised by unforeseen emergencies, such as the current COVID-19 pandemic). Additional opportunities for resource mobilisation may come from the forthcoming UN Decade of Ocean Science for Sustainable Development (See Box 6.2) and Decade for Ecosystem Restoration. Furthermore, if extra-budgetary contributions are not forthcoming, the RSP should seek and embrace sustained support from the private sector, big foundations and philanthropic groups. Through the RSP these donors can fund an established and on-going programme (instead of individual projects with set deadlines) and reach broad groups of Parties rather than individual countries, with the corresponding gains in efficiency. The design/terms of reference of any such financial mechanism is important, preferably a programmatic package with specific GBF elements, designed jointly by CBD and UNEP, that donors can be invited and encouraged to support.

[24] The IMO Technical Cooperation Committee oversees IMO's capacity-building programme and the implementation of technical cooperation projects for which the Organization acts as the executing or cooperating agency, ensuring that IMO supports the SDGs and the 2030 Agenda for Sustainable Development (http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Technical-Cooperation-Committee(TC)/Pages/default.aspx).

Box 6.2: UN Decade of Ocean Science for Sustainable Development, 2021-2030

The UN Decade of Ocean Science for Sustainable Development 2021-2030 (henceforth Decade) is an urgent call for action, based on ocean science, to reverse the decline in ocean health, particularly under a changing climate, to allow humanity to continue to rely on the ocean for our ever-increasing needs. The current version of the Decade's implementation plan highlights, *i.a.*, ten Ocean Decade Challenges, which represent the highest level of the Decade Action Framework, and articulate the Decade's most immediate priorities (UNDOSSD, 2020).

Ocean Decade Challenges
Knowledge and Solutions Challenges
1: Understand and map land and sea-based sources of pollutants and contaminants and their potential impacts on human health and ocean ecosystems, and develop solutions to remove or mitigate them. 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions. 3: Generate knowledge, support innovation, and develop solutions to optimise the role of the ocean in sustainably feeding the world's population under changing environmental, social and climate conditions. 4: Generate knowledge, support innovation, and develop solutions for equitable and sustainable development of the ocean economy under changing environmental, social and climate conditions. 5: Enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change across all geographies and at all scales, and to improve services including predictions for the ocean, climate and weather.
Essential Infrastructure Challenges
6: Enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience. 7: Ensure a sustainable ocean observing system across all ocean basins that delivers accessible, timely, and actionable data and information to all users. 8: Through multi-stakeholder collaboration, develop a comprehensive digital representation of the ocean, including a dynamic ocean map, which provides free and open access for exploring, discovering, and visualising past, current, and future ocean conditions in a manner relevant to diverse stakeholders.
Foundational Challenges
9: Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology across all aspects of ocean science and for all stakeholders. 10: Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.

The RSP has a synergy with several elements of the Decade's Challenges, including land and sea-based sources of pollution, ecosystems under multiple stressors, and capacity development, and RSCAPs are identified as key stakeholder groups of the Decade, through the translation of global priorities into concrete, practicable, initiatives, and as an important focus of the coordination amongst UN structures and programmes (UNDOSSD, 2020). In turn, the Decade will contribute data, information, knowledge, and increased capacity relevant to achieving aspirations contained in various MEAs, including the GBF, reinforcing the work of the RSCAPs.

***RECOMMENDATION**: **CBD and UNEP** seek donor funding to support a package of capacity building support/projects including, where appropriate, dedicated staff on fixed-term contracts located within selected RSCAP Secretariats to help facilitate implementation of the GBF (data collection, reporting, coordination, liaison with selected Parties).*

6.3.3 Strategic documents

All RSCAPs have a mandate to conserve biodiversity. Integration of the GBF into the programmes of work of the RSCAPs, however, requires consideration on a case-by-case basis. Regional priorities will determine actions and in some cases prompt new regional regulations. Attention should also be given to integrating land and sea dimensions of the GBF. Where targets apply to transitional coastal ecosystems, such as large estuaries, coral reefs, mangroves and coastal forest habitats, RSCAPs can play a role, building on previous efforts, supporting actions to conserve key ecosystems (e.g., corals, seagrasses).

Whereas some RSCAPs feel confident in their capacity to update/review their strategic documents on their own, other RSCAPs feel they need assistance carrying out such a revision. For those who feel that need, such assistance could come from UNEP headquarters, through the RSP Strategic Directions, which could include a deadline for revision of strategic documents that is compatible with the chronogram of the GBF. Mutual support could also be achieved by information and knowledge sharing between the RSP, taking advantage of the annual meeting of the RSP.

***RECOMMENDATION**: Individual **RSCAPs** review their strategic plans (and capacity building needs) to position themselves to implement the GBF and **UNEP** ensures better alignment with GBF (through streamlining GBF with the RSCAPs Strategic Directions (2021-2023) and/or facilitating mutual support with the RSP).*

6.3.4 Indicators

There is merit in the collective adoption by the RSCAPs of a subset of the 22 UNEP Core Set of Regional Seas Indicators (CSI), comprising headline or priority indicators that are meaningful to all RSCAPs, can be monitored by all RSCAPs, and can then be used for reporting against the obligations of various MEAs. Based on the work being carried out by the RSCAPs, such headline indicators could include Integrated Coastal Zone Management and/or Marine Spatial Planning (process indicators relevant to the spatial planning component of Target 1 of the GBF, and for SDG 14.2), and Marine Protected Areas (also a process indicator relevant to assess progress towards Target 2 of the GBF and SDG target 14.5). Headline indicators should also include outcome indicators such as Marine litter (directly linked to the mandate of a majority of RSCAPs, and relevant to Target 6 of the GBF and SDG 14.1). Additional candidate headline indicators could include Invasive Alien Species and indicators of Ecosystem Services. While these latter results/outcome indicators are not included in the CSI (and are, at best, only indirectly relevant to SDG 14 targets), they are relevant to multiple targets of the GBF and their importance and value are already being considered by various RSCAPs.

The headline indicators of the CSI could be complemented by a limited set of ecosystem indicators that are important and meaningful to Parties or Member States in specific regions e.g. seagrasses, corals, macroalgae (e.g., kelp), mangroves, and selected fisheries. This should avoid duplication and the risk of imposing an extra burden on Parties, whilst at the same time following trends and assessing effectiveness of management actions (i.e. measure once and use many times).

Collective consideration of appropriate (i.e. relevant) indicators that are new (and any that are redundant) could be envisaged by re-engaging the UNEP Indicators Working Group. This Working Group could consider scientific and technical issues, practicalities (such as realistic and practical metrics, standardised across all RSCAPs) and whether additional central support is needed. In the

European context of the MSFD, support of this nature was provided to Parties by ICES and JRC[25]. The Working Group could report its conclusions to the annual meeting of the RSP. In other Conventions, such as CMS, Parties have appreciated clearly focused specific actions. It is also relevant to consider timing and frequency of reporting. 'Cycles of positive feedback', including synergies with multilateral environmental agreements, were discussed by the CBD's thematic consultation on transparent implementation, monitoring, reporting and review (February 2020). The structure and timing of periodic reports, in the context of the GBF, is perhaps another issue for the annual RSP meeting.

***RECOMMENDATION**: **RSCAPs** determine an agreed subset (either individually or collectively) of the UNEP core set of indicators, that could provide the most effective and efficient starting point for regional contributions to the GBF, and **UNEP** provides support to all RSCAPs by re-engaging the UNEP Indicators Working Group to discuss indicators related to the GBF.*

6.3.5 Technical capacity for monitoring and reporting

As highlighted in Section 5, different RSCAPs have developed their own data protocols and database systems. Some of these are more sophisticated than others. In particular, for example, some Regional Seas have benefitted from the data demands of the EU MSFD and data support from EMODnet. Implementing the GBF can take advantage of global biodiversity data initiatives (e.g. the Ocean Biodiversity Information System) and partnerships that have been built with NGOs (see case study in Box 6.3) and research centres with access to scientific knowledge and project funding.

Box 6.3: OSPAR Commission considerations on a proposal for MPA in ABNJ based on seabird tracking data

A MPA nomination proforma has been formally submitted to the OSPAR Commission, provisionally named the "North Atlantic Current and Evlanov Seamount MPA (NACES MPA)". The proposed MPA is located in the westernmost reaches of the OSPAR Commission's Maritime Area, in its Wider Atlantic region. The justification for the proposal is primarily – but not exclusively – based on the occurrence of large numbers of foraging pelagic seabirds. Advances in seabird tracking technology and data-sharing platforms and repositories, such as BirdLife International's Seabird Tracking Database, have enabled the visualisation of seabird movements and habits throughout the year and at every life stage. Such data have also enabled the identification, by applying robust scientific criteria, of Important Bird and Biodiversity Areas (IBAs). Marine IBAs have already been used to inform MPA designation and marine spatial planning processes around the world. The proposed NACES MPA broadly overlaps with the Evlanov Seamount and Basin marine IBA.

The aim of the proposed NACES MPA is to maintain and, where appropriate, restore seabird populations and the integrity of the various ecosystems and their processes that support those populations. To achieve this, cooperation between competent authorities, stakeholder participation, scientific progress and public learning are essential prerequisites to establish the MPA subject to adequate regulations, good governance and sustainable utilisation. BirdLife International and the OSPAR Commission Secretariat have both played a leading role in fomenting cooperation and engagement from all pertinent stakeholders.

The NACES MPA will contribute to GBF Target 2 on protected areas and other effective area-based conservation measures (MPAs and IBAs work), and Target 3 on the recovery of wild species.

[25] ICES is the International Council for the Exploration of the Seas and supported the methodological development of the MSFD in terms of providing technical and scientific support. The Joint Research Centre (JRC) is the European Commission's science and knowledge service, which employs scientists to carry out research to provide independent scientific advice and support to EU's policies.

Capacity needs for the RSCAPs to contribute to implementation, monitoring, reporting and review for the GBF include:

a) Access to and use of global datasets and open data portals (GOOS[26], OBIS, MBON) is a question of both having the human resource to understand and interpret these datasets and more time for the datasets themselves to mature. Some RSCAP database systems may need to be supplemented for improved involvement with the GBF. The concepts of Essential Ocean Variables (Miloslavich et al., 2018) and Essential Biodiversity Variables (Pereira et al., 2013) are developing. However, these are currently supported by limited research budgets. Future compilation and use of big data (e.g. through Ocean+ and ocean data viewer) requires sustained core funding (see Section 6.3.2 above);

b) Communication and reporting expertise: translating scientific results into messages for decision-makers and policy-relevant messages. Good examples exist, such as the Baltic Sea Day that raises awareness on the work of HELCOM, but currently these are exceptions rather than the norm.

Biological observation is inherently local and needs significantly more capacity development building and technology transfer than physical observation. Linking capacity development to biological monitoring would build a monitoring community with a clear remit: once capacity is developed it will continue to have a role. The Virtual Workshop (Annex 3) noted the importance of training of trainers to increase capacity based on partnership with other regional ocean management and research organisations, such as the International Council for the Exploration of the Seas and the North Pacific Marine Science Organisation.

A potential solution for those RSCAPs that may require it is a regional data capacity development programme. Examples of good practice come from, for example, the Global Ocean Acidification Observing Network (GOA-ON), which has worked through WESTPAC (http://iocwestpac.org/), one of the IOC regional commissions. This capacity building involves at least four steps through a series of workshops over a period of 4-5 years, with the following sequence: 1) introduction to the topic; 2) field work (data collection, equipment handling); 3) data handling and storage; 4) data analysis and interpretation[27].

***RECOMMENDATION**: **UNEP** continue to foster and encourage knowledge transfer between RSCAPs, including sharing guidelines, methodologies, and data protocols, as well as by encouraging development of MoUs with relevant RFBs and RFMOs. Strengthening of this transfer could be further encouraged by making use of the annual meeting of the RSP and/or CBD Sustainable Ocean Initiative Global Dialogues, to bring together different sectoral groups, formalise practical arrangements, secure multiple reporting benefits and inform structured capacity building efforts as appropriate.*

***RECOMMENDATION**: **RSCAPs** supplement their databases, where appropriate, to allow access to and use of global datasets and open data portals and if needed consider regional data capacity development programmes.*

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[26] The Global Ocean Observing System (GOOS) has regional alliances (https://www.goosocean.org/index.php?option=com_content&view=article&id=83&Itemid=121). These have varied capacity but there is an opportunity for the Regional Seas to work together because the GOOS regional alliances often focus primarily on physics rather than biology. A pilot region could be considered.

[27] MBON has done something similar in their Pole to Pole initiative (https://marinebon.org/pages/pole_to_pole/#:~:text=The%20Pole%2Dto%2DPole%20(,ecosystem%20services%20through%20conservation%20ecology.) supporting people undertaking coastal monitoring: keeping people supported and involved.

6.3.6 National focal points

A challenge consistently identified by experts is a widespread lack of intra-national coordination by countries in addressing their global and/or regional commitments. The various national focal points are frequently based in different sectors of an administration, sometimes even in different ministries. As a consequence, they suffer from communication shortcomings, and are sometimes simply unaware of the work being done elsewhere in their country in response to international commitments. The same nation can present uncoordinated and sometimes opposing positions in different international *fora*, with direct negative consequences in terms of governance as a consequence. This creates an unnecessary fragmentation and multiplication of effort and of the resources necessary to sustain those efforts (Figure 6.4).

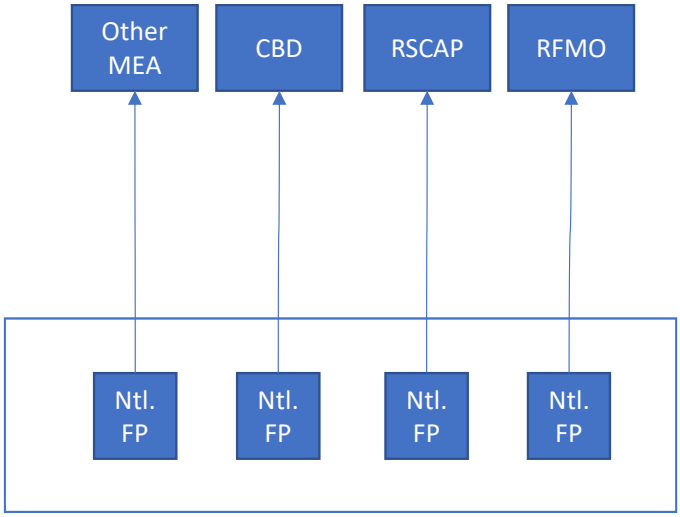


Figure 6.4. Schematic illustrating national focal points (FP) of different global and regional MEAs based in different sectors of administration.

Coordinated communication among national focal points is therefore key. It helps to build a concerted and unified national responses to international commitments and enables direction of effective specific efforts or responses to the appropriate *fora*: fisheries related issues are dealt with by corresponding regional fisheries bodies, regional seas related topics are dealt with by their corresponding RSCAPs etc. (Figure 6.5).

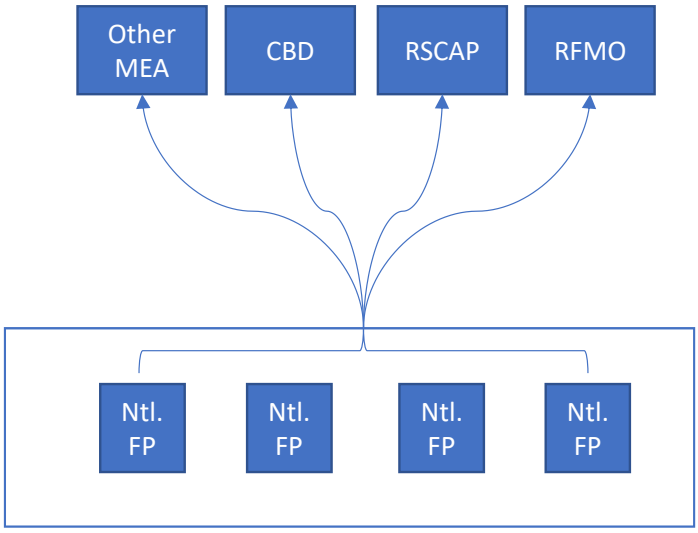


Figure 6.5. Coordinated communication between/among national focal points is key to build a concerted and unified national response to international commitments and enabling direction of effective specific efforts or responses to appropriate fora.

Ultimately, it is up to each State to recognise the need to establish a coordinated position, however, international organisations, such as RSCAPs, can play a role in facilitating this intranational coordination, by providing directed capacity building to their constituencies (Figure 6.6). For example, such capacity building could include development of important skills for national focal points, such as how to prepare for and participate in meetings, negotiation and leadership skills, and communication, including how to communicate with other national focal points (e.g. common understanding of technical terms), and how to communicate/report on their particular commitments. Capacity building could take place either via dedicated training (virtual webinars, workshops), and/or through a manual for focal points. Such an approach has already been attempted by organisations such as the CMS, with positive results.

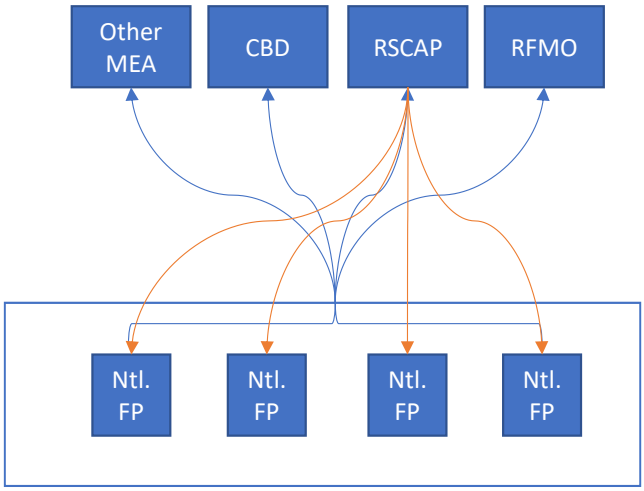


Figure 6.6. RSCAPs, can play a role in facilitating intranational communication, by providing directed capacity building to their constituencies such as guidance on how to prepare for and participate in meetings, negotiation and leadership skills, and communication.

***RECOMMENDATION**: Better coordination (communication and knowledge sharing) between RSCAP national focal points and CBD national focal points is needed. Support from **UNEP** to map the CBD*

national focal point and the RSCAPs national focal point could be an important first exercise to verify the level of coordination between both processes, to establish a contact directory and a mechanism for regular information exchange.

