**UNEP and UNEP-WCMC views on possible targets, indicators and baselines for the post-2020 global biodiversity framework**

The following has been prepared in response to [notification 2019-108](https://url6.mailanyone.net/v1/?m=1ipCd1-0009R4-5x&i=57e1b682&c=ccSYyQWqCA7oz-hTb7KR7--PaZ9DRc5x7iOrjaTIzEzCS88H-8AzSrVGAj4IHNhhOtI6RQT1Nc0AYmGW3KoPOHgQMvhnHKFz8z9JDOhEhgymDXwogFr2D5ZbvRzD-a1hm4CDomqO6igzJqF7Vhd-sKap44aNay1MgGyo213bz7Zqgug8khDKZDuAF2LArRqym53ZH6oGbUZNmolIzxYZZiMVSFY2uuKiCtWZhZQrEva_8rgUIzlPFztzbzv8DwEJ0ZLpcnuFg3paYSoyrPLzI-927Zc1RxBl1lPmUyf2xpU) and [notification 2019-117](https://url6.mailanyone.net/v1/?m=1ipCd1-0009R4-5x&i=57e1b682&c=TBs--LqeEhRxSfYdO-r0uhlMa54Rtu4yCTmHK7fPoxBBZMQn0dQfo51G7rwfbQKFFwKukajE8daI2WmSjjeZCiRKecEIFbx1eHmi329rF08nOLk2PwtmWJxl4v4GvHiWB3rCE7QJJA9r9D9unUzF7ebY_7-Nbc3SwbVjpxFaVuCiouYwJ0S1S7sQuF1yzMx5iEEXSAlPhyCRPwRKZL6H1mN5dVD-uGSEdOBstaaapRoEslKAY7n0kB_un5ilD9SflrEC6f2QKtip4PmKTjSSeQ), which invite submissions on possible targets, indicators and baselines related to four specific areas, drivers of biodiversity loss, species conservation, mainstreaming, and interlinkages and interdependencies between biodiversity and climate change. We are deliberately making this submission after the zero draft of the post-2020 global biodiversity framework has been made available, so that we can also respond to how these issues have already been addressed in that document.

In collaboration with the CBD Secretariat and the Biodiversity Indicators Partnership, we have also undertaken a more complete preliminary analysis of the draft monitoring framework, particularly in relation to the measurability of the draft goals and targets, and the related proposed indicators. Documents providing details of this analysis will be provided to the 24th Meeting of SBSTTA, in response to SBSTTA recommendation 23/1. In addition, UNEP-WCMC will share an initial indicator analysis with the Open-Ended Working Group on the Post-2020 Global Biodiversity Framework, at its second meeting.