6.3.7 Collaboration with other regional governing bodies

Increased collaboration and cooperation between evolving mandates and organisations (as enshrined in SDG 17) is essential to the success of the implementation of the 'blue side' of the GBF. Ban et al. (2014) mapped the different regional bodies around the world highlighting inconsistencies and complexities. The best way to set up opportunities for cooperation with other bodies, including Regional Fisheries Bodies and Regional Economic Commissions, will vary from region to region. However, mechanisms in place in various regions include MoUs, arrangements for regular meetings, bilateral discussions, and platforms to promote multi-stakeholder engagement. Efforts to promote knowledge transfer between RSCAPs could also be reinvigorated with provision of appropriate central guidance and resources. This should be promoted as a means of North-South, South-South, East-West cooperation. Furthermore, assessment of how the CBD can support this through its Sustainable Ocean Initiative could provide additional support. At the Virtual Workshop (27-28 October 2020) Regional Fisheries Bodies highlighted their monitoring processes and opportunities for regional collaboration using data made available for scientific purposes.

Stronger partnerships between RSCAPs and the relevant LME Projects can also consolidate baseline data against which to monitor GBF indicators (Box 6.4). LMEs do not have any administrative or institutional bodies and lack long-term implementation, which the RSP can provide (GEF/UNDP, 2017). The biennial International Waters Conference also provides another opportunity for exchange of experiences and interaction between regional bodies and projects.

RECOMMENDATION: *The **CBD, UNEP and RSCAPs** should promote the successful Liaison Group of biodiversity-related conventions model (https://www.cbd.int/blg/) operating at global level with a view to something similar being replicated both between the RSCAPs and at the regional scale to strengthen sectoral cooperation (e.g. between RSCAPs, RFBs and Regional Economic organisations) acting as a biodiversity contact group for specific ecosystems (e.g., mangroves) and selected GBF targets (e.g. ICZM).*

Box 6.4. Showcasing the benefits of regional partnerships

West Africa hosts a diverse and extensive range of marine ecosystems spanning three of the world's 12 marine realms (Temperate North Atlantic, Tropical Atlantic, Temperate Southern Africa). Five distinct and relatively persistent oceanic currents characterise the region in terms of water temperature, meteorology, biological conditions and transport of nutrients and sediments. These currents divide the West African coast in three distinct ecosystems: (i) the Canary Current ecosystem characterised by strong upwelling and highly dynamic resources migrating North-South. (ii) the Benguela Current ecosystem, an equivalent environment in the south, and (iii) between them, a river-driven ecosystem, with less dynamic resources, inshore-offshore migrations and lower productivity. The continental shelf of the region is mostly narrow, with an average width of 20-25km, and consequently most marine resources are within EEZs. This region is home to one of the world's most diverse and economically important fishing zones upon which large coastal populations rely heavily for both food and foreign exchange.

The marine environment of West Africa has benefitted from over 50 years of scientific research, including bilateral and multi-lateral sub-regional projects since the 1970s. Scientific assessment activities at regional

level that build upon this wealth of experience demonstrate considerable cross-over between conservation and fisheries interests.

The **Abidjan Convention** is the Regional Seas Convention for West Africa, under the auspices of UNEP. The Convention covers a coastline exceeding 14,000 km and includes 22 countries. It is working to better understand the status and value of the marine environment within its Convention and has made political commitments through its COP, *i.a.,* to strengthen institutional linkages and cooperation with other regional organisations and/or initiatives such as Regional Fisheries Bodies and Large Marine Ecosystem Institutions and/or Programmes:

Regional and Sub-Regional Fisheries Commissions

- **The Fishery Committee for the Eastern Central Atlantic (CECAF)** was established in 1967 with competence for the sustainable utilisation of the living marine resources within its area of competence by the proper management and development of the fisheries and fishing operations. CECAF member States include African, European, Central and North American, and Asian nations. Training and assessment and elaboration of management measures have been developed extensively as the basis for regulation within the CECAF mandate. Notable is the CECAF capture production database and sub-group reports (most associated with Working Groups on pelagics, and demersal species and artisanal fisheries)
- **The South East Atlantic Fisheries Organisation (SEAFO)** is one of five RFMOs globally with competence to manage demersal fishing activities in the High Seas. Contracting Parties to SEAFO comprise African, Asian, and European nations, and the European Union and the Convention Area excludes the EEZs of the coastal States of the region. As the mandated fisheries management institution for deep-sea species in the south-east Atlantic Ocean, SEAFO provides fundamental principles for conservation and management of living marine resources under its jurisdiction. Conservation and management measures include Recommendations on Banning of Deep-water Shark Catches, and Banning of Gillnets, together with Conservation Measures that include a focus on bycatch sharks, turtles and seabirds, and management of vulnerable deep-water habitats and ecosystems in the SEAFO Convention Area. SEAFO has also established a fishing footprint, set threshold levels for VMEs and published identification guides for turtle and corals and sponges.
- **The Sub-Regional Fisheries Commission (CSRP/SRFC)** is competent for the Eastern Central Atlantic Ocean off the coast of SRFC member countries (Cape Verde, Gambia, Guinea, Guinea-Bissau, Mauritania, Senegal and Sierra Leone) covering a combined coastline of 3,500 km and a combined EEZ area of 1,500,00 km^2. The SRFC has undertaken a deep reflection on the role of MPAs (actual and potential) for fisheries management and has promoted the value of MPAs and coordinated strategic workshops such as the International Overview Workshop to Review the Status of MPAs in the Management of Fisheries Resources across West Africa.

West Africa GEF LME programmes:

- **The Benguela Current LME Programme (BCLME)**: For the countries involved (Namibia, South Africa, Angola) it has proved logical to form the Benguela Current Commission (BCC), with a formal link to the Abidjan Convention. The BCC Training and Capacity Building Programme co-ordinates a Science Programme funded by Norway and GEF to support EAFM in the BCLME region. Work has progressed on knowledge and skills transfer through links with research institutions and universities.
- **The Guinea Current LME Programme (GCLME)**: GCLME countries (Angola, Benin, Cameroon, Congo, DRC, Gabon, Ghana, Equatorial Guinea, Guinea, Guinea Bissau, Liberia, Nigeria, Sao Tome and Principe, Sierra Leone and Togo) have also given consideration to forming an independent Commission (under a Protocol of the Abidjan Convention). Major components of the GCLME work programme have included work towards the recovery and sustainability of depleted fisheries and living marine resources including mariculture as well as planning for biodiversity conservation and restoration of degraded habitats.
- **The Canary Current LME (CCLME)**: The Secretariat of the Abidjan Convention serves as executing agency for Project Component 3 on water quality, habitat and biodiversity of the CCLME project and sits on the project Steering Committee. There is a continuation of the project on the CCLME under implementation. CCLME countries are also, with the exception of Morocco, countries of the Abidjan Convention zone. CCLME targets representatives of environment and fisheries who then nominate experts

for working groups. There is a push by CCLME for the two sectors to work together with inter-ministerial Working groups. For example, a demonstration project on MPAs as a tool to generate profits for managing multiple resources has been designed to show the potential benefits of MPAs in the co-management of artisanal demersal fisheries.

In West Africa, these continued partnerships between the Abidjan Convention, RFBs and LME programmes, and with a range of other institutions (e.g. IUCN, SIDA, Grid-Arendal, Birdlife International, PRCM/RAMPAO), and the associated funding have taken forward marine biodiversity conservation contributing towards various Aichi Targets, including, specifically Targets 6 (Sustainable Fisheries) and 11 (Marine Protected Areas), and promoting the corresponding socio-economic gains in the region. As an example, in the case of the GCLME project, which received c. $70 million US dollars in GEF support, there has been an estimated return-on-investment of 1 billion US dollars to fisheries communities for each year of $5 million US dollars of GEF support. While these numbers may be overestimated, they emphasise the importance of ecosystem services (UNDP, 2013).

Most recently, the benefits of partnership have been demonstrated by the Marine Spatial Management and Governance Programme (MARISMA), a partnership between the Benguela Current Commission (BCC), its member states (Angola, Namibia and South Africa) and the government of Germany (2014-2020). The MARISMA project aimed to promote sustainable ocean use in the Benguela Current LME, including fostering the implementation of MSP, and helping member states to identify EBSAs, thereby contributing to maintain a healthy ecosystem (Benguela Current Commission, 2013).

The partnering work being developed in the West African region contributes to various targets of the GBF, including, but not limited to, Target 1 on areas under spatial planning (MSP work), Target 2 on protected areas and other effective area-based conservation measures (MPAs and EBSAs work), Target 3 on active management to enable the recovery of wild species (work on bycatches), and Target 4 on sustainable harvest of wild species (fisheries related work).

6.4 Gaps and challenges limiting the potential contribution of the RSP to the GBF

The toolbox illustrated in section 6.3 presents possible ways to assist RSCAPs who need to develop specific aspects of their governance arrangements and thus contribute to level the playing field of different RSCAPs so that, as a whole, the RSP can better address the GBF. However, it is also important to recognise the existence of gaps, some of them extraneous to the RSP, that limit the potential/influence of the RSP as a whole and of individual RSCAPs in particular in addressing the GBF.

Perhaps the most significant of these are **geographic gaps**. Vast expanses of the ocean are currently outside areas covered by RSCAPs. Other than the majority of Areas Beyond National Jurisdiction (ABNJ, see below), these gaps includes important coastal stretches, such as:

- Northwest Atlantic Ocean (North America's Atlantic seaboard);
- Northeast Pacific (North American Pacific seaboard to Russia);
- Indian Ocean coast of Australia;
- Southwest Atlantic coast;
- Northwest African Atlantic coast.

These gaps reflect a lack of political will of different Parties to work collectively. In some cases, proactive on-going efforts are being made to address these gaps. For example, UNEP-CEP discussions with Brazil in the framework of the CLME+ project aim to include Brazilian waters. The Abidjan Convention is approaching Morocco to expand its geographic coverage to the north. In other areas, political agreement is proving difficult, where individual countries are not bound into RSCAPs.

Concerning ABNJ, several RSCAPs either have a mandate for the High Seas (e.g. OSPAR, CCAMLR, SPREP, and UNEP/MAP) or have given particular consideration to implications of adjacent ABNJ for their mandates (e.g. Nairobi, Abidjan) but the majority do not. This is another reason closer links between the RSP and the LMEs (which also marginally cover sections of ABNJ) would be helpful. The Sargasso Sea Commission has evolved in recognition of the importance of the Sargasso Sea (southern North West Atlantic) for unique biodiversity. To date, sponsoring States and supporting organisations have signed the Hamilton Declaration but as yet there is no move to establish this as part of the RSP. The on-going negotiations under UNCLOS to secure an International Legally Binding Agreement for the Conservation and Sustainable Use of Biodiversity Beyond National Jurisdiction (BBNJ) will likely have implications for future implementation of the GBF. For example, the proposed 30 x 30 (30% protection of the ocean by 2030) target for protected areas presents a very significant challenge for many regions (e.g., see Box 6.5 below), and will require consideration of the High Seas and Other Effective Conservation Measures, requiring collective effort from all IGOs and MEAs.

As with ABNJ (the seaward geographic limit of many RSCAPs), **gaps in land-sea integration** (landward geographic limits of RSCAPs), including restoration, also remain a significant challenge. While many RSCAPs focus on pollution from land-based sources, not all RSCAPs incorporate hydrographic basins in their geographic coverage, which limits their capacity to effectively carry out land-sea integration and influence associated restoration projects in relevant freshwater environments.

Even where RSCAPs are in place, **implementation gaps** remain a major concern. The Antigua Convention area of the Eastern Tropical Pacific (Central America) is a case in point. Although it was adopted in 2002, this Convention has still not entered into force. Other RSCAPs without biodiversity protocols, and or that are not sufficiently engaged (e.g. with contributions outstanding), cannot actively contribute to the GBF (see section 4 and section 6.2 on Tier 3 RSCAPs).

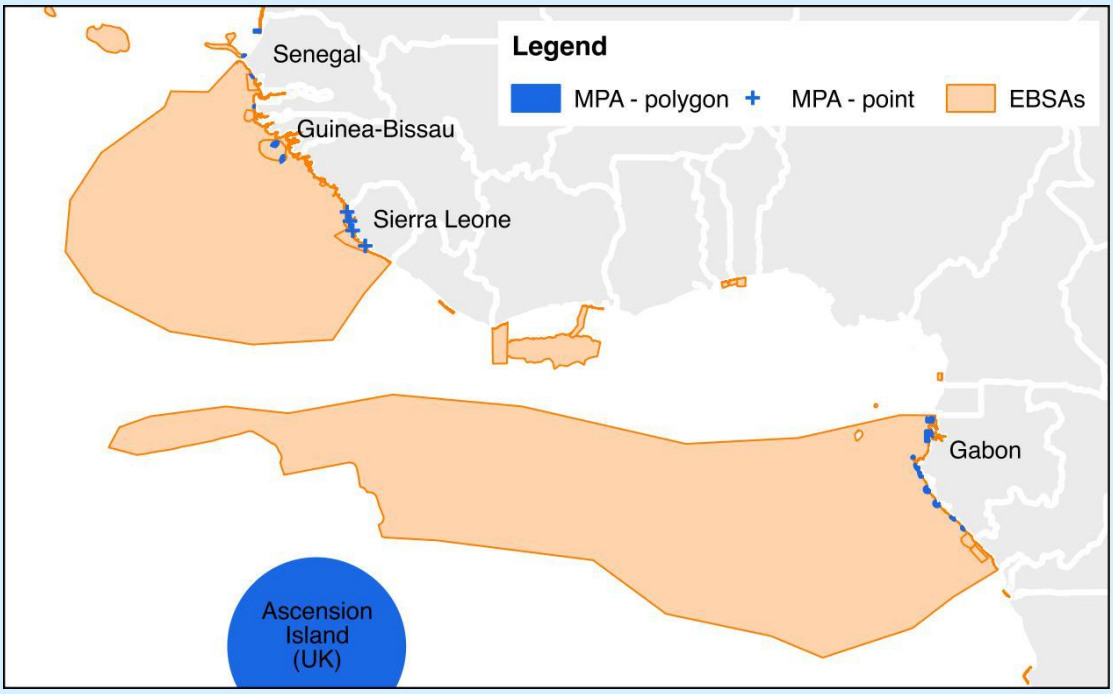
For many marine areas (and particularly in the deep sea), **data gaps** remain one of the biggest challenges: data are too sparse, and such data gaps are exacerbated by dysfunctional reporting and data collection. Under-representation of ecosystems and biodiversity in deeper seas (and deep-sea knowledge gaps) is an on-going scientific challenge. Much of the marine realm lies outside EEZs, where there is little *in situ* monitoring and the environment is not so amenable to country reporting. Reporting in these areas often defers to remote sampling techniques and proxies.

Communication gaps are a transversal and universal challenge: between UNEP's various Branches/Divisions/Units, between UNEP headquarters and the RSCAPs, between the RSCAP Secretariats and their Parties, among RSCAPs, and between national focal points. Also, with civil society, to raise the public profile of concerns with marine biodiversity and to engage the interest and investment of foundations and donors/private sector. Australia and New Zealand perhaps both represent best practice examples of intra-national coordination, which in turn is influential in terms of coordination with Pacific Island Parties with input via SPREP. The pandemic has brought about new ways of working, popularising and generalising online/virtual meetings. Recognising that virtual meetings are no match to meetings in person and that they require technology that it is still not widely accessible, when available, they have still shown undeniable advantages in promoting and even facilitating communications, saving time and financial resources associated with travelling.

Box 6.5: Challenges to achieving Aichi Target 11 in central West Africa

Only a few countries in central West Africa managed to designate more than 17% terrestrial protected areas and more than 10% marine protected areas. However, regardless of the status of national commitment, or of the quantity or proportion of area set aside for protection, the capacity to manage protected areas effectively is either scarce or lacking in the whole region. All MPAs in the region are coastal, hardly extending beyond territorial seas, with the majority of the EEZs remaining largely unprotected. Application of the EBSA process during the South-East Atlantic EBSA workshop (Namibia, 8-12 April 2013) recognised several significant features of the environment, both benthic and pelagic, that extended into ABNJ, so there is an awareness that there are more areas that may merit additional management measures.

There is concern that the management, monitoring and surveillance of additional protected areas, especially any that extend outside of jurisdictional control, will be too great a challenge given that management of existing holdings is already demanding. Shortages of funding and capacity are common, with many protected areas reliant on intermittent international funding. National and local political will to support protected areas is also sporadic and opportunistic. Improving the regional scientific evidence base for the importance of potential MPAs would help to support their establishment.



***RECOMMENDATION**: **UNEP and RSCAPs** facilitate efforts to address gaps in regional coverage and engage proactively in BBNJ discussions in support of their Parties.*

6.5 A role for each level of the hierarchy

In September 2020, at the United Nations Summit on Biodiversity, in New York, the President of the Seychelles summarised the importance of biodiversity to his nation stating "*our biodiversity is*

existential for us" (Faure, 2020). This message is not yet generalised at the various governance levels and society in general, which helps to explain the disinvestment in people and in institutions with a remit to protect biodiversity (e.g., cuts in funds and personnel in RSCAPs Secretariats). Co-chairs of the GBF accept that economic implications of the COVID-19 pandemic will likely exacerbate this situation. The RSP has championed Ecosystem-Based Management (CBD, 2020f) and at the regional level Parties have made significant efforts to tackle transboundary pressures on biodiversity, in particular from land-based pollution sources (see e.g., OSPAR QSR 2010 and OSPAR Intermediate Assessment 2017). Every actor in this framework has a role to play and all actors need to play their role to effectively implement the GBF. In Section 6.2 we identified needs and identified potential tools to address them. In this section we systematise how each actor contributes to fill these needs. Perceived roles are synthesised in Table 6.4 and can be summarised as follows:

CBD: In decision 14/29 (para. 4(a)), the COP to the CBD requested the Executive Secretary to further develop options to enhance review mechanisms, with a view to strengthening the implementation of the Convention. This should include regional organisations. CBD could also consider the possibility of establishing a protocol or agreement providing a clear mandate for the implementation of the GBF at the regional scale. This could give clear guidance on GBF implementation, including detailed explanation of GBF goals and targets to promote harmonised interpretation and avoid misconceptions. It could serve to promote training/capacity building opportunities to RSCAPs Secretariats needing support to implement the GBF, and could be coupled with the provision of dedicated human resources to implement the GBF within tiers 2 and 3 (middle and lower tier) RSCAPs.