**Drivers of biodiversity loss**

1. The stated purpose of the post-2020 global biodiversity framework is “*to galvanise urgent and transformative action*” in response to the fact that “*biodiversity is deteriorating worldwide and this decline is projected to continue or worsen under business-as-usual scenarios*”. Given this, it seems surprising that no clear reference is made in the introduction to the zero draft to those direct drivers and indirect drivers that have been identified as leading to this deterioration. It might also be appropriate, at least in a footnote, to refer to the IPBES global assessment, and probably also the Global Biodiversity Outlook, as the evidence base.
2. With respect to addressing invasive alien species (Target 3), more thought needs to be given to differences between terrestrial and aquatic (especially marine) systems.
3. Wherever possible and appropriate it is valuable to relate biodiversity targets, indicators and baselines to those used in (or being developed in) other sectors. SAICM is currently developing a [*strategic approach and sound management of chemicals and waste beyond 2020*](http://www.saicm.org/Beyond2020/IntersessionalProcess/tabid/5500/Default.aspx), and there are clear advantages of linking approaches on potential impacts on biodiversity of chemicals and waste. This is relevant to the current Goal 4 and Target 4 and associated elements/indicators in the zero draft. Another obvious link to make would be to the UNCCD (and SDG) target of no net loss of land-based natural capital (“Land Degradation Neutrality”) which could be related to Target 1. Making such links helps to build reciprocal understanding between sectors, and hopefully a common approach.
4. Similarly, there may be lessons learned in other global and regional conventions and processes, which may relate to and inform the formulation of Goals, Targets and indicators in the post-2020 global biodiversity framework. For example, at the regional level more than 143 countries participate in 18 **Regional Seas Programmes, which have developed strategic/ecological objectives, targets and indicators; some examples are provided in the Annexes 2 and 3 to this submission, along with a coordinated set of indicators developed for use across the Regional Seas programme (See Annex 4).**
5. Overexploitation and unsustainability of wild species clearly needs to be addressed, and that this is best tackled by striving to ensure that harvesting, trade and use is at sustainable levels (Target 5). Addressing illegal trade is certainly one of the actions that is needed for addressing this, but it is unlikely that all illegal activities can be eliminated, so with the current wording of the target this would almost certainly be unachievable. What is needed is to promote those activities that address illegal trade harvesting, trade and use. However, this is rather different from taking steps to ensure that harvesting, trade and use are sustainable. Steps to achieve sustainability and measures to counter illegality might be better dealt with separately. In fact a number of actions needed for achieving sustainability are included in later targets, including Target 7 and Target 8, and the separation of Target 5 feels a bit contrived at present.
6. The intention appears to be that the direct drivers of change identified by IPBES are addressed explicitly by the targets addressing “*reducing threats to biodiversity*” (Targets 1-6), and the indirect drivers (and also other aspects of some direct drivers) by the targets addressing “*tools and solutions*” (Targets 12-20). This is understandable, but the degree to which this will happen depends on major increase in the understanding and recognition of the multiple values of biodiversity are how they are relevant. This may be the intention of Target 20, but at present this target does not seem to embrace the extent of the outreach that is necessary, nor its urgency, for underpinning other actions. This also does not really come through in Target 13 either. Perhaps this should also be picked up in the enabling conditions?
7. In terms of measurability of the Goals and Targets that address the drivers of biodiversity loss, a number of terms that are used in the zero draft may not be easy to measure. This may be due to the goal or target wording itself, or due to gaps in the indicators available to measure the goals and targets as worded, or that the proposed indicators in the zero draft may not always be a true measure of the draft goal and targets.
8. More generally, some of the suggested elements for monitoring Goals and Targets in Column B “*Suggested elements of the goals/targets for monitoring*” are not precisely aligned measures of the goals and targets as worded. This point and the previous one are relevant throughout the all of themes in the zero draft, and this needs looking at further. Some examples include:
   1. For example, for Goal 1 and Target 1, the term "integrity" may not be measurable unless it is clearly defined. The proposed indicators for Goal 1 and Target 1 are specific to certain ecosystem types only. Indicator gaps exist in the indicators proposed for this Goal as worded. Other indicators to measure the status of ecosystems are in development, and will be noted in a full analysis for SBSTTA24. Some indicators proposed for this goal may not be up to date as an effective measure for implementation of the framework.
   2. The suggested elements for monitoring of Target 2 do not reflect the scope of the Target as worded, since the monitoring elements include factors such as connectivity, and protected area management. Additional measures of connectivity could be included in the list of proposed indicators. Management effectiveness and equity indicators may also be useful additions for this Target.
   3. Some of the suggested elements for monitoring are not directly aligned to the wording of Target 5, and similarly this applies for the proposed indicators. For example, the Target relates to wild species, but some of the measures/indicators proposed are for the status of species used for food, medicine and domesticated species. The Living Planet Index for Forest Specialist species may not be best placed to measure progress towards Target 5.

**Species conservation**

1. The current framing of the first part of Goal 2 in the zero draft means that the target could be achieved by increasing the number of species extinctions. The potential for perverse interpretations and outcomes needs to be considered when targets are drafted, to avoid this.
2. The current framing of the second part of Goal 2 in the zero draft, on increased abundance of species could also be achieved in the short term with perverse outcomes, for example by an increase in invasive alien species. It is therefore important here to identify which species are being referred to.
3. There are a number of places where species conservation is potentially an element of other targets, or at least a potential outcome. This is so for Target 1 and Target 2, for example, and potentially also Target 7 and Target 8. More should be made of the interactions among targets and outcomes, which would also serve to underline the post-2020 framework as a single coherent package rather than a set of 20 (or so) targets.
4. In terms of measurability, Goal 2 may be measured by existing indicators if worded to specifically refer to those species that have been assessed for threat status/extinction risk. As worded, the Goal refers to a change in conservation status and extinction risk, regardless of whether or not the threat status of the species is known. Without clear baselines to measure the impact of conservation actions, Goal 2 may be difficult to measure. Gaps exist in the indicators proposed for Goal 2 in terms of the taxonomic groups represented in the proposed indicators, and for species abundance. Suggestions will be included in the full analysis for SBSTTA24.

**Mainstreaming**

1. The indicators and means for monitoring for the Goals and Targets that relate to mainstreaming do not include those from a growing number of site- or business-level indicators, whereby businesses are measuring the mainstreaming of biodiversity in plans and operations. Inputs from the Global Partnership for Business and Biodiversity may prove useful in relation to this suite of Targets and Indicators.
2. The reference to nature based solutions in goals and targets relating to both climate change (Target 6) and water provision (Target 9) is very relevant here, as are the references to nature’s benefits in Goal 4 (which refer to nutrition, access to water, resilience to natural disaster and climate change). In all cases improved understanding of and response to the multiple values of biodiversity and how biodiversity can support other agendas is critical to mainstreaming biodiversity and ecosystem services into other sectors. However nature-based solutions also have potential value in other areas (such as responding to land degradation, increasing resilience to natural disasters, addressing pollution impacts in air, soil and water), and this needs considering further in the context of mainstreaming.
3. However a number of aspects of mainstreaming are not really addressed, or elements of mainstreaming are addressed in different places. For example, Target 8 is focused on “agriculture and other managed ecosystems”, but forestry is not really addressed here but is under sustainable use (Target 5). The same is true of fisheries. This gives the impression that the key issue in forestry and fisheries is sustainable use, with the risk that other aspects of mainstreaming in these sectors are potentially overlooked. Again making clearer the interactions among targets and outcomes might help to address this point.
4. Currently Goal 4 addresses some benefits to people, but makes no reference to human health and well-being, and in the targets health is only explicitly referenced in Target 10 which focuses on ‘green space’. As is clear from the IPBES global assessment, many of nature’s contributions to people are essential to human health. More thought needs to be given as to how this can be reflected in the post-2020 global biodiversity framework. It may not be easy to craft meaningful targets and indicators around this, so perhaps this should focus on increased understanding and recognition of the roles biodiversity and ecosystem services in health.
5. Various of the “*tools and solutions for implementation and mainstreaming*” are also key elements of the mainstreaming agenda, and in particular Target 12 on incentives, Target 13 on values and Target 14 on economic reform. In fact all three are interrelated, and are also necessary parts of supporting implementation of Target 5 and Target 8. This degree of complexity suggests that guidance may be necessary on how the targets might be most effectively implemented at the national level (drawing on many materials already available. Note also that this would be easier if the wording of Target 14 more clearly expressed what was intended.
6. Target 13 is particularly important with respect to driving mainstreaming, and an essential element of this is integrating biodiversity values into national accounting and reporting systems.
7. For Parties undertaking mainstreaming, and indeed other activities implied by the targets and indicators, access to spatial planning tools and associated experience may be critical. It might be worth considering this when reviewing the text of the zero draft with respect to implementation support mechanisms, as there are elements of capacity-building, knowledge management, technical and scientific cooperation, and technology transfer. This is in addition to the potential value of guidance in addressing the targets referred to above.
8. Various indicators are proposed for the Targets 7 – 11 relating to the theme: “*Meeting people’s needs through enhanced use and benefit-sharing*”, which are not directly relevant to this notification. However, we note that there are many elements of these Targets that are not easily measurable at the organisational, local, national, or global level. It is unclear whether any organisation or country is measuring the data required for the indicators proposed. A useful resource for relevant indicators may be those used in Local Biodiversity Outlooks, or the measures that are reported in the Nagoya Protocol Clearing House Mechanism.
9. The following paragraphs refer to the measurability of the mainstreaming related aspects of the zero draft. There are no indicators proposed to measure elements of Target 13. A useful source of information may include the draft CBD Long-Term Strategic Approach to Mainstreaming (e.g. number of countries that have integrated biodiversity values into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting (SEEA)). This indicator aligns directly with SDG 15.9.1 (Tier II).
10. The means for measuring Target 14, Target 15 and Target 20 are yet to be defined. Some work will be needed at the sectoral level, to agree on relevant indicators. There is some emerging work on business-level indicators that will be provided to the Third Meeting of the Subsidiary Body on Implementation (SBI3), which may assist with the identification of sector-specific indicators. The nature of the information provided the financial reporting framework proposed to measure Target 15 is unclear at this time. The data may be valuable as an indicator if a trend over time is available to measure the proposed elements set out in Column B. Furthermore, the baseline and means for measuring “new social norms for sustainability” in Target 20, is unknown.
11. The indicators proposed for Target 17 and Target 18 do not measure all elements. For example, indicators for sustainable consumption levels may be required for Target 17, and indicators to measure Target 18 may include those that provide data on education, the transfer and use of knowledge (including from IPLCs) to inform decision making. The Biodiversity Indicators Partnership are unaware of such global level indicators.