UNEP: The multi-dimensional nature of UNEP's remit, as reflected in its organisational structure, combined with the specificity of individual RSCAPs, exacerbated by resource constraints, has amplified differences within the RSP rather than commonalities in recent years. UNEP Headquarters should offer coherent support to restore the RSP as a flagship initiative (UNEP, 2014b). This can be achieved in the next/upcoming revision of the Regional Seas Strategic Directions, giving the GBF appropriate recognition. UNEP should also promote interaction between RSCAPs including through the establishment of a network of officers responsible for biodiversity within RSCAPs Secretariats (cf. section 6.3.7) and through dedicated sessions at annual Regional Seas meetings to evaluate progress against established objectives. In terms of promoting and communicating interaction between RSCAPs, UNEP could also emulate FAO's role as convener of the Regional Fishery Body Secretariats Network (RSN) publishing a periodic magazine, which is reportedly a good instrument to disseminate and publicise the work of these regional bodies within and beyond the organisation and provides a useful vehicle to help to seek funding. UNEP could also facilitate collation of common documentation and records in a central repository with open access (i.e. some form of RSP Clearing House Mechanism) and revitalise the Regional Seas Indicators Working Group.

UNEP could also consider independent audit schemes or performance reviews of the RSCAPs (perhaps based on the performance reviews carried out by FAO, or on the Member States audit schemes carried out by IMO). Some RSCAPs are already carrying out internal effectiveness evaluations that are similar to Regional Fisheries Bodies performance reviews. These schemes can be used as implementation support exercises, to identify and address existing implementation challenges.

RSCAPs (and other regional organisations): A majority of CBD Parties are also Parties to RSCAPs (and RFBs). Some biodiversity data (especially in the marine realm) are available and more relevant for analysis at regional level. Pooling and concentrating resources at the regional level makes sense to address mainstreaming and capacity building needs (i.e., addressing the shared capacity needs of multiple countries) and RSCAPs can fulfil an important monitoring role for transboundary ocean issues. When considering monitoring options and reporting cycles, the thematic consultation on transparent implementation, monitoring, reporting and review for the GBF (20-22 February 2020)

expressed support for a global stocktake, with discussion of alternatives such as voluntary peer review. Whilst not specifically discussed, the opportunity for regional stock-taking is an option.

RSCAPs can provide financial and technical support to their Parties or Member States (including capacity-building) to implement GBF obligations in a cost-effective way. Regional reporting carried out by RSCAPs can contribute to highlight achievements, gaps and needs.

National level: At the national level, a means to achieve better coordination between CBD focal points and RSP focal points (with due regard to NBSAP priorities) would strengthen delivery. This is a question of national political will and should/could be initiated by the CBD Secretariat eventually with UNEP's contribution. Presentations from individual Parties (e.g. CBD/UNEP/EC webinar, 1 October 2020) highlight that this exists in some countries. States can benefit from ensuring national coordination and communication among the various focal points of the international commitments they have assumed, and specifically, between CBD and RSCAPs focal points. This contributes to ensuring coherent national representation across all fora, which strengthens the country's contribution to international processes, avoids duplications of work, and cost effectiveness. This should provide a clearer focus and sense of direction of what each State expects from its participation in the RSP.

Table 6.4. Role and actions contributing to mainstreaming the GBF (and biodiversity) at different geographic scales.

Level	Organisation	Potential Role/Actions Needed
Global	CBD/GBF	- Provide guidance on GBF implementation: - Legal basis for RSP to carry out GBF related work (hard-law: protocol, soft-law Agreements) - Offer opportunities/capacity/training to RSCAPs Secretariats to implement the GBF
Global/ regional Interface	UNEP	- Communication within UNEP and with the CBD and regional bodies - Setting clear Regional Seas Strategic Directions - Focusing/targeting the work of the RSCAPs in delivering the GBF through UNEP Strategic Directions - Promoting global and regional partnerships, including a network of RSCAP Secretariats, such as a biodiversity liaison group - Dedicated sessions at RSP annual meetings to evaluate progress against established objectives - Publicising the work of the RSCAPs through a periodic publication (online magazine) - RSP Clearing House Mechanism - Revitalising the Regional Seas Indicators Working Group - Support/promote effectiveness evaluations of the RSCAPs - Allocate additional dedicated staff at UNEP headquarters
Regional	RSCAPs/RFBs	- Providing legal frameworks, financial and technical support to Parties to implement GBF obligations - Regional reporting highlighting achievements, gaps and needs
National	Parties	- Ensure national coordination and communication between CBD and RSCAPs focal points - Ensure coherent representation

6.6 Reinforcing the role of the RSP

The RSP has been promoted by UNEP as the "*most important regional mechanism for the conservation of the marine and coastal environment since its establishment in 1974*" (UN Environment, 2016, p.1), "*making it one of the most globally comprehensive initiatives for the protection of marine and coastal environments*" (UN Environment, 2018, p.16). Several decades' worth of experience of the RSCAPs highlight significant advantages of the regional approach and achievements, including (e.g., Rochette et al., 2014):

- Due consideration of the uniqueness of each marine ecosystem before devising and applying the most appropriate protective measures and management tools;
- Common methodologies supporting customised management and reflecting regional political, legal and ecological characteristics;
- Allowing the evaluation of multiple approaches from which best practices and lessons learned can be used in other regions;
- Consolidating regional arrangements that sometimes surpass the thresholds and standards of global protection requirements;
- Promoting unified regional approaches and cooperative actions, to address common concerns, encouraging national level implementation of the RSCAPs;
- Regionally driven, bottom-up approaches enhancing and facilitating more active participation of coastal States and other stakeholders to support the co-development and implementation of ecosystem-based management regimes.

Whilst accepting these advantages and acknowledging that the regional approach is well suited to large ecosystem scales and also to the political and social reality of managing many elements of biodiversity, the RSCAPs vary significantly in capacity. They are not a homogenous group: scientific knowledge, technical expertise, political will and funding all vary. Some RSCAPs focus on harmonising existing actions of their Parties or Member States, others engage in specific actions to deliver and undertake work, addressing specific problems. Differences between regional arrangements and levels of implementation of individual RSCAPs place intrinsic limitations related to governance arrangements, funding, activity, and influence (UNEP, 2014). It cannot be assumed therefore that the obligations of the GBF can be fully absorbed by the whole RSP without targeted support. Systematic consideration of what that support might be is needed. A conclusion of this report is that under the GBF, Regional Biodiversity Strategies and Action Plans are developed and implemented to cement partnerships and coordinate resource mobilisation to underpin and exemplify regional achievement against global targets.

***RECOMMENDATION**: **UNEP** encourage the RSCAPs to translate the GBF into the existing regional biodiversity strategies and, where needed, into Regional Biodiversity Strategies and Action Plans reinforcing the role of RSCAPs. This should be supported by efforts to achieve greater socio-economic relevance, better data management and access to additional funding streams. This includes giving attention to the 'human needs' dimension of the GBF (e.g. sustainable production and responsible consumption).*

6.7 Conclusions

This section has re-emphasised the value of a regional role in delivering the GBF. It has set out a number of essential elements including regional coordination, consideration of revised mandates, increased collaboration and coordination (including stronger partnerships) and appropriate data management.

Self-assessment of RSCAP capacity needs is possible based on a suggested tier model of key elements to be in place for an effective RSCAP contribution to the GBF. The tier model comprises the following elements:

- Legally-binding mandates
- Dedicated human and financial resources
- Strategic documents
- Indicators

- Monitoring/reporting and technical capacity
- Coordinated national focal points
- Collaboration with other regional governing bodies

A series of recommendations, directed at CBD, UNEP and RSCAPs has been assigned to each tier element. In addition, a series of gaps that need to be addressed – geographic, land-sea integration, implementation, data and communication – are recognised. This includes the interface with ABNJ and positioning of the RSP governance responsibilities within the on-going Biodiversity Beyond National Jurisdiction negotiations.

The RSP has a 45-year history of efforts to support the efforts of States to deliver ecosystem-based management. However, lack of programmatic coordination in recent years has resulted in missed opportunities for the RSP. Addressing this requires moving beyond logistical coordination, recognising (or reinstating) the RSP as a flagship initiative, and UNEP at a senior level giving a higher priority to RSCAPs than has hitherto been the case in recent years. It also requires all Parties to take their commitments seriously in the different RSCAPs and to embrace full consideration of the interactions between environmental health and peoples' wellbeing and livelihoods. Success achieved by FAO using performance reviews for RFMOs and the Regional Fisheries Bodies Secretariat Network is a useful analogy: a platform supported centrally by FAO, bringing together the RFBs, raising visibility and transparency. Tackling these issues and mainstreaming the GBF requires concerted effort at all levels – global, regional and national.

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Annexes

Annex 1: Questionnaire

1. The Post 2020 Global Biodiversity Framework

1.1. Has your Secretariat and/or Parties included Aichi Biodiversity Targets in the policies or programmes of your Regional Seas Convention, Action Plan, or another strategic plan? If so, please highlight major accomplishments contributing to your member States achieving relevant Aichi Biodiversity Targets (https://www.cbd.int/sp/targets/).

1.2. Has your Secretariat and/or Parties had an opportunity to formally consider the post 2020 Global Biodiversity Framework (GBF)? (https://www.cbd.int/conferences/post2020)

1.3. Please confirm your organisation's mandate to conserve biodiversity?

1.4. The regional seas have been actively addressing many elements likely to be contained in and continued by the post 2020 GBF for many years. We want to highlight strengths and showcase examples. Do you have suggestions from your region?

1.5. Do you have an established formal or informal relationship with your Regional Fisheries Management Organization or Regional Fisheries Body?

1.6. Please indicate strategic documents (action plans, strategic action programmes, conventions/protocols, etc.) that set out regional seas-based goals and targets which may be relevant to the post 2020 GBF. If you have compiled goals, ecological objectives, targets or objectives included in these documents, please share with us.

1.7. Are there indicator systems connected with these regional targets/Eos/goals? If so, please share with us the information on these indicators, how you monitor them and associated data systems/providers.

1.8. Is there merit in selecting and promoting a subset of the coordinated indicator set (https://www.unenvironment.org/resources/report/regional-seas-core-indicators-set)

1.9. How can the objectives of the post 2020 GBF be integrated with your own policies (as set out in Q2)?

1.10. What are the implications of integrating the post 2020 GBF in your own policies for your data collection and data management processes?

1.11. How can regional targets be aligned with global targets?

1.12. Is there a need for better coordination between national CBD and national regional seas focal points?

1.13. What capacity building issues do you envisage?

2. Regional Seas Outlook for the Implementation of the SDGs

2.1. Following the 18th Global Meeting of the Regional Seas Conventions and Action Plans (RSCAPs), RSCAPs were to prepare outlook documents, proposing how they can support their countries with the implementation, and monitoring of the ocean-related Sustainable Development Goals (SDGs) and associated targets. We understand that some regional seas developed the outlook documents while others developed/modified their regional seas strategies. Please let us know how your regional seas developed your strategy to incorporate Ocean related SDGs.

2.2. Have your secretariat or Parties already designated indicators to monitor progress in achieving the ocean-related SDGs on a regional seas scale?

2.3. Have you implemented the Regional Seas Core indicators set (UNEP/WBRS.18/INF9, adopted in 2016)? If so, which indicators? How do you track progress towards the SDG14 targets not covered by the indicators (14.6, 14.7, 14.a, 14.b, 14.c)?

Annex 2: List of interviewees

Name	Organisation
Alexander Tkalin	Consultant (retired from UNEP)
Charles Ehler	Ocean Visions Consulting
Charlotte Karibuhoye Said	MAVA Foundation – West Africa Programme
Chris McOwen	UNEP- World Conservation Monitoring Centre (WCMC)
Darius Campbell	North-East Atlantic Fisheries Commission (NEAFC)
David Cooper	CBD
David Vousden	Rhodes University/Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)
Ellik Adler	United Nations Environment Programme (UNEP)
Fredrik Haag	International Maritime Organization (IMO)
Habib Elhabr	United Nations Environment Programme (UNEP)
Julian Rochette	Institute for Sustainable Development and International Relations (IDDRI)
Kerstin Stendhal	United Nations Environment Programme (UNEP)
Letícia Carvalho	United Nations Environment Programme (UNEP)
Melanie Virtue	Convention on the Conservation of Migratory Species of Wild Animals (CMS)
Nancy Soi	United Nations Environment Programme (UNEP)
Nicholas Bax	Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Piero Mannini	Food and Agriculture Organization of the United Nations (FAO)
Rachael Scrimgeour	UNEP- World Conservation Monitoring Centre (WCMC)
Sebastian Unger	Institute for Advanced Sustainability Studies (IASS-Potsdam)
Theofanis Karayannis	International Maritime Organization (IMO)

Annex 3: Summary of Workshop Conclusions and Recommendations

Conclusions and Recommendations from the UNEP/EC Workshop on the Regional Seas Programmes and the Post 2020 Global Biodiversity Framework

27 and 28 October 2020, virtually organised

The United Nations Environment Programme (UNEP) and the European Commission (EC) organised the virtual workshop on the Regional Seas Programmes and the Post 2020 Global Biodiversity Framework ion 27-28 October 2020 (1500-1800 hours Nairobi time-UCT+0300 each day). 13 regional seas programmes (Northwest Pacific, East Asian Seas, South Asian Seas, Red Sea and Gulf of Aden, Western Indian Ocean, West, Central and Southern Africa, Mediterranean, Black Sea, Northeast Atlantic, Baltic Sea, Arctic, Wider Caribbean, and Southeast Pacific), UN organisations (International Maritime Organization (IMO), Secretariat of the Convention on Biological Diversity, Food and Agriculture Organization of the United Nations (FAO), and International Seabed Authority), partners (Institut du développement durable et des relations internationales, GRID-Arendal, UNEP-World Conservation Monitoring Centre, International Commission for the Conservation of Atlantic Tuna, and Fishery Commission for Eastern and Central Atlantic) as well as UNEP and EC/European Environment Agency staff participated. Co-Chairs of the Open-ended Working Group on the post 2020 Global Biodiversity Framework under the Convention on Biological Diversity also participated on 28 October.

The Workshop focussed on: (1) regional seas indicators used for the post 2020 Global Biodiversity Framework; and (2) policy uptake of the post 2020 Global Biodiversity Framework by the regional seas programmes. The following are the summary conclusions and recommendations from the discussion during the two-day Workshop.

1. **Indicators used under the regional seas programmes, which can be aligned with the future post 2020 Global Biodiversity Framework indicators?**

    - The case study presentations by the Nairobi Convention, the Caribbean Environment Programme and the Mediterranean Action Plan all illustrated proactive regional seas effort to address the alignment of their indicators with global targets and objectives (Sustainable Development Goals (SDGs), Aichi Biodiversity Targets, future post 2020 Global Biodiversity Framework);

    - The regional seas programmes are making connections between their strategic priorities, SDGs and their Parties'/Member States' legal obligations (e.g. European Union Marine Strategy Framework Directive (MSFD) and the requirement to achieve Good Environmental Status in Europe and in the Mediterranean). UNEP/Mediterranean Action Plan (MAP) Integrated Monitoring and Assessment Programme (IMAP) for both EU Member States and Barcelona Convention Parties was indicated as an example to connect them;

    - It will be important to select appropriate indicators, in line with countries' and regional current priorities and realistically foreseeable ones. Streamlining of indicators is helpful to prioritise data collection, metrics and periodicity and to target capacity building; and

    - The regional scale is the most appropriate scale for some biodiversity elements e.g. Marine Protected Area representativeness and connectivity and highly mobile species.

    - There are some cases where monitoring of achievement is organised under the assessment and other programmes not using indicators.

2. Monitoring of the indicators used in the regional seas programmes to measure achievement of regional targets

- There is added value in regional ecosystem monitoring to support individual Parties/Member States and create regional indicator-based assessments with potential to link to other frameworks such as Global Environment Monitoring Systems;
- Not all the regional seas programmes have capacity to monitor achievement of all regional targets. Some regional monitoring frameworks are still under development. Some regional seas programmes are making explicit connections between national, sub-regional and regional analyses;
- Data and information management in support of indicators is important. In most of the regions, data are monitored through the national monitoring programmes, but some data may be monitored or assessed at the regional level. Global datasets are used in some cases to fill data gaps in some regions;
- Countries are saturated with the reporting on the Multilateral Environment Agreements targets and global targets (Aichi Biodiversity Targets, SDGs etc.) and harmonised reporting, possibly coordination through the regional mechanisms, would lessen the burden;
- It is critical to have all Parties/Member States engaged in the process of monitoring the progress in achieving regional and global targets; and
- Regional Fisheries Bodies highlighted their monitoring processes and opportunities for regional collaboration using data made available for scientific purposes.

3. Data/metadata storage and use

- Even in well-resourced regions this can be improved. Some regions are developing Clearing House Mechanisms and indicator dashboards;
- Support to encourage intra-ministry and inter-ministry coordination is needed at the national level; and
- It is important to understand for what purposes data portals are developed. Differentiating between qualitative data (which can be difficult to compare) and quantitative ones (where compatible numerical methodologies are needed) will be necessary as technical guidance.

4. Capacity building for developing and monitoring indicators

- Capacity building was mentioned by many as a key enabling factor. Support is needed for regions/countries showing commitment but where infrastructure and/or human and financial resources are lacking;

- National level training and technical (IT) support on data collection, analysis and information management can enhance collaboration and will be needed. Partnerships for appropriate data sharing processes is important.

- Success was demonstrated where regions received support from donors, such as Global Environment Facility and European Union projects, including the development of agreed data sharing protocols; and

- UNEP and its projects (such as that with EC[28]) should be instrumental in capacity building on indicators (including harmonising methodologies). The importance of involving partners was mentioned, particularly with the UN organisations and regional fisheries bodies.

5. Regional policies needed for the regional seas programmes to take up the post 2020 Global Biodiversity Framework

- The value of the regional scale, particularly in the marine environment, within the post 2020 Global Biodiversity Framework was recognised. Regional level reporting to the Convention on Biological Diversity (CBD) Conference of Parties (COP) would be powerful. Such regional reporting should be closely linked with the National Biodiversity Strategies and Action Plans (NBSAPs). UNEP and the regional seas programmes could make effort to achieve that link by proposing a regional instrument under the post 2020 Global Biodiversity Framework for consideration by the CBD COP or proposing to have the existing regional frameworks validated by the CBD COP;

- Developing a regional seas mechanism on the post 2020 Global Biodiversity Framework was proposed. This could complement their strategic documents and regional policies on biodiversity related issues. A strength would be that once approved, Contracting Parties or Member States of the regional seas programmes would be committed to regional coordination of elements of the post 2020 Global Biodiversity Framework. The importance of defining timescale for developing and/or aligning regional policies was also highlighted. This requires careful planning to fit with the timeframes of regional organisations, particularly COP decisions and those by key technical Committees;

- It was suggested to streamline the Regional Seas Conventions and Action Plans Strategic Directions (2021-2023) with the post 2020 Global Biodiversity Framework;

- The ‘human needs’ dimension of the Global Biodiversity Framework (e.g. sustainable production and responsible consumption) was highlighted. Most of the regional seas programmes have yet to develop these aspects;

- Some regional seas programmes already linked their programmes with those of river basin organisations. European based regional seas programmes made such a link through the EU Water Framework Directive;

- Ongoing and planned cooperation between the regional seas programmes and the FAO and non-FAO regional fisheries bodies was recognised. Such regional level cross-sectoral cooperation on ecological foundation for regional food security could be highlighted at the UN Food Summit (September 2021).

[28] The UNEP and EC project entitled: Regional Seas Biodiversity under the Post 2020 Global Biodiversity Framework is an example.

6. Capacity building for the regional seas programmes to take up policies

- Revitalisation of the UNEP Regional Seas Working Group on indicators was recommended to discuss clearly biodiversity related (the post 2020 Global Biodiversity Framework related) indicators;

- There was a suggestion to create a centralised inter-regional seas secretariat body to monitor biodiversity indicators using common data, and standardised metrics, and to make better use of the annual Regional Seas meetings;

- The Workshop endorsed that collaboration between sectors and regional actors is key (following the plenary discussion, UN Agencies highlighted examples of projects and other initiatives where this was successfully taking place). Some regional seas indicated ongoing cooperation with the regional fisheries bodies and a few mentioned cooperation with Regional Economic Commissions. A potential future role for the CBD Sustainable Ocean Initiative, to bring different sectoral groups together to formalise practical arrangements and secure multiple reporting benefits was highlighted;

- There are several good cross sectoral cooperation examples mentioned, including but not limited to: UNEP-MAP Memorandum of Understanding with the FAO General Fisheries Commission for the Mediterranean, Agreement for the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area and International Union for Conservation of Nature, and oil spill response and cooperation (several IMO centres under the regional seas programmes).

- The importance of training of trainers was emphasised to increase capacity based on the partnerships with other regional Ocean management and research organisations (such as the International Council for the Exploration of the Seas and the North Pacific Marine Science Organization);

- The need for communication and knowledge sharing between the regional seas national focal points and the CBD national focal points was noted.

- A suggestion was made for ‘regional hubs’ to host information on specific targets and indicators, recognising that not all regional organisations have expertise covering all aspects of the Global Biodiversity Framework. This means that different regional organisations monitor specific regional targets and indicators within the region;

- Based on the experiences of the CBD Clearing Houses and clearing houses of some regional seas programmes, creation of a HUB for on-line reporting was suggested.

- Regional seas programmes were suggested to articulate capacity building needs that align with regional targets and goals as well as global frameworks/targets. Identification of such needs can help to make an even stronger case to funding mechanisms and donors to address these needs; and

- It was suggested to create a biodiversity liaison group among the different regional seas secretariats that could help to streamline the work being done under various Multilateral Environment Agreements.

Annex 4: Relationship of the various RSCAPs with the corresponding RFMOs

South Pacific: MoU between SPREP and WCPFC

SPREP has a memorandum of understanding with the Western & Central Pacific Fisheries Commission (WCPFC), to establish and maintain consultation, co-operation and collaboration in respect of matters of common interest to the two organisations, including, but not limited to the: a) development of systems for collecting and analysing data, and exchanging information concerning the incidental by catch of seabirds in the Pacific Islands Region; b) exchange of information regarding marine biodiversity and ecosystem management approaches; c) design and implementation of mitigation measures relevant to fishing operations in the Pacific Islands Region; e) development of training programmes on conservation techniques and measures to mitigate the impact of fishing for target species on dependent and associated species in the Pacific Islands Region; f) active and regular exchange of relevant meeting reports, information, research data and results, project plans, documents, and publications regarding matters of mutual interest; g) reciprocal participation in relevant meetings of each organisation, including those of each organisation's subsidiary bodies, and i) raising awareness among each organisation's constituents and stakeholders of the work of the other organisation in respect of matters of mutual interest.

Southeast Pacific: MoUs between CPPS and IATTC and CPPS and SPRMO

The Permanent Commission of the South Pacific (CPPS) has signed Memoranda of Understanding with both Regional Fisheries Management Organizations in the region: the Inter-American Tropical Tuna Commission (IATTC), in 2015, and the South Pacific Regional Fisheries Management Organization (SPRMO), in 2019. CPPS is listed in FAO's website as a fisheries related institution/regional fisheries body.

Antarctic Ocean: CCAMLR

CCAMLR is listed in FAO's website as a global/transocean regional fisheries body.

Western Indian Ocean: MoU between Nairobi Convention and SWIOFC

In March 2019, the Nairobi Convention signed an MoU with the South West Indian Ocean Fisheries Commission (SWIOFC) to provide a framework for co-operation between the Parties, which identified potential areas of cooperation in (i) the protection of biodiversity from anthropogenic impacts, (ii) Management of current and emerging negative environmental impacts that can affect fisheries (iii) promotion of the application of Ecosystem Based Management (EBM) and Ecosystem Approach to Fisheries (EAF) for the sustainable use of marine resources, (iv) promotion and application of area-based management tools, (v) adaptation and mitigation of the impacts of climate change (vi) promotion of policy coordination between the fisheries and environment sector, and (vii) supporting States in the development, promotion and implementation of Blue Economy / Blue Growth Initiative, approaches and strategies. In response to the MoU, the Nairobi Convention and SWIOFC are jointly implementing a partnership project (2019-2023) for marine and coastal governance and fisheries management for sustainable blue growth focused on i) enhancing coordination between fisheries and environmental management institutions at the national and regional levels; ii) enhancing resilience of livelihoods of coastal communities dependent on the marine and coastal ecosystem and habitats; and iii) sustainable management of coastal fisheries using the ecosystem approach to fisheries.

East and Southern Africa: MoU between Abidjan convention and COREP

The Abidjan Convention has an MoU with the Regional Commission of Fisheries of Gulf of Guinea (COREP). It also has an informal working relationship with the Sub-Regional Fisheries Commission (SRFC/CSRP – *Commission Sous-Régionale des Pêches*) in what concerns fisheries resources in the Canary Current and the Gulf of Guinea (Løbach et al., 2020).

Northeast Atlantic: MoU between OSPAR and NEAFC

In 2008 OSPAR and the North East Atlantic Fisheries Commission (NEAFC) established an MoU to "*promote mutual cooperation towards the conservation and sustainable use of marine biological diversity including protection of marine ecosystems in the North-East Atlantic*" including in ABNJ (NEAFC-OSPAR Commission, 2008). OSPAR and NEAFC are represented at annual meetings of the highest decision-making bodies and technical bodies respectively by the respective Secretariats. There is an active dialogue between both organisations on topics of mutual interest, such as VME protection which covers some of the same features included in the OSPAR list of threatened and/or declining species and habitats. OSPAR also engages in cross-sectoral work with other competent authorities. Coordination and collaboration with many organisations with different and complementary mandates is foreseen to continue being an important mechanism by which to effect conservation. The Collective Arrangement, a formal agreement signed in 2014 between legally competent authorities managing human activities in ABNJ in the North-East Atlantic (NEAFC and OSPAR), is foreseen to continue to be an important forum for dialogue and cooperation (OSPAR Commission, 2015-2020). Through the mechanism of the Collective Arrangement, OSPAR also engaged in successful dialogue with the RFMO ICCAT when developing a nomination proforma for the proposed North Atlantic Current and Evlanov Seamount MPA in an area where one of the on-going main human activities is managed by this authority.

Mediterranean: MoU between UNEP/MAP and GFCM

UNEP/MAP has a MOU with the General Fisheries Commission for the Mediterranean and Black Sea (GFCM) since 2012. Both organisations maintain fluent collaboration on sustainable fisheries issues, notably on addressing vulnerable species interaction with fisheries and spatial management and conservation. The implementation of the MOU activities reflected within it is periodically revised in common and updated on future feasible activities. This collaboration has been highlighted as exemplary in several international and regional fora.

Black Sea: MoU between BSC and GFCM

Black Sea Commission (BSC) has an MOU with the General Fisheries Commission for the Mediterranean (GFCM).

Wider Caribbean: MoU between UNEP/CEP and CRFM

In 2018 an MoU was signed between UNEP/CEP and the Caribbean Regional Fisheries Mechanism (CRFM).

Seas of East Asia: Dialogue between COBSEA and the Asia-Pacific Fishery Commission

COBSEA is in dialogue with the Asia-Pacific Fishery Commission. There are several opportunities for closer cooperation with the Commission, such as on the topic of pollution.

PERSGA works closely with FAO and other regional fisheries bodies

Northwest Pacific: NOWPAP

NOWPAP reports having exchanged information occasionally with the region's fisheries management organisation. Billé *et al*. noted that "*NOWPAP members have explicitly requested that NOWPAP RCU not get involved in fisheries issues, thus there is little incentive for NOWPAP to work more closely with SEAFDEC and APFIC*", respectively the Southeast Asian Fisheries Development Center and the Asia-Pacific Fishery Commission (UNEP, 2016, 72).

Caspian Sea: Tehran Convention and Commission on Aquatic Bioresources of the Caspian Sea

No formal relationship exists between the Tehran Convention Secretariat and the region's fisheries management body, which is the Commission on Aquabiotic Resources of the Caspian Sea. The request to establish such a formal contact was made in 2019 by the Contracting Parties. Due to various circumstances the formal relationship has not yet been established. The Commission on Aquabiotic Resources of the Caspian Sea is not listed in FAO's website (http://www.fao.org/fishery/rfb/search/en).

HELCOM

Fisheries management in the Baltic Sea is carried out by the EU Common Fisheries Policy (CFP), as well as by negotiations under the 2009 bilateral treaty between EU and the Russian Federation. The regional sector of the EU CFP in the Baltic Sea, BALTFISH, was established in 2013 by a memorandum of understanding. Currently there is no formal regular exchange of information between HELCOM groups and the fisheries management activities taking place within BALTFISH or the EU-Russia arrangement, only occasional information exchange via individual coastal countries. The 2016 **'**Plan for closer cooperation between marine environment and fisheries management in the Baltic Sea: HELCOM plan for bridging marine environment and fisheries management' envisaged promoting regular communication between HELCOM, BALTFISH, and representatives of the EU-Russia fisheries treaty. https://helcom.fi/media/documents/Plan-for-closer-cooperation-between-marine-environment-and-fisheries-management-in-the-Baltic-Sea.pdf

SACEP - BOBLME and Bay of Bengal Programme Inter-Governmental Organisation

Annex 5: Uptake of Aichi Biodiversity Targets by RSCAPs

UNEP/MAP Barcelona Convention (**Mediterranean**) mainstreamed CBD Goals and Targets for coastal and marine domains. While the Aichi Biodiversity Targets where created long after the Barcelona Convention Contracting Parties had adopted the SAP MED (for all pollution topics) and SAP BIO (focused on biodiversity topics), UNEP/MAP supported the pursuit of all five Aichi goals embraced by the seven Priority Categories of the SAP BIO adopted in 2003 and relevant Aichi targets in the Region through its Secretariat and RACs within their policies and programmes. Support by the SAP BIO includes implementation through tailored projects and country supporting actions to approaching relevant targets components, such as:

- Target 6: ...//… fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits
- Target 9: By 2020, invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
- Target 11: By 2020, at least …//… 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes. Under COP 19 there was a specific, dedicated, Roadmap adopted to support delivery of Aichi target 11 (UNEP/MAP, 2015).
- Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained. SAP MED has been substantial for:
- Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

The Barcelona Convention periodical Medium-Term Strategies, which guide the biennial Programmes of Work and the specific activities contained in them (funded by the Mediterranean Trust Fund and external donors), have focused efforts in addressing relevant Aichi Biodiversity Targets. The Secretariat and Regional Activity Centres support the implementation of the biennial programmes of work.

SACEP's Regional Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030: Living in Harmony with our Oceans and Coasts "*supports the achievement of the Strategic Plan for Biodiversity for 2011-2020, including Aichi Biodiversity Targets, particularly those related to marine and coastal habitats*" (p.4). Relevant Aichi Biodiversity targets (and relevant SDGs) are detailed in the strategy's Implementation and Monitoring framework in relation to each of the six goals of the Strategy and include:

- Aichi Targets 5, 10, 14 & 15: Goal 1 on Ensuring Ecosystem Services and Well Being;
- Aichi Target 12: goal 2 on Prevention of Species Extinction
- Aichi Target 9: Goal 3 on Control of Invasive Alien Species
- Aichi Targets 6, 7, 12: Goal 4 on sustainable fisheries and aquaculture
- Aichi Targets 8, 10: Goal 5 on Prevention of Marine Pollution
- Aichi Targets 6, 11, 12: Goal 6 on Effective and Equitable Governance of Marine and Coastal Protected Areas

SPREP (South Pacific): Although SPREP's RSAP predates development of the Aichi targets, SPREP formally recognised Aichi targets and they form an essential element of the Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020, which is the guiding document of the Pacific Island Roundtable for nature conservation (PIRT), a regional coalition of

regional organisations. Under this are a set of working groups focussed on Invasive Species, Protected Areas, threatened species, and environmental law. These groups support coordination of key activities and initiatives by agencies to support countries achieve related Aichi targets, via National priorities identified in NBSAPs. The next Framework is currently under development, to be launched at the 10th Annual Pacific Islands Nature Conference in November 2020.

UNEP's Caribbean Environment Program (UNEP-CEP) is preparing a Regional Strategy and Action Plan (RSAP) for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021-2030 (UNEP/CEP, 2020) that addresses the RSAP's particular commitments to Aichi Targets, specifying targets 1 (GBF target 13), 5 (GBF targets 1 and 2), 6 (GBF target 4), 8 (GBF target 6), 9 (GBF target 5), 10 (GBF target 1), 11 (GBF target 2), 14 (GBF targets 8, 10, 11), and 15 (GBF target 7). The RSAP includes a chapter on implementation and monitoring mechanisms, with particular reference to the post-2020 GBF, with indicators relating, *i.a.,* with funding and incentives (GBF Targets 17 and 18). While regional progress is being made towards achieving most of the targets, it was insufficient to reach a single target by 2020 (UNEP-WCMC 2016). In the case of targets 10 and 14, on reducing pressures on vulnerable ecosystems (specifically coral reefs) and safeguarding ecosystem and essential services, the situation has worsened (CARICOM 2018). Generally speaking, there is a lack of appropriate indicators or insufficient quantitative data (CARICOM 2018). Although the post-2020 GBF is still being formulated, it is clear that significant increases in financing, management capacity, data management, and monitoring and evaluation mechanisms is needed to achieve the existing targets and ensure progress towards the 2050 milestones established in the Post-2020 Framework (UNEP/CEP, 2020).

PERSGA (**Red Sea and Gulf of Aden**) included Aichi Biodiversity Targets in its policies, programs and action plans. PERSGA's major achievements relevant to Aichi Biodiversity Targets relate to the following Aichi targets:

- Target 1 (Mainstream Biodiversity, GBF target 19): PERSGA has created marine environment clubs in many coastal cities in its member countries and is currently supervising 10 school clubs in each country with special references to coastal cities (e.g. Jeddah (KSA), Hurghada (Egypt), Aqaba (Jordan), Portsudan (Sudan), Djibouti (Djibouti), Aden (Yemen)). The clubs are directed by trained teachers and work on the region's marine biodiversity and ways to ensure its conservation.
- Target 6 (Sustainable Fisheries, GBF target 4): Training of fisheries managers and officers on EAF principles and implementation technique. Recommendations for developing the Regional Action Plan for shifting from traditional to EAF management. Recently PERSGA developed a regional protocol for management of fisheries & Aquaculture.
- Target 8 (Reduce pollution, GBF target 6): Develop National Programs of Action (NPAs) for Protection of the Marine Environment from Land-Based Activities for PERSGA member States. Adapting a regional protocol for the control of marine pollution from land-based activities.
- Target 9 (Reduce Invasive Species, GBF Target 5): Ballast water and invasive species management has become a regular subject in PERSGA Training Program. Ballast water management Regional Strategy has been drafted and approved at the Technical Level. Facilitating the production of Training Material in Arabic. Preparing national strategies for Ballast water management for all PERSGA countries.
- Target 10 (Minimise reef loss, GBF targets 1 and 7): Achieved Demo Projects addressing coral reef protection in Jeddah (Saudi Arabia) and Aqaba (Jordan). Installing Mooring Buoys at diving sites: Jeddah-KSA (50), Aqaba-Jordan (20) and achieving training and public awareness activities.
- Target 11 (Marine Protected areas, GBF Target 2): PERSGA's Member States ratified a Protocol of conservation of Biodiversity & establishment of MPAs network. Organised many Regular Training Workshops. Develop Regional and MPAs Specific Master Plans, management plans of

some MPAs and update the management and zoning plans of others. There are on-going efforts to extend the number of MPAs in the Region.

- Target 14 (Restore ecosystems, GBF targets 1, 8, 10, 11): PERSGA has supported developing a GEF-funded project for coastal vulnerability assessment and adaptations to CC impacts. The project addresses mangrove restoration, water management, risk planning and capacity building. Also PERSGA prepared and submitted a Regional Guidelines for Mangrove Restoration in the Red Sea and Gulf of Aden.
- Target 15 (Enhance resilience, GBF target 7): Marine ecosystem resilience has become a regular subject in PERSGA Training Program, which has organised 5 regional training workshops on Strengthening Resilience of Coastal Ecosystems to the Impacts of Climate Change.

CPPS (**South East Pacific)**: the Permanent Commission for the South Pacific (Comisión Permanente del Pacífico Sur – CPPS) established in 2012 a declaration of commitments by the State Parties called "Compromiso de Galápagos", wherein the Parties committed "*to implement the Strategic Plan for Biological Diversity 2011-2020 of the Convention on Biological Diversity and, in particular, to achieve the goals related to fisheries resources, vulnerable ecosystems and marine protected areas, in order to ensure that coastal and marine ecosystems continue to provide essential services for the well-being of the region's populations*" (§30) and "*to coordinate and reinforce their efforts to address the pending challenges in order to achieve sustainable development, as identified in the final document of the Rio + 20 Conference, held in June 2012, especially as specified in the chapter Oceans and Seas*" (§9). Major accomplishments in the region towards the Aichi Biodiversity targets, where the CPPS has contributed and support processes in the countries, include:

- a regional network of marine and coastal protected areas (with 6 fold increases in MPA coverage since 2000);
- establishment of a system of indicators for marine and coastal management, which include, *i.a.,* marine protected area surface, fishing effort in the region, extension of key ecosystems (such as mangroves);
- regional action plan for mangrove's conservation, adopted in 2015 (currently being updated);
- implementation of regional action plans for marine mammals conservation, marine turtles conservation, marine litter and marine contamination.