**Interlinkages and interdependencies between biodiversity and climate change**

1. The reference to use of nature-based solutions for contributing to climate change mitigation, adaptation and disaster risk reduction in the zero draft already implies recognition of the interlinkages between biodiversity and climate change, and this is currently included in Target 6, the suggested elements for monitoring and the suggested indicators.
2. While Target 6 refers to both climate change mitigation and adaptation, it is heavily framed around mitigation, perhaps because it is in the section on “*reducing threats to biodiversity*”. More thought should be given to mainstreaming nature-based solutions into plans for adaptation and disaster risk reduction, or about increasing the area in which people benefit from increased protection against climate impacts and disasters through nature-based solutions. This might include increased focus on restoration.
3. There are perhaps two areas where targets (or elements of targets) might be considered to avoid this sort of confusion. Firstly with respect to “*reducing threats to biodiversity*” there might be a target (or elements of targets) related to enhancing the resilience of biodiversity and ecosystem services to climate change. Then other aspects of mitigation, adaptation and disaster risk reduction might come under “*meeting people’s needs*”.
4. In terms of measurability, some of the indicators proposed for Target 6 are not known to the Biodiversity Indicators Partnership, such as those related to soil carbon and REDD+. The use of “Trends in use of nature based solutions” may be specific and measureable if there is clear understanding of aim of nature-based solutions (e.g. mitigation and adaptation). Finally, the proposed indicators do not provide measures of the trends in the resilience of biodiversity to the impacts of climate change

**Annex 1: Regional Seas Programmes Strategic/Ecological Objectives, targets and indicators**

1. The United Nations Environment Programme (UNEP) Regional Seas Programme, launched in 1974, is one of UNEP’s most significant achievements in the past 45 years. It aims to address the accelerating degradation of the world’s oceans and coastal areas through sustainable management and use of resources and by engaging littoral countries in specific actions to protect shared marine environments. It has accomplished this by stimulating the creation of regional seas programmes for sound environmental management coordinated and implemented by countries sharing a common body of water.
2. Today, more than 143 countries participate in 18 regional seas programmes (Black Sea, Wider Caribbean, East Asian Seas, Eastern Africa, South Asian Seas, ROPME Sea Area, Mediterranean, North-East Pacific, Northwest Pacific, Red Sea and Gulf of Aden, South-East Pacific, Pacific, and West and Central Africa) established under the auspices of UNEP. Secretariats of seven of these regional seas programmes are administered by inter-governmental organisations or regional centres while the remaining six are administered by UNEP. These regional seas programmes received financial and technical support from UNEP in the initial phases of development of an action plan and its initial implementation.
3. The regional seas programmes are underpinned by the regional action plans with the aim to carry out activities on a regional basis to achieve the overall action plan objectives. Further the programmes may also be guided by other strategies or strategic action programmes that set strategic or ecological objectives of the programmes together with specific indicators to monitor their achievements.
4. Under the project funded by the European Commission: Integrated Management and Governance Strategies for Delivery of Ocean-related Sustainable Development Goals, Regional Seas Follow-up and Review of the Ocean related Sustainable Development Goals (SDGs): Conceptual Guidelines was developed (<https://wedocs.unep.org/bitstream/handle/20.500.11822/27295/ocean_SDG.pdf?sequence=1&isAllowed=y>) and in its Supplementary Annex (<https://wedocs.unep.org/bitstream/handle/20.500.11822/27515/Ocean_SDG.pdf?sequence=1&isAllowed=y>) include. Case studies of the selected regional seas programmes on their monitoring and review of the regionally agreed targets and objectives.
5. ANNEXES 2 and 3 represent the regional strategic/ecological objectives and their targets of the two selected regional seas programmes (Mediterranean Action Plan and Caribbean Environment Programme) to show the examples of these objectives, targets and indicators related to the selected Sustainable Development Goal 14 targets.
6. UNEP carried out a survey of the indicators used under these regional seas programmes and compiled the information on them in the 2015 report, “Measuring Success - Indicators for the Regional Seas Conventions and Action Plans” (<http://wedocs.unep.org/handle/20.500.11822/10940>).
7. Based on the information collated, the regional seas programmes decided to establish a regional seas indicator working group and at its first meeting, they decided on a coordinated set of indicators for the regional seas programmes (ANNEX 4).
8. These indicators are to indicate the environmental changes and the pressure of changes common to all or most of the regional seas programmes. The comparison was also carried out between these indicators and those used in the Transboundary Waters Assessment Programme ([www.geftwap.org](http://www.geftwap.org)). These regional indicators are actually monitored in many of the regional seas programmes although methodologies and application modalities of the indicators differ from one region to another.

## Annex 2 Mediterranean Action Plan strategic objectives and targets

In addition to the Barcelona Convention, its Protocols and the Mediterranean Action Plan (MAP Phase II), there are numerous regional strategic documents that have been adopted as summarised in **Table** **1** that are relevant to the SDG targets. The MAP Phase II captures the overall objectives and areas of action for the protection of the marine environment and the sustainable development of the coastal areas of the Mediterranean and is further elaborated in the UNEP/MAP Mid-Term Strategy 2016-2021 (**UNEP/MAP, 2016**) with specific objectives and outputs to be achieved over the 6-year period. Each biennium a budgeted programme of work with detailed activities is developed and agreed by the Contracting Parties. Further detailed strategies elaborate the priorities as agreed by the Contracting Parties, which include the Mediterranean Strategy for Sustainable Development (MSSD) 2016-2025 and the Roadmap for the implementation of the Ecosystem Approach (EcAp), as the guiding principle to MAP Programme of Work and all policy implementation and development with the ultimate objective of achieving the Good Environmental Status (GES) of the Mediterranean Sea and Coast. In order to coordinate the reporting of such a wide array of strategic documents, the Barcelona Convention reporting format was revised and adopted by the Contracting Parties in 2017.

Table 1 presents the main strategic documents of UNEP Mediterranean Action Plan (UNEP/MAP).