COBSEA (Seas of East Asia) has taken on Aichi Biodiversity Targets in its work. Major accomplishments include:

- COBSEA Strategic Directions 2018-2022, adopted in 2018, specifically "*Strengthening biodiversity conservation in line with Aichi targets, including increasing conservation of marine and coastal area to 10% in the COBSEA region*" (COBSEA, 2018, 12).
- Adoption of the revised COBSEA Regional Action Plan on Marine Litter (RAP MALI) in 2019 (originally adopted in 2008).
- The establishment of the Green Fins initiative, a COBSEA project in partnership with UNEP and Reef World Foundation meant to raise awareness and foster environmental stewardship in the coastal tourism sector, with quantified reduction of pressures on coral reefs from companies in the dive tourism industry. Since its inception in Thailand in 2004, the approach has been adopted by 600 marine tourism companies in 11 countries. The Green Fins approach encourages governments and business to have plans for sustainable consumption and production (Aichi Target 4) as well as minimises anthropogenic pressures on coral reefs (Aichi Target 10). Governments are using Green Fins in delivery against Aichi Targets 4 and 10.
- Marine and Coastal Spatial Planning (MCSP) activities in the region address Aichi Target 11. Past COBSEA work include generating a Regional Resource Document on Coastal and Marine Spatial Planning as well as national training manuals addressing country-specific needs and national assessment reports on coastal erosion. On-going work includes advancing MCSP in the region by building capacity and supporting development of a conducive policy environment in partnership with Blue Solutions Initiative. Activities include a regional training and a review of

policies to identify recommendations towards an enabling policy environment for MCSP and ecosystem-based approaches. For further information see COBSEA website.

- UNEP/GEF IW projects on 'Implementing the South China Sea Strategic Action Programme' and 'Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand' contribute to multiple Aichi Targets including 6, 10, 11 and 15. https://scssap.org/
- SEA circular, a regional project implemented by COBSEA and the UNEP Regional Office for Asia and the Pacific with support from the Government of Sweden, aims to reduce marine litter and plastic pollution through better management of the plastic value chain, thus contributing to Aichi Target 8. The work further contributes towards the implementation of the RAP MALI, which addresses issues such as prevention and monitoring of marine litter (more information on SEA circular and COBSEA websites).

Other regional Seas have reported a focus on Aichi target 11 related to MPAs. This includes OSPAR, Abidjan Convention and Nairobi Convention:

OSPAR (North-east Atlantic) has made reference to the CBD Aichi targets in its North-East Atlantic Environment Strategy for the period 2010-2020, for example in relation to Aichi target 11, which is directly referred to in the thematic section on biodiversity objective 1.2.b.i. OSPAR has developed a regional network of MPAs under this strategy, which covers 6.4% of the OSPAR maritime area as of 1 October 2019 (https://oap.ospar.org/en/ospar-assessments/committee-assessments/biodiversity-committee/status-ospar-network-marine-protected-areas/assessment-sheets-mpa/2019/). The MPA coverage varies between OSPAR Regions, and for areas within and outside of national jurisdiction. Please refer to the assessment sheet for the latest numbers broken down for various areas.

Abidjan Convention (West Africa): parties to the Abidjan Convention like Benin, Côte d'Ivoire and Ghana are presently describing more than 15 EBSAs to be submitted to the SBSTTA. Actions are ongoing on sensitisation, mangrove replanting and creation of MPA (at least 4 MPA are under creation).

Nairobi Convention (Western Indian Ocean), the 2018 Conference of Parties of the Nairobi Convention recognised new and innovative approaches, concepts, global responses, and commitments in the protection of the coastal and marine environment in the Western Indian Ocean, and agreed to amend the Protocol concerning protected areas and wild flora and fauna, taking into account global responses and commitments, including the Sustainable Development Goals, Aichi Biodiversity Targets, and CBD post-2020 processes. The 2018-2022 Work Programme of the Nairobi Convention supports the implementation of priority areas, including the management of marine protected areas, taking into account marine and coastal biodiversity conservation and connectivity in the exclusive economic zones and adjacent areas, and mitigation options to minimise the impact of developments on biodiversity and the natural environment. WIO countries have all signed the Convention on Biological Diversity and have thus adopted Targets set under the Convention to effectively manage ten per cent of their marine zones by 2020.

Other Regional Seas Programmes, including the Tehran Convention and the Black Sea Commission, have not formally considered the Aichi Biodiversity targets, although both RSPs have adopted Protocols to conserve biodiversity and their member states are parties to the CBD:

Tehran Convention (Caspian Sea): The (TC) Secretariat as instructed by the TC Parties assisted in the negotiations and adaptation of the Protocol for the Conservation of Biological Diversity adopted in 2014. The Protocol stipulates the measures that countries are to undertake to conserve the Caspian biological diversity. The Protocol itself does not refer to Aichi targets. Nevertheless, as the TC is preparing for the implementation phase of the protocol, the new post 2020 global biodiversity framework may be reviewed in order to align and enhance the biodiversity related work under the TC.

Black Sea (Black Sea Commission): The Black Sea Commission has a CBD protocol entered into force in 2011 and all Member states are directly following the same approach in line with their commitments with the CBD, but the BSC is not directly following or assessing Aichi targets.

Annex 6: SDG 14 Targets and Indicators

(https://sustainabledevelopment.un.org/sdg14)

Targets	Indicators
14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	**14.1.1** Index of coastal eutrophication and floating plastic debris density
14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans	**14.2.1** Proportion of national exclusive economic zones managed using ecosystem-based approaches
14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	**14.3.1** Average marine acidity (pH) measured at agreed suite of representative sampling station
14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	**14.4.1** Proportion of fish stocks within biologically sustainable levels
14.5 By 2020, 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	**14.5.1** Coverage of protected areas in relation to marine areas
14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation	**14.6.1** Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	**14.7.1** Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries
14.A Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries	**14.A.1** Proportion of total research budget allocated to research in the field of marine technology
14.B Provide access for small-scale artisanal fishers to marine resources and markets	**14.B.1** Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries
14.C Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want	**14.C.1** Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nation Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources

Annex 7: Regional Seas case studies

This Annex presents a summary of six RSCAPs selected as case studies to illustrate the potential role the RSP may play in the regional implementation of the GBF. This summary is intended to highlight specific elements of the work of these Regional Seas.

East Asia Seas – COBSEA

Pursuant to COBSEA Strategic Directions 2018-2022, an 'Outlook on COBSEA follow-up and review of ocean-related Sustainable Development Goals' is being developed. This encompasses indicator-based assessment focusing on priorities defined in the Strategic Directions. This document identifies the primary SDG targets and corresponding indicators related to the core COBSEA mandate (SDG 14.1.1, 14.2.1, and 14.5.1) and the associated Regional Seas indicators relevant to COBSEA (Table A7.1). Work ahead may include establishing a working or expert group on indicators and assessment, mapping currently used indicators as well as development of COBSEA common core indicators.

Table A7.1: Primary SDG targets and corresponding indicators related to the core COBSEA mandate and associated Regional Seas indicators relevant to COBSEA.

SDG Target	SDG Indicator	Regional Seas Indicator
14.1 Marine Pollution	14.1.1 Index of coastal eutrophication and floating plastic debris density	1. Chlorophyll a concentration as an indicator of phytoplankton biomass 2. Trends for selected priority chemicals including POPs and heavy metals 3. Quantification and classification of beach litter items 9. Locations and frequency of algal blooms reported 10. Pollution hotspots (i) Concentration of Status of selected pollutant contamination in biota and sediments and temporal trends; (ii) Number of hotspots 16. % National action plans ratified/operational 17. Wastewater treatment facilities: (i) % Coastal urban population connected to sewage facilities; (ii) % of wastewater facilities complying with adequate standards; (iii) % of untreated wastewater 18. Incentive to reduce marine litter at source: (i) % of port waste reception facilities available; (ii) incentives to reduce land-based sources (in monetary terms); (iii) Amount of recycled waste on land (%)
14.2 Manage and protect marine and coastal ecosystems	14.2.1 Proportion of national EEZs managed using ecosystem-based approaches	8. Length of coastal modification and km^2 of coastal reclamation 22. National ICZM guidelines and enabling legislation adopted
14.5 Conserve min. 10 % of coastal & marine areas	14.5.1 Coverage of protected areas in relation to marine areas	13. Marine trophic index 14. Distribution of Red List Index species 15. Trends in critical habitat extent and condition 21. % Marine protected areas designated

Black Sea – Black Sea Commission

The *Black Sea Regional Environmental Monitoring Programme 2017-2022* (BSIMAP) lists ecological quality objectives and establishes interim and ultimate targets. It includes a set of common indicators to promote harmonisation of approaches and comparability among national assessments, and integrates MSFD and CBD/Aichi requirements at the regional level (Table A7.2).

Table A7.2: BSIMAP 2017-2022: Ecological quality objectives and indicators (Common set of indicators).

EcoQO	SubEcoQO	Mandatory Indicators
1. Preserve commercial marine living resources	1a. Sustainable use of commercial fish stocks and other marine living resources 1b. Restore/rehabilitate stocks of commercial marine living resources	- Fish landing (annually) - Fishing effort - Fish stocks (annually) - Aquaculture production - No. of fishing free zones - Name and no. of stocks below biological safety limits - Specimens of black sea bottlenose dolphins in captivity (optional)
2. Conservation of Black Sea biodiversity and habitats	2a. Reduce the risk of extinction of threatened species 2b. Conserve coastal and marine habitats and landscapes 2c. Reduce and manage human mediated species introductions	- Chlorophyll a - Phytoplankton - Mesozooplankton - Biomass of *Noctiluca* - Macrophytobenthos - Macrozoobenthos - Marine protected areas - No. and names of introduced non-indigenous species - No. and names of newly introduced threatened species
3. Reduce eutrophication		(water column) - T° - Salinity - O2 (saturation and dissolved) - TSS (filter 0.45 □m) - Transparency (Secchi) - P (PO4), - P total - N (NH4); - N (NO3); - N (NO2); - N total - Si (SiO4) - Cl a - pH (op; site specific) - BOD5 (op; site specific)
4. Ensure good water quality for human health, recreational use and aquatic biota	4a. Reduce pollutants originating from land based sources, including atmospheric emissions	Oil pollution - Petroleum hydrocarbons (op) - oil slicks (Op) Heavy metals: - Cd (M); - Cu (Op); - Hg (M); - Pb (M); - Fe (Op); - Zn (Op); - Cr (Op); - Ni (Op); - Mn (Op); - Co (Op) - Lindane (organochlorine and pesticides) (Op); - Phenols volatile (Op); - Phenol chlorinated (Op); - Detergents (Op); - PAHs (Op) - ^{137}Cs (Op); - 90Sr (Op) - Marine litter (to be developed) - Noise level (specific) (to be developed) - Others (to be developed) Bathing water quality: - Total coliforms (M); - Fecal coliforms (M); - Fecal Streptococci (M); - Visual observations (M) No. of samples: % of samples that do not comply with sanitary-chemical norms % of samples that do not comply with microbiological norms
	4b. Reduce pollutants originating from shipping activities and offshore installations	- Accidental spills (M) - Illegal discharges (oil and others) (M) - No., amounts and locations of accidental and illegal/pollution spills (M) - Actually delivered quantities to PRF (in accordance with MARPOL annexes I, IV, and V) (M)

The *Black Sea's State of the Environment (SoE) 2009-2014/5 report* includes, *i.a.,* assessments of ecological quality status of coastal waters based on phytoplankton integrated biological index (IBI), macrophytes, mesozooplankton, and level of overfishing for certain fish stocks. It also reports on the status of alien species in the Black Sea, and offers concrete progress indicators for ICZM (BSC, 2019).

Southeast Pacific - Permanent Commission for the South Pacific (CPPS)

CPPS and IOC-UNESCO, respectively, a regional and a global intergovernmental body, joined efforts in the framework of the SPINCAM project, to help CPPS member states develop a long-term science-based strategy for sustainable growth of coastal areas in the Southeast Pacific, which includes a core set of coastal and marine indicators of the Southeast Pacific. The SPINCAM project has created a framework of environmental and socioeconomic indicators at national and regional level to assist in determining the state of the coast, support decision-making, foster partnerships and improve inter-institutional collaboration. Each indicator includes a package of data containing the following information: technical report, methodological sheet, metadata, results, disaggregated data and graphical maps. This information as well as other environmental and biodiversity data is available from the regional geoportal at www.atlasspincam.net. The indicators cover the following seven topics (Table A7.3) and have a potential to be useful in the monitoring of various targets of the GBF (see suggestions in green in Table A7.3).

Table A7.3: Topics covered by the SPINCAM project and associated indicators. Potential linkages with targets of the GBF are shown in green font.

Theme	Indicator
1. Marine and coastal protected areas (GBF Target 2)	- No. of marine and coastal protected areas per IUCN category - Total surface of marine and coastal protected areas IUCN category (km^2) - Marine and coastal surface area by country - Marine and coastal protected areas in the Southeast Pacific - Increase in surface area of marine and coastal protected areas by country 2004–2015 (km^2) - % of marine and coastal protected areas in relation with the Aichi Target 11 on Biological Diversity
2. Concessions in the coastal zone (GBF Target 9)	- No. and surface area of aquaculture concessions - Surface area of aquaculture concessions in three study areas (km^2) - Total container traffic by country 2008–2013 (TEU) - Container traffic evolution per port 2008–2014 (TEU) - Tons of container traffic per country 2008–2013 - Total tons handled through containers per port 2008–2013 - Tons handled through containers per port 2013
3. Population dynamics	- Population density increase 2000-2010 - Administrative units with the highest population density in each country 2010 - Net migration in the coastal zone - Floating population trends in the coast of Panama 2011–2013
4. Key Coastal and Marine Ecosystems (GBF Target 3)	- Mangrove land cover surface in Ecuador and the Gulf of Guayaquil (ha) - Turtles' nesting beaches length
5. Sustainability of traditional artisanal fishing (GBF Target 4)	- Total volume of landings by country (t) - Total landings of the seven most important species in the fishery ports of Peru 2000–2012 (t) - Landing sites and artisanal fishery ports - Fishermen registered by country - Fishing vessels registered by country - Number of fishing gear by country (FAO classification)
6. Coastal vulnerability (GBF Targets 7, 10)	- People affected in coastal areas by country - People affected in the Pacific Coast of Colombia 2011–2013 - Value comparison of damages caused by El Niño 1982–1983 and 1997–1998 - Value of damages caused by El Niño 1997–1998 in millions USD
7. Coastal water quality (GBF Target 6)	- Coastal water quality index (WQI) by country. WQI integrates the following variables/parameters: pH, phosphate, nitrate, dissolved oxygen, total suspended solids (TSS), total aromatic hydrocarbons (HDD), polycyclic aromatic hydrocarbon (PAH), biochemical oxygen demand (BOD5), thermotolerant coliforms (CTE), total coliforms (CFT), and chlorophyll a. - Environmental quality of coastal waters in Colombia - Water quality average per year in Colombia 2012–2014

CPPS coordinates a Regional Action Plan (RAP) for Mangrove conservation in the Southeast Pacific (CPPS/UNESCO/CI/Hivos. 2016), which includes specific objectives (SOs) and indicators, in addition to indicators of financial and institutional management (cf. Table A7.4, our translation). As shown above, some indicators of this Regional Action Plan may also be useful to inform various targets of the post-2020 GBF (e.g., Targets 1, 10, 13, 18, 19).

Table A7.4: CPPS's Regional Action Plan for Mangroves: specific Objectives and indicators.

Specific objectives	**Indicators**
SO1: Promote revision and/or formulation of national policies and programs for mangrove conservation.	- no. of national policies and/or programs created and/or strengthened.
SO2: Promote the generation of knowledge, the exchange of traditional knowledge and good practices among the region's countries to guide integrated ecosystem planning and management.	- no. of collaborative research projects on mangroves among scientific and academic institutions in the region. - no. of publications and technical guides on protection, recovery and sustainable use of mangroves.
SO3: Strengthen the capacities of different actors, especially of local officials and communities, to ensure mangrove conservation in the region.	- no. of people trained in regional courses, postgraduate and exchange programs. - no. of participants in initiatives for the exchange of knowledge, best practices and sustainable production technologies - no. of participants from local communities in training events.
SO4: Promote mangrove monitoring in the region.	- % change of mangrove coverage - Area and % of mangroves in protected areas, including Ramsar sites and other conservation schemes. - No. of documented experiences on sustainable use of mangroves. - Area and% of mangrove in recovery.
Financial and institutional management	- No. of priority actions of PAR-Mangroves carried out - No. of regional proposals submitted to cooperation agencies and organisations partners and % of approved proposals - No. of regional technical meetings of the Group of Experts on Mangroves - No. of meetings of National Working Groups on mangroves - No. of signed cooperation agreements and strategic alliances for mangrove conservation in the region - No. of periodic national reports submitted - Funding ensured for 2016-2019 and for subsequent periods

Western Indian Ocean – Nairobi Convention

The "WIO-LaB Project" implemented from 2005-2010 within the framework of Nairobi Convention, was a means to assist WIO region governments to build the necessary capacity for addressing the challenges faced in the management and protection of their marine and coastal environment from impacts originating from land. The resulting Transboundary Diagnostic Analysis (TDA), detailing key problems and causes of degradation of the coastal and marine environment in the WIO region, with a special emphasis on land-based sources and activities (LBSA), was the basis for a Strategic Action Programme (SAP) on Protection of the Coastal and Marine Environment of the Western Indian Ocean from Land-based Sources and Activities addressing water quality, protection, restoration and management of critical habitats, wise management of river flows, and strengthening governance and awareness. The SAP's horizon is 2035. The SAP identified 29 activities across these 4 target areas. Within each activity, short (5-year), medium (10-15 year) and long-term (25 year) objectives were set out. The SAP further identified two cross-cutting themes: climate change adaptation and mitigation and small-island development states (UNEP/Nairobi Convention Secretariat, 2009). The SAP put forward a Result-based indicator framework (Table A7.5).

The WIO LME SAPPHIRE project (Western Indian Ocean Large Marine Ecosystems Strategic Action Programme Policy Harmonisation and Institutional Reforms) builds on work completed under the UNDP/GEF Agulhas and Somali Current LME (ASCLME) Project, which delivered a regional TDA and ministerially endorsed SAP for western Indian Ocean LMEs and created the Western Indian Ocean Sustainable Ecosystem Alliance (WIOSEA). The SAPPHIRE Project aims to support and assist in the sustained delivery of the SAP, addressing cross-cutting themes such as poverty alleviation, early warning of disaster and climate change, SDGs, gender mainstreaming and youth, and includes a list of outcome indicators (Table A7.6) (UNDP, 2019).

Table A7.5: WIO-SAP Result-based indicator framework

Objective/Target	Verifiable indicators
A. Critical coastal habitats protected, restored and managed for sustainable use	- Critical habitats identified, assessed, documented and mapped - Conservation plans and monitoring framework for critical habitats developed, adopted and implemented at regional and national levels - Trend in the net loss of critical habitats halted, reversed and/or offset - At least 10% of continental shelf in each country designated as protected areas (MPA or other) - ICZM policies, plans and/or legislation in place in all countries - Harmonised legal framework for transboundary ecosystem management in place at regional and national level
B. Water quality meets international standards by 2035	- The quality of coastal and marine waters in the WIO region meet regionally agreed standards - Wastewater discharges adhere to agreed national and regional effluent standards - Increased Government budget allocations for pollution prevention
C. River flows are wisely and sustainably managed	- Environmental Flow Assessment (EFA) widely applied as a tool for river basin management in the main river basins of the WIO region - Coherence between freshwater and coastal management policies, laws and institutions - Dam operation and wetland and catchment management effectively applied to sustain ecosystem functioning at the river-coast interface
D. Effective governance and stakeholder collaboration	- Adequate capacity for effective ecosystem-based management existing - Effective national and regional policy, legal and institutional frameworks for addressing LBSA Management in place, including supporting financial mechanisms and knowledge management systems - Adequate awareness of the importance of good marine and coastal management

Table A7.6: WIO LME SAPPHIRE Objective and Outcome Indicators (Approved on 06th September 2019, Seychelles).

SAPPHIRE Component	Outcome indicators
Project Objective: To achieve effective long-term ecosystem management in WIO LMEs in line with the SAP as endorsed by the participating countries	- Sustainable management mechanism for WIO LME adopted and demonstrated at national and regional level - No. legislative and policy revised, realigned, or developed reforms and appropriate institutional capacity developed and realigned in line with SAP and its implementation at national and regional level - no. direct and indirect project beneficiaries, including the number of communities (men and women) engaged in ecosystem-based management approach and benefited from integrated alternative livelihoods interventions (direct and indirect beneficiaries are identified as per the methodology available from UNDP-GEF)
1: Supporting Policy Harmonization and Management Reforms towards improved ocean governance	1.1.1. No. of legislations and policies revised, realigned, or developed to support implementation of SAP and capture the overall ecosystem-based management approach 1.1.2. No. and type of appropriate regional and national intersectoral coordination mechanisms established to ensure ongoing WIO LME SAP Implementation 1.1.3. Marine Spatial Planning (MSP) process adopted as a policy and management planning and coordination tool that ensures various stakeholder engagement at national and regional levels
	1.2.1: Regional and National Ecosystem Monitoring Programmes adopted throughout the WIO LMEs as part of SAP Implementation 1.2.2: No. of countries adopted national and regional standards for marine water quality

SAPPHIRE Component	Outcome indicators
	parameters and contaminants/pollutants 1.2.3: No. of events organized to strengthen Regional and National Science-to Governance process and delivery in support of effective Adaptive Management and Policy Decisions 1.2.4: no. of tools available that support decision makers in considering and integrating value of ecosystem goods and services into policy, management and investment decisions
	1.3.1. no. of events, contributing to the strengthened coordination for effective SAP implementation at regional level in partnership with the existing IGOs and other regional bodies with relevant mandates (i.e. Nairobi Convention, SWIOFC, IOCUNESCO, WIOMSA, COI-IOC)
2. Stress Reduction through Community Engagement and Empowerment in Sustainable Resources Management	2.1.1. No. of vulnerable coastal communities' members (men and women) that improved their livelihoods though integrated alternative economic activities with coastal and marine ecosystem management initiatives 2.1.2. Stress Reduction measured at community demo sites by reduction of harmful pesticides, nitrates, and/or phosphates, as appropriate 2.1.3. no. of communication and knowledge management materials produced to disseminate lessons learned regarding the integration of EBM into LED Plans (and their implementation) to promote replication and/or knowledge sharing
	2.2.1. No. of communities demonstrating stress reduction through the implementation of their ecosystem-based Artisanal Fisheries Management Plan
3. Stress Reduction through Private Sector/Industry Commitment to transformations in their operations and management practices	3.1.1. no. of private entities participating in/contributing to SAP implementation and mitigate their impacts on EQOs (through stress reduction activities, data capture, ecosystem monitoring, risk reduction and contingency response, EBA mainstreamed in their operations, etc.)
4. Delivering best practices and lessons through innovative ocean governance demonstration	4.1.1. no. of innovative voluntary management options and/or partnership options for High Seas areas, within the ASCLME system boundary, identified for voluntary adoption
	4.2.1. JC Strategy implemented through the application of MSP in the Joint Management Area (JMA) for sustainable utilization and ecosystem-based management of JMA resources. 4.2.1 Technical and institutional capacity of JC strengthened for the sustainable and effective management of JMA by two countries. 4.2.3. no. of publications and reports to present/share best practices and lessons learned on ocean governance in ABNJ (including JMA) and in EEZ
5. Capacity Development to Realise improved ocean governance in the WIO region	5.1.1: No. of direct and indirect beneficiaries (sex & country disaggregated) of capacity development and training programmes delivered by the project in support of SAP implementation.

Drawing from the targets set out in the two SAPs, the WIOSAP and SAPPHIRE projects are jointly developing a regional ecosystems monitoring framework for the Western Indian Ocean, which, after adoption by Parties, will enter into an implementation phase.

The Regional State of Coast Report for the Western Indian Ocean (WIO-SOCRep) was the first Regional Seas Programme report based on the format and structure of the UN-coordinated World Oceans Assessment (UNEP-Nairobi Convention and WIOMSA, 2015). It includes assessments of:

- marine biological diversity and habitats, including mangroves, saltmarshes, seagrasses, and the deep sea. It offers a list of state and impact indicators for threatened WIO marine species (Table A7.7);
- major marine ecosystem services, including aesthetic, cultural and spiritual services,
- food security from marine resources, including fisheries and mariculture;
- other human activities in the marine environment, including tourism and recreation, coastal development and vulnerability, marine genetic resources and bioprospecting.

It also considers scenarios, policy options and capacity building, including chapters on governance and marine research and capacity building.

Table A7.7: State and impact indicators for threatened WIO marine species

Major taxa (no. spp)	State indicators	Impact indicators
Seagrass (1)	Area covered (km^2); shoot density.	Loss in area coverage and density.
Hard corals (84)	Coral reef condition: includes water condition, species diversity, hard coral cover (%).	Reduction in percentage of live cover, diversity indices, water condition.
Gastropod molluscs (2)	Standing stock, indices being by-catch and shell availability/price in the shell trade.	Fewer individuals caught per unit fishing effort, higher price and lower volumes traded.
Holothurians (10)	Standing stock derived from field surveys; fisher/fishery surveys; export volumes, prices; species composition and specimen size.	Lower standing stock and export volumes, increase in less valuable species, smaller sizes and higher prices.
Rays (14)	Standing stock derived from field surveys, fisher/fishery surveys.	Reduced standing stock, landings, smaller sizes, higher prices.
Sharks (27)	Standing stock derived from field surveys, fisher/fishery surveys; dried fin export volumes.	Reduced standing stock, landed and fin export volumes, higher prices.
Fish (13)	Standing stock derived from field surveys, fisher/fishery surveys (eg sea fisheries observer programme).	Reduced standing stock, higher prices, lower volumes landed.
Turtles (5)	Standing stock derived from field (beach nesting activity) surveys, fisher/fishery surveys (eg sea turtle observer programme); surveys of foraging grounds.	Reduction in standing stock and length, condition of nest sites, degraded foraging grounds.
Mammals (5)	Standing stock derived from field surveys (whale watching), fisher/fishery surveys.	Reduction in standing stock.

South Pacific - South Pacific Regional Environment Programme (SPREP)

In the South Pacific Ocean, SPREP has been developing various sets of indicators relevant to various aspects of the GBF. SPREP's Inform Project has developed a set of 29 Core National Environmental indicators (CNEI) (https://pacific-data.sprep.org/dataset/sprep-core-national-environment-indicators) (Table A7.8), in consultation with Members for National Reporting to State of Environment, which are also designed to be applied to other reporting obligations including SDGs and MEAs such as CBD. Indicators are monitored through member countries environment ministries and associated data are typically available on their national environment data portals (and can be accessed through the Pacific Environment Portal; https://pacific-data.sprep.org/).

Table A7.8: SPREP's 29 core national environmental indicators

Theme	Indicator name	Definition
Environmental governance	Environment Ministry budget allocation	% of national budget allocated to Environment ministry or equivalent
	MEA reporting requirements	% of MEA reporting requirements met on time
	Approved development proposals with conditions	% of approved development proposals with conditions imposed
	Environmental cases prosecuted	No. of environmental cases prosecuted
Island and coastal ecosystems	Native tree cover	% native tree cover of total land area
	Wetlands	% cover of wetlands, mangroves and seagrass
	Live coral cover	% of live coral cover in coastal and marine environments
	Lagoon water quality	*Enterococci* levels in water samples
	Freshwater quality	*E. coli* levels in water samples
	Terrestrial protected areas	% of land area formally protected for conservation

Theme	Indicator name	Definition
	Marine protected areas	% of EEZ formally protected for conservation
	Commercial pelagic fishes	Trends in biomass of tuna species
	Fish biomass	Fish biomass for inshore fish populations
	Invasive species under management or eradicated	% of invasive species eradicated from defined areas or under formal management
	Priority siles with invasive species managed	No. of priority sites with multi-invasive taxa management programmes
	IUCN red list summary	No. and types of species listed as threatened on the IUCN red list and a summary of their threats
	Status of threatened, endemic or migratory species	Population abundance of identified species
	Land under cultivation	% of total arable land that is under cultivation
Climate change resilience	Trend in Greenhouse Gas (GHG) emissions	Trend of nationally determined contribution
	Trend in consumption of ozone depleting substances (ODS)	Trend in consumption of ozone depleting substances (ODS)
	Renewable energy	Trend in percentage production of energy from renewable sources
	Climate-related deaths	No. of climate-related deaths from declared disasters
	Climate-related disaster losses	Total dollars of financial loss occurring due to climate-related disasters, defined as cyclones, flooding, landslides and drought
	Funding for ecosystem management	Total funds received to implement ecosystem-based approaches to climates adaptation
	Climate adaptation and mitigation funding	Total funds received for climate adaptation and mitigation projects
Waste	Household waste captured rate	% of household waste captured by authorised provider
	Per capita generation of municipal solid waste	Annual per capita generation of municipal solid waste
	Household waste recycled	% waste recycled
	Access to and quality of sewage treatment	% of households connected to central sewage system

SPREP's Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20) provides guidance for the South Pacific region on "key priorities for biodiversity conservation and ecosystem management" specifically linking global Aichi Biodiversity targets and National Biodiversity Strategy and Action Plans (NPSAPs), with examples of performance indicators (Table A7.9).

Table A7.9: Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020: Regional objectives, link to Aichi BD targets and examples of performance indicators.

2014-2020 Regional objectives	Aichi BD targets	Examples of performance indicators
1. People are aware of the value of biodiversity and the steps they can take to conserve and use it sustainably	1 People are aware of the values of biodiversity	- National awareness raising activities targeting native biodiversity - Regional campaigns (e.g. Year of Biodiversity, Go-local, etc.) - Example of national and regional events linking biodiversity, culture and heritage
2. Both economic development and biodiversity	2 Integration of BD values in strategies and planning	- No. of PICTS which can demonstrate integration and examples of incorporation into national accounting/budgets

2014-2020 Regional objectives	Aichi BD targets	Examples of performance indicators
conservation recognise and support sustainable livelihoods, cultural heritage, knowledge and expressions, and community resilience and development aspirations	3 Elimination of harmful incentives	- No. of PICTS introducing sustainable resource utilisation policies
	4 Sust. prod.& cons.	- No. of PICTS with EBAFM legislation and policies in place
	6 Stocks managed and harvested sustainably	- No. of examples of successful EBAF projects established and being implemented
	7 Production areas managed sustainably	- No. of examples where PICTs have actively managed ecosystems to provide or improve the provision of essential development services, most likely watersheds, but also coastal systems (mangroves/reefs) used for gleaning, fishing etc.
	8 Pollution from excess nutrients	- No. of initiatives (regional and national) for pollution reduction, including recycling and safe disposal of hazardous wastes, including plastics
3. Identify, conserve, sustainably manage and restore priority sites, habitats and ecosystems, including cultural site	5 Halving rate of loss of natural habitats	- No. of countries which have ceased logging intact forest - No. of countries which have management plans/policies in place limiting use of mangroves
	6 Stocks managed and harvested sustainably	- Cumulative assessment of outcomes of programmes and projects designed and implemented to mitigate anthropogenic impacts on vulnerable ecosystems
	7 Production areas managed sustainably	- No. of PICTS with EBAFM legislation and policies in place - No. of examples of successful EBAF projects established and being implemented
	11 Protection of particularly important areas	- No, area and percentage of EEZ in resilient MPAs and networks - No. and area of terrestrial and marine protected areas and protected area networks established or under implementation - No. and area and percentage land cover of terrestrial protected areas established and effectively managed
	14 Restoration of ecosystems providing essential services	- No. of landscape/seascape/oceanscape integrated management policies and plans
	15 Enhanced ecosystem resilience	- No. of PICTS with EBAFM legislation and policies in place - No. of examples of successful EBAF projects established and being implemented - No. and scale of ecosystem rest. projects and area restored from degraded state
4. Protect and recover threatened species and preserve biodiversity, focusing on species and genetic diversity of ecological, cultural and economic significance	12 Extinction of known threatened species prevented	- Assessment of change in species status under the IUCN threat classification - Assessment of changed trends in extinction, abundance and distribution of selected keystone Pacific Island Species based on IUCN Red List - Effectiveness of implementation of regional marine species action plan evaluated - No. of recovery plans developed and implemented across the region
	7 Production areas managed sustainably	- No. of PICTS with EBAFM legislation and policies in place - No. of examples of successful EBAF projects established and being implemented
	9 Invasive alien species	- No. of PICTs with Natl. Invasive Species Action Plans – linked to NBSAPs and other relevant national plans and are being implemented - No. of islands where IAs have been removed and prevented from re-establishing - No. of control projects initiated and control targets being met - No. of PICTs that have biosecurity legislation and plans which incorporate invasive species threats to biodiversity and are implemented
	13 Genetic diversity of cultivated plants and domesticated animals	- Regional or national policy incorporating the protection of genetic diversity
	16 Nagoya protocol	- Examples of national legislation incorporating Nagoya Protocol principles
	18 Traditional knowledge (TK)	- No. of PICT national environmental and natural resource management legislation and policy instr. integrating and supporting TK and customary

2014-2020 Regional objectives	Aichi BD targets	Examples of performance indicators
		manag. principles
	19 Science base	- No. of new science, monitoring and evaluation mechanisms established and function to improve biodiversity knowledge base and management
5. Manage threats to biodiversity, especially climate change, invasive species, over-exploitation, and habitat loss and degradation	4 Sustainable prod. & consumption	- No. of examples where sustainable production and consumption has been linked to EBM plans e.g. in fisheries management
	5 Halving rate of loss of natural habitats	- No. of countries which have ceased logging intact forest - No. of countries w/ manag. plans/policies in place limiting use of mangroves
	6 Stocks managed and harvested sustainably	- Cumulative assessment of outcomes of programmes and projects designed and implemented to mitigate anthropogenic impacts on vulnerable ecosystems
	7 Production areas managed sustainably	- No. of examples where PICTs have actively managed ecosystems to provide or improve the provision of essential development services, most likely watershed, but also coastal systems (mangroves/reefs) used for gleaning, fishing, etc.
	8 Pollution from excess nutrients	- No. of PICTs or regional programmes/projects measuring pollution levels, especially nutrient levels and trends in those measurements - No. of initiatives (regional and national) for pollution reduction, including recycling and safe disposal of hazardous wastes, including plastics
	9 Invasive alien species	- No. of PICTs with Natl. Invasive Species Action Plans – linked to NBSAPs and other relevant national plans and are being implemented - No. of islands where IAS have been removed and prevented from re-establishing - No. of control projects initiated and control targets being met - No. of PICTs that have biosecurity legislation and plans which incorporate invasive species threats to biodiversity and are implemented
	10 Multiple anthropogenic pressures	- Cumulative assessment of outcomes of programmes and projects designed and implemented to mitigate anthropogenic impacts on vulnerable ecosystems - Regional and national initiatives undertaken to monitor and combat ocean acidification
	14 Restoration of ecosystems providing essential services	- No. & scale of ecosystem restoration projects & area restored from degraded state - No. of landscape/seascape/oceanscape integrated manag. policies and plans - No. of sites or examples of non tangible cultural significance identified and protected under local custom, national or international agreements such as World Heritage Convention
6. Build capacity and partnerships that strengthen synergies between science, policy, local knowledge systems and indigenous sciences and enhance local and international agreements, to effectively mobilise resources to achieve Objectives 1-5	17 Policy instruments	- No. of completed updated NBSAPs
	18 Traditional knowledge	- No. of PICT national environmental and natural resource management legislation and policy instruments integrating and supporting traditional knowledge and customary management principles
	19 Science base	- No. of new science, monitoring and evaluation mechanisms established and function to improve biodiversity knowledge base and management
	20 Financial resources	- Growth of funding for regional programmes and projects for biodiversity conservation - Overall trend of growth trend in PICTs budget allocations for NBSAP implementation

Another relevant initiative is SPREP's **Pacific Islands Regional Marine Species Programme 2013–2017 (PIRMSP)** outlines a regional strategy for the cooperative conservation and management of dugongs, marine turtles, whales and dolphins, to be implemented through dedicated action plans. Each action plans identifies objectives, distributed through cross-cutting themes, and the corresponding indicators. The indicators for each cross-cutting theme of the three action plans are presented in the corresponding case study.

Arctic Ocean – Arctic Council

The Arctic Council's working group on **Conservation of Arctic Flora and Fauna (CAFF)** has defined a set of selected indicators of change to assess Arctic biodiversity trends (ABT) (CAFF, 2010) (Table A7.10)

Table A7.10 – CAFF's ABT indicators.

Ind no.	Indicator
	Species
1	Polar bears
2	Wild reindeer and caribou
3	Shorebirds – red knot
4	Seabirds – murres (guillemots)
5	Seabirds – common eiders
6	Arctic char
7	Invasive species (human-induced)
8	The Arctic Species Trend Index
9	Arctic genetic diversity
	Ecosystems
10	Arctic sea-ice ecosystem
11	Greening of the Arctic
12	Reproductive phenology in terrestrial ecosystems
13	Appearing and disappearing lakes and their impacts on biodiversity
14	Arctic peatlands
15	Effects of decreased freshwater ice cover duration on biodiversity
16	Changing distribution of marine fish
17	Impacts of human activities on benthic habitat
	Ecosystem services
18	Reindeer herding
19	Seabird harvest
20	Changes in harvest
21	Changes in protected areas
22	Linguistic diversity

CAFF's "cornerstone program" is the Arctic Coastal Biodiversity Monitoring Plan (CBMP) (CAFF, 2019). It defined eight key Arctic coastal ecosystems (termed "Coastscapes"): fjords, rapidly eroding shores, lagoons and barrier islands, rocky shores and sea cliffs, estuaries, low gradient soft shores and ice fronts. The CBMP hinges on Focal Ecosystem Components (FECs), groups of ecologically related coastal species that are considered together to enable international reporting (ibid.) and identifies the corresponding monitoring attributes and parameters (Table A7.11). Integration of Traditional knowledge is a key element of this CBMP.

Table A7.11: CBMP's Focal Ecosystem Components, attributes and parameters. TK: Traditional knowledge.

FECs all Coastscapes	Attributes	Parameters
Waterfowl Seabirds: omnivores Seabirds: diving planktivore Seabirds: surface piscivores Seabirds: diving piscivores Seabirds: benthivore	Diversity	Community Alpha diversity
		Spatial structure
		Species composition
	Phenology	Migration timing (dates)
		Migration routes (location)
		Degree of partial migration
		Breeding area location changes (TK)
		Nesting and rearing timing (date)
		Habitat change (acres)
	Demography	Reproductive rate (no. of eggs, nesting success)
	Harvest and Accessibility	Harvest usability (TK)
		Hunting strategies and accessibility (TK)
		Harvest success (CPUE, distance, fuel, time)
	Body Condition	Taste, colour, meat, organs (TK)
		Egg thickness
		Contaminants (Hg, POPs)
		Disease - (frequency of outbreaks [die-offs, unusual mortalities, lesions])
	Behaviour ecology	Changes in movement behaviour (TK)
Subtidal flora, intertidal macroalgae	Biomass	Mass per unit area
	Diversity	Species composition (number, diversity, community structure)
Sub-Tidal/Inter tidal Macrofauna	Diversity	Species composition (number, diversity, community structure)
	Abundance	Biomass - per area cored/trawled (measured or converted from size-mass relationships)
		Density
	Harvest and accessibility	Commercial/sport harvest statistics
		Harvest usability (TK)
		Contaminants
		Success of food processing
	Habitat	Water quality (Temp, conductivity, pH, DO)
Phytoplankton	Diversity	Species composition (based on microscopy/genetics/cell imaging), diversity indices
	Size structure	Size classes and ratios (based on microscopy/flow cytometry/cell imaging)
	Productivity	Primary production c/m2/day (C-14 method)
	Phenology	Bloom peak, ocean color (remote sensing), fluorescence timeseries
	Toxicity	Toxin concentration
Zooplankton	Biomass	Biovolume calculations
	Diversity	Species composition (based on microscopy/genetics), diversity indices
	Size structure	Size classes and ratios (based on microscopy)
	Phenology	Peak abundance
Pinnipeds **Whales**	Phenology	Migration timing
		Migration routes
		Partial migration
		Birthing timing
		Breeding timing
		Shedding
	Demography	Growth rate and survival

FECs all Coastscapes	Attributes	Parameters
		Age class distribution
	Harvest and sustainability	Harvest usability (TK)
		Success of food processing
		Harvest success (CPUE, distance, fuel, time)
	Body condition	Texture, ivory colour and brittleness
		Stomach contents
		Disease - (frequency of outbreaks [die-offs, unusual mortalities, lesions])
	Habitat	Places of refuge (size, locations)
Pelagic Fishes **Demersal Fishes** **Salmonids**	Diversity	Community Alpha diversity
		Spatial structure
	Phenology	Migration timing
		Breeding timing
		Spawning timing
	Demography	Age class distribution
		Length at age
	Harvest and sustainability	Harvest statistics
		Harvest usability (TK)
		Success of food processing (TK)
	Body condition	Texture/texture/colour meat, organs, skin, scales (TK)
		Contaminants concentrations (Hg, POPs)
		Disease - (frequency of outbreaks [die-offs, unusual mortalities, lesions])
Large herbivores	Phenology	Migration timing
		Migration routes
		Life cycle events (breeding, parturition, rearing)
	Demography	Reproductive rate
	Harvest and accessibility	Harvest statistics
		Subsistence hunting statistics
		Harvest usability (TK)
		Hunting strategies and accessibility (TK)
		Success of food processing (TK)
		Harvest success (CPUE, distance, fuel, time)
	Body condition	Texture/texture/colour meat, organs, skin, scales (TK)
		Contaminants concentrations (Hg, POPs)
		Disease - (frequency of outbreaks [die-offs, unusual mortalities, lesions])
Alien and/or invasive plants	Abundance	Number, frequency, cover
Coastal wetland communities	Abundance	Area of various communities as determined by RS mapping
	Community composition	Relative abundance of community species, and vegetation structure
		Alien and/or invasive plants
	Abundance	Number, frequency, cover

Annex 8: Indicator case studies

Integrated Coastal Zone Management and Marine/Maritime Spatial Planning (ICZM/MSP) (GBF Target 1)

UNEA's 2016 Resolution 2/10, on Oceans and Seas requested UNEP to "*step up its work, including through its Regional Seas Programme, on assisting countries and regions in the application of the ecosystem approach to managing the marine and coastal environment, including through enabling intersectoral cooperation in integrated coastal zone management and marine spatial planning*" (UNEA, 2016, 3). Integrated Coastal Zone Management (ICZM) and Marine Spatial Planning (MSP) are integral to **Target 1 of the GBF**: "*By 2030, [50%] of land and sea areas globally are under spatial planning addressing land/sea use change, retaining most of the existing intact and wilderness areas, and allow to restore [X%] of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them*." In turn this target is directly linked to **SDG target 14.2**: "*By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans*", and to its **associated indicator 14.2.1** "*Proportion of national exclusive economic zones managed using ecosystem-based approaches*".

Indicator no. 22 of the 'Regional Seas Core Indicators Set' on 'National ICZM in place' recommends the use of 'National ICZM Guidelines and enabling legislation adopted' as a coordinated metric for the Regional Seas (UNEP, 2016). Other indicators and associated metrics of this coordinated set potentially relevant to this topic include CSI no. 8 on Population pressure/urbanization: Length of coastal modification and km^2 of coastal reclamation; and CSI no. 19 on Climate change adaptation: 1) % national adaptation plans in place; 2) Sector based national adaptation plans; 3) No. of existing national and local coastal and marine plans incorporating climate change adaptation.

In the European Union, as per the EU MSP Directive, all coastal member states have to implement MSP until 2021.

In the Western Indian Ocean region, the Nairobi Convention's WIO-LaB and WIO-LME SAPPHIRE Projects offer specific indicators for ICZM and MSP:

- (WIO-LaB) ICZM policies, plans and/or legislation in place in all countries;
- (WIO-LaB) Harmonized legal framework for transboundary ecosystem management in place at regional and national level;
- (WIO-LME SAPPHIRE) Marine Spatial Planning (MSP) process adopted as a policy and management planning and coordination tool that ensures various stakeholder engagement at national and regional levels.

In the **Southeast Pacific**, CPPS has participated in a 2019 UNEP report concerning "A Marine Spatial Planning Framework for Areas Beyond National Jurisdiction" (UNEP-WCMC, 2019).

In the **seas of East Asia**, COBSEA Strategic Directions (COBSEA, 2018) covers substantive priorities on addressing Marine and Coastal Planning and Management, aiming to strengthening biodiversity conservation in line with Aichi targets, (which includes increasing conservation of marine and coastal area to 10% in the COBSEA region); and strengthening and mainstreaming action plans for ecosystem-based marine and coastal planning and management including MPAs and MSP in each country, in line with national SDG actions. Past COBSEA work on Marine and Coastal Spatial Planning (MCSP) include generating a Regional Resource Document on CMSP as well as national training manuals addressing country-specific needs and national assessment reports on coastal erosion. Ongoing work includes advancing MCSP in the region by building capacity and supporting development of a conducive policy environment in partnership with Blue Solutions Initiative. Activities

include a regional training and a review of policies to identify recommendations towards an enabling policy environment for MCSP and ecosystem-based approaches. For further information see COBSEA website.

The **Black Sea** 2009-2014/5 report offers concrete indicators progress in terms of ICZM (BSC, 2019).

The **Mediterranean** region, partly within the EU, has a Regional Framework for ICZM.

SPREP's Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20), specifically linking global Aichi Biodiversity targets and National Biodiversity Strategy and Action Plans (NPSAPs), includes an indicator on "No. of landscape/ seascape/ oceanscape integrated management policies and plans", which the plan relates to Aichi target 14, on Restoration of ecosystems providing essential services, but which is clearly relevant to GBF target 1 on ICZM and MSP.

OSPAR (Northeast Atlantic) and **HELCOM** (Baltic sea) have no ICZM indicators as such. However, considerable amount of related information has been compiled as a part of regular HELCOM work on MSP. EU member states of both conventions have to implement the EU's MSP Directive.

Marine protected areas (MPAs) (GBF target 2)

UNEA's 2016 Resolution 2/10, on Oceans and Seas requested UNEP to "*provide (…) technical advice on the designation, establishment and active management of marine protected areas and on the application of other spatial management measures in cooperation with competent international and regional forums and organizations, including (…) multilateral environmental agreements and regional fisheries bodies*"; and encouraged "*Member States, individually and jointly and also within regional bodies, to designate and actively manage marine protected areas and take other effective area-based conservation measures, consistent with national and international law and based on the best available scientific information, with a view to achieving the related global targets, in particular where significantly less than 10 per cent of coastal and marine areas are so far being conserved, or where protected areas lack effective and equitable management, connectedness or ecological representativeness*;" (UNEA, 2016, 3). Marine Protected Areas (MPAs) are directly related to the **GBF's Target 2** - By 2030, protect and conserve through well connected and effective system of protected areas and other effective area-based conservation measures at least 30% of the planet with the focus on areas particularly important for biodiversity and to **SDG target 14.5** "By 2020, 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", and its corresponding indicator "14.5.1 Coverage of protected areas in relation to marine areas".

Indicator no. 21 of the '**Regional Seas Core Indicators Set**' on "Critical marine habitat under protection" identifies the "% Marine Protected Areas designated" as the coordinated metric for the Regional Seas (UNEP, 2016). Other indicators and associated metrics of this coordinated set potentially relevant to this topic are:

- CSI no. 13: Species replacement as a consequence of capture fisheries (marine trophic index);
- CSI no. 14: Endangered species (Distribution of Red List Index species);
- CSI no. 15: Loss of critical habitat (Trends in critical habitat extent and condition.

TWAP's set of core indicators for the assessment of LMEs includes one directly relevant indicator which is no. 14 "Change in Protected Area coverage" (IOC-UNESCO, 2011). More information on this indicator (description, data and meta-information) on http://onesharedocean.org/data#452.

Various Regional Seas monitor to some extent the implementation and management effectiveness of their MPAs. Examples below are illustrative of the range of indicators used by different regional seas:

CPPS' SPINCAM project includes a number of indicators for marine and coastal protected areas:

- No. of marine and coastal protected areas per IUCN category
- Total surface of marine and coastal protected areas IUCN category (km^2)
- Marine and coastal surface area by country
- Marine and coastal protected areas in the Southeast Pacific
- Increase in surface area of marine and coastal protected areas by country 2004–2015 (km^2)
- % of marine and coastal protected areas in relation with the Aichi Target 11 on Biological Diversity

In the **Arctic Ocean**, the following indicators on MPAs are used (CAFF and PAME, 2017) (more information at www.caff.is/protectedareas and www.pame.is.):

- Growth in total area of Ramsar and World Heritage Sites within the CAFF boundary (no., geographic distribution, size in km^2)
- Trend in MPA coverage within the CAFF boundary, 1900-2016 (%, presented vs. Aichi target 11).
- Distribution of MPAs across each of the six IUCN management categories in 2016 (%)
- Other Area-Based measures important for Arctic Marine Biodiversity: including EBSAs and "areas of heightened ecological and cultural significance" created under an Arctic Council's 2009 Arctic Marine Shipping Assessment recommendation, using IMO's criteria for Particularly Sensitive Sea Areas (PSSAs), which are similar to the CBD's Ecologically and Biologically Significant Areas (EBSAs) criteria).

SPREP's set of core national environmental indicators includes one indicator on MPAs, defined as "% of EEZ formally protected for conservation" (https://pacific-data.sprep.org/). Additionally, **SPREP's** Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20), specifically linking global Aichi Biodiversity targets and National Biodiversity Strategy and Action Plans (NPSAPs), includes indicators related to Aichi target 11 on the protection of particularly important areas, specifically:

- No, area and percentage of EEZ in resilient MPAs and networks;
- No. and area of terrestrial and marine protected areas and protected area networks established or under implementation;

OSPAR Commission's 2018 Status Report on the OSPAR network of MPAs reports on various aspects of OSPAR's MPA network across OSPAR regions based on the following indicators:

- status (within, across and beyond national jurisdictions),
- ecological coherence (geographical distribution, coverage across biogeographic regions, and representation and replication of marine habitats and species within MPAs) and
- management: is MPA management documented, are measures implemented, is monitoring taking place, and are MPAs moving towards or have they reached their conservation status?

HELCOM's MPAs database compiles varied information on the following indicators (http://mpas.helcom.fi/apex/f?p=103:1::::::):

- Location, size
- Management plans and monitoring
- Species, biotopes, biotope complexes, pressures and activities in MPAs

PERSGA has developed indicators to monitor progress in MPAs, e.g. annual evaluations of the management effectiveness of PERSGA's MPAs Network using WB ScoreCards.

SACEP's Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030: Living in Harmony with our Oceans and Coasts, includes a goal on "Effective and Equitable Governance of Marine and Coastal Protected Areas", which lists the following indicators:

- Establishing protected areas and transboundary protected areas within the South Asian Seas region:
  a) Area covered;
- Developing tools for measuring effective management:
  a) Tools in place;
  b) Trends in extent of marine and coastal Protected Areas;
- Identification of vulnerable habitats and species/Identification of area-based management measures: a) Gap analysis;
- Identification of routes and pathways of transboundary and migratory species/Establish measures to protect the pathways and routes and management plan for conservation of habitats/Establishment of regional institutional mechanism for the creation of MPAs:
  a) MoU signed, existence of the regional network;
  b) Coverage of Key Biodiversity Areas, Management Effectiveness;
- Development of a regional action plan to secure the marine and coastal Protected Areas effectiveness:
  a) Regional action plan in place;
  b) No of legislations and plans enacted;
  c) Governance effectiveness and MoU drafted and operative;
- Conduct regional learning and exchange programmes among South Asian Seas countries/ sharing of success stories and good experiences:
  a) No of training and exchange programs carried out;
  b) No of success stories and case studies published;
  a) Strengthening the Regional ocean governance.

In the **Western Indian Ocean**, the Nairobi Convention Secretariat is producing interactive dashboards for a range of WIO data, and include information, i.a., on (visualisations available at https://www.nairobiconvention.org/regional-mpa-outlook/):

- no. of MPAs and total MPA area in WIO region
- national progress towards achieving SDG 14.5
- no. of MPAs/country
- MPA area compared with EEZ area
- List of all MPAs in the WIO region by total area (km^2)
- Growth of MPAs coverage (km2) over the years
- No. of MPAs established by year
- IUCN category assigned to WIO MPAs
- MPAs management effectiveness in the WIO region (based on Monitoring effectiveness Tracking tool (METT))
- Proposed MPAs and potential % of EEZ in the WIO region

Invasive alien species (IAS) (GBF Target 5)

Invasive species, a.k.a. invasive alien species (AIS), or non-indigenous species (NIS) have been considered one of the greatest threats to marine and coastal Ecosystems (GISP/UNEP Regional Seas, n.d.), and are at the core of **GBF's target 5** - By 2030, manage, and where possible control, pathways for the introduction of IAS, achieving [50%] reduction in the rate of new introductions, and eradicate, control and manage IAS to eliminate or reduce their impacts, including in at least [50%] of priority sites.

TWAP's set of core indicators for the assessment of LMEs includes one Ecosystem health state indicator "Cumulative Human Impact", which "measures the additive cumulative impact of 19 different potential human stressors (…)" including invasive species. For more information on this indicator (description, data and meta-information) see http://onesharedocean.org/data#394.

European Union's member states are bound to implement the 2008 EU Marine Strategy Framework Directive (**MSFD**) on effective protection of the European marine environment. Progress towards "good environmental status" (GES) is assessed through the evaluation of eleven descriptors (D) including **D2 on Non-Indigenous Species** (NIS) (EC, 2020).

The Black Sea's Regional Environmental Monitoring Programme (BSIMAP) 2017-2022 identified mandatory indicators for the monitoring of invasive species:

- No. and names of introduced non-indigenous species
- No. and names of newly introduced threatened species
- Mesozooplankton

HELCOM identified one core indicator for IAS: Trends in arrival of new non-indigenous species (https://helcom.fi/wp-content/uploads/2019/08/Trends-in-arrival-of-new-non-indigenous-species-HELCOM-core-indicator-2018.pdf.

OSPAR's CEMP includes one common indicator related to IAS: Changes to non- indigenous species communities (NIS) (OSPAR Agreement 2018- 04). This indicator is still in the early stages of implementation and it is anticipated that there will be evolution of the methods and approaches documented in the CEMP guidelines. Currently the following parameters are assessed (https://www.ospar.org/documents?v=38992):

1. New introductions: No. of new introductions within assessment area and assessment period;
2. Community Abundance: Relative change in total number of NIS between assessment periods;
3. Dispersal: Relative change in the proportion of monitoring locations within which the species is found.

NOWPAP has conducted a regional overview of possible ecological quality objective indicators for the region including the following for alien species (NOWPAP POMRAC, 2017):

- Abundance and state characterization of alien species: Trends in spatial distribution and biomass of alien species;
- Environmental impact of alien species: Ratio between alien species and native species and their interaction at the level of ecosystem, habitats and species.

UNEP's **Caribbean** Environment Programme's (UNEP-CEP) has identified the management and control of invasive species as a specific line of action, with proposed activities, indicators and targets. Indicators include:

i. monitoring and management protocols available to MPA managers;
ii. Uptake of invasive species monitoring and management protocols by MPAs;
iii. MOU/Statement of Cooperation between CAR/RCU SPAW Sub-programme and IMO; and
iv. Member State ratification of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (CANARI, 2020).

SACEP's Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030: Living in Harmony with our Oceans and Coasts, includes a goal on "Control of Alien Invasive Species" (IAS), which lists the following indicators:

- Developing regional database on IAS (related to SDG 14.5.1):
  a) No. of data entry in the database;
  b) No. of users of the database
  c) Biological species database
  d) No. of IAS recorded
- Training on IAS Risk Assessment/ Identification of regional pathways (hotspots) for IAS/ Information sharing on success stories of IAS management:
  a) No. of trainings held
  b) No. of regional risk assessments conducted
  c) No. of regional pathways (hotspots)
  d) No. of information exchange conducted / no. of tools for information exchange
- Establish a regional Expert Task Force on Invasive Alien Species:
  a) Task Force in place
- Establishing regional approaches and guidelines:
  a) No of countries which become party to new initiatives following the approaches
  b) No. of guidelines published
  c) No. of policies that refer to IAS (including risk analysis, prevention, control, and quarantine measures on introduced species for aquaculture).
- Survey to assess the understanding of IAS/ Conduct awareness campaigns about IAS for general public, for policy makers/ Conduct a post survey on the effectiveness of the awareness programs:
  a) No of surveys and level of understanding
  b) No of media awareness programs broadcast/published
  c) Survey results/articles published and the changes in the level of understanding
- Conduct regional policy dialogues to assist ratification process/ Ratification of the Ballast Water Convention:
  a) Status of ratification
  b) Biological species database
  c) No. of Invasive Alien Species recorded

SPREP's set of core national environmental indicators includes two indicators on invasive species with a focus on management (https://pacific-data.sprep.org/):

- Invasive species under management or eradicated: % of invasive species eradicated from defined areas or under formal management;
- Priority siles with invasive species managed: No. of priority sites with multi-invasive taxa management programmes

Additionally, SPREP's Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20), specifically linking global Aichi Biodiversity targets and National Biodiversity Strategy and Action Plans (NPSAPs), includes indicators related to Aichi target 9 on various aspects related to the control of invasive alien species, specifically:

- No. of Pacific Islands Countries and Territories (PICTs) with Natl. Invasive Species Action Plans – linked to NBSAPs and other relevant national plans and are being implemented;
- No. of islands where invasive species have been removed and prevented from re-establishing;
- No. of control projects initiated and control targets being met;
- No. of PICTs that have biosecurity legislation and plans which incorporate invasive species threats to biodiversity and are implemented.

CPPS is a member of IMO's Globallast project, an international project to address invasive alien species related to ballast water (http://archive.iwlearn.net/globallast.imo.org/index.html).

In the Red Sea and Gulf of Aden region, ballast water and invasive species management has become a regular subject in PERSGA's Training Program. Ballast water management Regional Strategy has been drafted and approved at the Technical Level. Facilitating the production of Training Material in Arabic. Preparing national strategies for Ballast water management for all PERSGA countries.

Marine litter (GBF Target 6)

Marine litter is a global concern and a threat to all marine life. Combating marine litter is a priority challenge to preserve the marine ecosystem and human health (Addamo *et al*., 2018). UNEA's 2016 Resolution 2/10, on Oceans and Seas recalled "three priority source categories for work (nutrients, marine litter, and waste water) under the 2012 Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based activities" and acknowledged UNEP's contributions "to tackling emerging issues and activities adding to pressure on the marine environment and to increasing knowledge on issues such as marine litter" (UNEA, 2016, 2). Marine litter is directly pertinent to **Target 6 of the GBF**: "By 2030, reduce pollution from all sources, including reducing excess nutrients [by x%], biocides [by x%], plastic waste [by x%] to levels that are not harmful to biodiversity and ecosystem functions and human health". It is also directly related to **SDG target 14.1** "By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution" and its associated **indicator 14.1.1** "Index of coastal eutrophication and floating plastic debris density". As such, this indicator is best served with the joint consideration of state metrics (amount of litter), but also pressure reduction and response metrics (respectively, e.g., waste treatment and action plans).

The '**Regional Seas Core Indicators Set/Regional Seas Indicators Matrix**' includes several coordinated indicators relevant to the subject of marine litter (UNEP, 2016):

- No. 3 – Overall levels of marine litter/Quantification of beach litter items: Quantification and classification of beach litter items.
- No. 10 – Pollution hot spots:
  1) Concentration of status of selected pollutant contamination in biota and sediments and temporal trends;
  2) No. of hotspots.
- No. 16 – National Action Plans to reduce input from LBS: % national action plans ratified/operational;
- No. 17 – Waste water treatment facilities:
  1) % coastal urban population connected to sewage facilities;
  2) % of waste water facilities complying with adequate standards;
  3) % of untreated waste water;
- No. 18 – Incentive to reduce marine litter at source:
  1) % of port waste reception facilities available;
  2) Incentives to reduce land based sources (in monetary terms);
  3) Amount of recycled waste on land (%);

TWAP's core indicators for LMEs include a pollution indicator on "Floating Plastic Debris", which considers macro plastics (weight density, $g.km^{-2}$) and micro plastics (count density, $counts.km^{-2}$). For more information on indicator description, data and meta-information, see http://onesharedocean.org/data#243.

Marine litter is also one of the descriptors of "Good Environmental Status" (D10) in the framework of the EU's 2008 Marine Strategy Framework Directive, which all EU member states have to monitor.

OSPAR (https://www.ospar.org/work-areas/cross-cutting-issues/cemp), HELCOM (http://stateofthebalticsea.helcom.fi/pressures-and-their-status/marine-litter/#impacts-and-recovery) and NOWPAP (NOWPAP POMRAC, 2017) have identified indicators to monitor the state of marine litter in the environment and its impacts on marine life:

- Characteristics of litter in the marine and coastal environment:
  - (NOWPAP) Trends in the amount, distribution and composition of micro–particles
  - Litter on beaches:
  - (OSPAR) Marine litter on beaches (Common indicator): Guidelines for monitoring marine litter washed ashore and/or deposited on coastlines (beach litter)
  - (HELCOM) Beach litter (pre-core indicator)
  - (NOWPAP) Trends in the amount and composition of litter washed ashore
- Litter on the seafloor:
  - (OSPAR) Litter on the seafloor (Common indicator): CEMP Guidelines on litter on the seafloor
  - (HELCOM) Litter on the seafloor (candidate core indicator)
  - (NOWPAP) Trends in the amount of litter in the water column and deposited on the seafloor
- Impacts of litter on marine life:
  - (OSPAR) Plastic particles in stomachs of fulmars in the North Sea Area (Common indicator);
  - (HELCOM) No. of drowned mammals and waterbirds in fishing gear (pre-core indicator)
  - (NOWPAP) Trends in the amount and composition of litter ingested by marine mammals.

SPREP has developed a comprehensive Pacific Regional Marine Litter Action Plan 2018-2025 identifying strategic actions, activities and key performance indicators (see SPREP Case Study), and a Pacific Regional Waste and Pollution Management Strategy 2016-2025: Cleaner Pacific 2025, including, i.a., strategic goals, performance indicators (see below) with baselines and 2020 and 2025 targets (Table A8.1):

Table A8.1: Cleaner Pacific Strategic Goals and Performance Indicator Targets

Cleaner Pacific Strategic Goals	Cleaner Pacific Performance indicators
Prevent generation of wastes and pollution	Per capita generation of municipal solid waste (kg/person/day)
	No. of marine pollution incidents
	No. of port waste reception facilities
Recover resources from waste and pollutants	Waste recycling rate (=amount recycled, reused, returned/amount recyclable) (%)
	No. of national or municipal composting programmes
	No. of national or sate container deposit programmes
	No. of national EPR programmes for used oil
	No. of national EPR programmes for e-waste
Improve management of residuals	No. of national or state user-pays systems for waste collection
	Waste collection coverage (% of population)
	Waste capture rate (= amount collected/amount generated) (%)
	No. of temporary, unregulated and open dumps
	Quantity of asbestos stockpiles (m^3)
	Quantity of healthcare waste stockpiles (tonnes)
	Quantity of e-waste stockpiles (tonnes)
	Quantity of used oil stockpiles (m^3)
	Quantity of pharmaceutical and chemical stockpiles (tonnes)
	Urban sewage treated to secondary standards (%)
Improve monitoring of the receiving environment	No. of water and environmental quality monitoring programmes
	No. of national chemical and pollution inventories

Additionally, SPREP's Framework for Nature Conservation and Protected Areas in the Pacific Islands Region 2014-2020 (FNCPA14-20), and SPREP's Marine Species Programme and action plans (PIRMSP) includes response indicators related to marine litter:

- (FNCPA14-20) No. of initiatives (regional and national) for pollution reduction, including recycling and safe disposal of hazardous wastes, including plastics.
- (PIRMSP) At least 50% of PICTS have introduced management measures to reduce the use of plastic bags.

PERSGA monitors CSI indicators # 3 (Overall levels of marine litter Quantification of beach litter items), 16 (National Action Plans to reduce input from LBS), and 18 (Incentive to reduce marine litter at source).

SACEP's Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030: Living in Harmony with our Oceans and Coasts, includes a goal on "Prevention of Marine Pollution" (IAS), which lists the following indicators most relevant for marine litter:

- Develop and update national Plans of Action under GPA:
  a) Heathy ecosystem monitoring as per Aichi Targets, reflected also in SDG's indicators.
- Development of efficient solid waste management plans and rules at the country level/ Identify targets to reduce mismanaged solid wastes (especially in coastal cities)
  a) No. of Marine Litter Management Plans, policies and rules etc. in place.
- Development of guidelines on the environmentally sustainable disposal mechanism and implementation of them/ Develop facilities for collecting and recovery of oil and related wastes:
  a) solid waste management measures in place.

Ecosystem services indicators

With minor exceptions, dedicated ecosystem services indicators are conspicuously lacking in the GBF, not only in various monitoring elements of the GBF's 2050 Goals but also in relation to both components of Target 13 (and their corresponding monitoring elements) that specifically mention ecosystem services (See Tables below) Aichi Biodiversity Targets 11 and 14 included ecosystem services and in the GBF biodiversity related ecosystem services are transversal to various Goals and Targets (even when they are not explicitly named as such). The various targets of SDG 14 do not explicitly mention ecosystem services (although they are implicit in some targets) and the CSIs also do not address them as such. However, various indicators may be used as proxies of marine ecosystem services, namely indicators for MPAs, ICZM/MSP, IAS.

Components 2050 Goal	**Monitoring elements**	**Indicators**
A6. Protection of critical ecosystems	Trends in area of coastal and marine areas conserved	Protected area coverage
		Coverage of other effective area-based conservation measures
	Trends in areas of particular importance for biodiversity conserved	Protected area coverage of key biodiversity areas
		Species habitats index
	Trends in areas of particular importance for ecosystem services conserved	
	Trends in ecological representativeness of areas conserved	Protected Area Representativeness Index (PARC-Representativeness)
B1. Nature's regulating contributions including climate regulation, disaster prevention and other	Trends in habitat creation and maintenance	No. **certified forest areas** under sustainable management with verified impacts on habitat conservation/restoration
		Species habitat index
		Biodiversity habitat index
	Trends in regulation of climate	No. certified forest areas under sustainable management w/verified impacts on C sequestration/storage
	Trends in regulation of ocean acidification	-
	Trends in regulation of coastal water quality	-
	Trends in regulation of hazards & extreme events	SDG 11.5.1
	Trends in regulation of detrimental organisms and biological processes	-
B2. Nature's material contributions including food, water and others	Trends in the provision of energy supply from biological resources	-
	Trends in the provision of food and feed from BD	-
	Trends in the provision of materials and assistance from biodiversity	-
	Trends in the provision of medicinal, biochemical and genetic resources from biodiversity	-
B3. Nature's non-material contributions including cultural	Learning and inspiration	-
	Physical and psychological experiences	-
	Supporting identities	-
	Maintenance of cultural values	-

Components of the 2030 targets	Monitoring elements	Indicators
T13.1. BD reflected in policies/planning at all levels	Trends in integration of BD & ES values into planning processes	SDG indicator 15.9.1 and 17.14
	Trends in integration of BD & ES values into develop. processes	-
	Trends in integration of BD & ES values into poverty red. Strat.	-
	Trends in integration of BD and ES values into sectoral plans	-
T13.2. BD reflected in national and other accounts	Trends in integration of BD and ES values into national accounts	15.9.1
	Trends in integration of BD and ES values into other accounts	-
T13.3. BD values reflected in policies & regulations (PR), including on BD inclusive EIAs and SEAs	Trends in no. of PR which incorporate BD considerations	-
	Trends in no. of PR on EIA which incorporate BD considerations	-
	Trends in no. of PR requiring use of SEA incorporate BD considerations.	-

Several RSCAPs are already specifically addressing ecosystem services and proposing related indicators.

SACEP's Marine and Coastal Biodiversity Strategy for the South Asian Seas Region for 2019-2030 Implementation Monitoring Framework identifies various axes, the first one being "Ensuring Ecosystem Services and Wellbeing", including specific indicators.

The Nairobi Convention's WIO LME SAPPHIRE project includes Outcome Indicators related to ecosystem services, such as:

- no. of tools available that support decision makers in considering and integrating value of ecosystem goods and services into policy, management and investment decisions

The Abidjan Convention's Performance Measurement Plan identifies two main types of results (outcomes) related to ecosystem services, with the corresponding indicators, covering a wide range of topics including changes in the quantity and quality of benefits derived from marine and coastal ecosystems and social and environmental value of exploited goods and species (UN Environment/Abidjan Convention, 2018).

Table A8.2: Abidjan Convention's Performance measurement plan indicators of ecosystem services

OUTCOME 3	Maintaining and improving ecosystem services through the restoration, rehabilitation, creation and management of protected areas reduces the degradation of marine and coastal environments and fosters ecological equilibrium	20. Changes in the quantity and quality of benefits derived from marine and coastal ecosystems covered by the Abidjan Convention
Output 3.1	Critical habitats (mangroves, coral reefs, seagrass beds, etc.) and special-status species are managed effectively	21. Shrinkage rate of habitats and/or critical sites (process of degradation) 22. Rate of coverage of critical habitats under restoration effort
Output 3.2	The negative impact of invasive plant and animal species on marine and coastal ecosystems is mitigated	23. Proportion of special-status species that are monitored 24. Change in the area occupied by invasive species

		25. Levels of eutrophication in different settings 26. Level of execution of action plans to tackle invasive species
Output 3.3	The rehabilitation, restoration and protection of habitats helps preserve biodiversity	27. Surface of protected marine and coastal areas 28. Surface of restored zones
Output 3.4	The prevention of marine pollution by maritime activities supports national and regional systems for managing oil spills (concentration of hydrocarbons in coastal waters)	29. Level of implementation of sub-regional oil spill contingency plan 30. Number of early warning systems 31. Number of vulnerability maps available and updated 32. Number of simulation exercises on accidental oil spill
OUTCOME 4	The ecosystem and integrated resource management approach fosters the development and sustainable use of coastal and marine ecosystem goods and services and contributes to people's wellbeing	33. Increase in the social and environmental value of exploited goods and species
Output 4.1	Goods and services in coastal and marine ecosystems and habitats are evaluated	34. Number of categories of goods and species exploited 35. Size of stocks exploited 36. Number of sites identified as providers of cultural, regulatory and support services (recreational, productivity and nutrient cycle services) 37. Total income from ecosystem goods and services (ecotourism, nonconsumptive use)
Output 4.2.	The depletion of endangered species and basic products that are exploited is reversed	38. Number of management plans developed and implemented
Output 4.3	Local communities derive greater benefits from marine and coastal ecosystems	39. Number of programs or projects implemented by technical partners and Parties with the support of the Abidjan Convention 40. Number of households whose income is above the poverty threshold that can access infrastructures (roads, schools, clinics, markets, etc.)

UNEP-CEP's Regional Strategy and Action Plan for the Valuation, Protection and/or Restoration of Key Marine Habitats in the Wider Caribbean 2021 – 2030 (CANARI, 2020) identifies ecosystem services related actions and activities and corresponding indicators.

Table 8.3: UNEP CEP's ecosystem services related actions and activities and corresponding indicators.

Promote and use green infrastructure and blue carbon for climate adaptation and mitigation and biodiversity conservation	- No. of sites with blue carbon certification - No. of new pilot/demonstration blue carbon financing schemes - Member States explicitly include blue carbon in their United Nations Framework Convention on Climate Change (UNFCCC) Nationally Determined Contributions (NDCs) - - Area of coastal ecosystems used in green infrastructure and/or blue carbon schemes
Strengthen legal protection for herbivorous fish species (e.g. parrotfish) that support ecosystem services of coral reefs	- Approval of methods for assessing species conservation effectiveness of SPAW-listed MPAs - Reports by Member States on the status of protected and listed species - National, sub-regional and regional strategies for protection of refugia for corals and other threatened and important marine species - - Population measures for key species in each habitat (e.g. size, distribution)
Strengthen information and capacity for economic valuation (including assessment of intrinsic values) of	Published guidelines and procedures Uptake and use of database by planners/ decision makers

ecosystem services	
Use blue satellite national accounts and natural capital accounting to capture the contribution of coastal ecosystems to key economic sectors	Published guidelines and procedures No. of countries with enhanced system to collect data on natural capital use by sectors No. of countries with blue satellite accounts developed No. of countries conducting natural capital accounting
Improve access by decision-makers, planners and the public to data and reports about processes that impact nearshore marine/coastal ecosystems and ecosystem services	Member States establish national digital collection of publications, case studies, and other reports, or make provision for inclusion in regional collection