**Table 1. Main strategic documents of UNEP/MAP[[1]](#footnote-1)**

| **Relevant Protocol** | **Strategy/Plan** | **Year adopted and COP** | **Latest Decision** | **Relevant SDG target** |
| --- | --- | --- | --- | --- |
| Barcelona Convention  and overarching strategic documents | The Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II) | 1995 |  | Multiple |
| UNEP/MAP Mid-Term Strategy 2016-2021 | 2016 - COP 19 | IG.22/1 |
| Mediterranean Strategy on Sustainable Development 2016-2025 | 2016 - COP 19 | IG.22/2 |  |
| Implementing MAP ecosystem approach roadmap: Mediterranean ecological and operational objectives, indicators and timetable for implementing the ecosystem approach roadmap. | 2012 - COP 17 | IG.20/4 | 14.1, 14.2, 14.4, 14.5, 15.8 |
| Ecosystems Approach including adopting definitions of Good Environmental Status (GES) and targets. | 2013 – COP18 | IG.21/3 |
| Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria | 2016 – COP19 | IG.22/7 |
| Regional Climate Change Adaptation Framework for the Mediterranean Marine and Coastal Areas | 2016 – COP19 | IG.22/6 | 14.3, 13.1, 13.2, 13.3 |
| LBS Protocol,  Marine Litter and SCP  Dumping Protocol  Hazardous Wastes Protocol | Strategic Action Programme to address pollution from land-based activities (SAP-MED) and Action plans on pollution reduction deriving from specific provisions of the LBS Protocol | 1997 - COP 10 |  | 14.1, 6.3, 6.5, 6.6, 6a, 12.2, 12.4 |
| Regional Plan on the Reduction of BOD from Urban Wastewater; | 2009 COP 16 | IG.19/7 |
| Regional Plan on the Elimination of Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene; | 2009 - COP 16 | IG.19/8 |
| Regional Plan: Reduction of the Generation of Hazardous Waste from Industrial Installations | 2003 - COP13 |  |
| Regional Plan for the Reduction of BOD from Industrial Sources | 2003 - COP13 |  |
| Regional Plan on the Phasing Out of DDT | 2009 - COP 16 | IG.19/9 |
| Regional Plan on the Reduction of Inputs of Mercury | 2012 - COP 17 | IG.20/8.1 |
| Regional Plan on the Reduction of BOD5 in the food sector | 2012 - COP 17 | IG.20/8.2 |
| Regional Plan on the elimination in the framework of the implementation of Article 15 of the LBS Protocol, 1996 of Alpha hexachlorocyclohexane; Beta hexachlorocyclohexane; Hexabromobiphenyl; Chlordecone; Pentachlorobenzene; Tetrabromodiphenyl ether and Pentabromodiphenyl ether; Hexabromodiphenyl ether and Heptabromodiphenyl ether; Lindane; Endosulfan, Perfluorooctane sulfonic acid, its salts and perfluorooactane sulfonyl fluoride | 2012 - COP 17 | IG.20/8.3 |
| Strategic Framework for Marine Litter Management | 2012 - COP 17 | IG.20/10 |
| Regional Plan on Marine Litter Management | 2013 - COP18 | IG.21/7 |
| National Action Plans to reduce pollution for 2016-2025 | 2016 – COP 19 | IG.22/8 |
| SPA-BD Protocol and MPAs | Strategic Action Plan for the conservation of marine and coastal biodiversity in the Mediterranean (SAP-BIO) and Action plans on species deriving from specific provisions of the SPA-BD Protocol | 2003 - COP13 |  | 14.2, 14.5, 15.1, 15.5, 15.8, 15.9, 15.a |
| Monk Seal Action Plan | 1995 - COP 9  2013 – COP 18 | IG.21/4 |
| Action Plan for the Conservation of Cetaceans in the Mediterranean Sea | 1991 – COP 7  2016 – COP19 | IG.22/12 |
| Action Plan for the Conservation of Marine Vegetation in the Mediterranean Sea | 1999 – COP 11  2005 – COP 14 |  |
| Action Plan for the conservation of Bird Species listed in Annex II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean; | 2003 - COP13  2013 - COP 18  2017 – COP 20 | IG.23/8 |
| Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea; | 2003 - COP13  2013 - COP 18 | IG.21/4 |
| Action Plan concerning species introductions and invasive species in the Mediterranean Sea. | 2003 – COP 13  2016 – COP 19 | IG.22/12 |
| Action Plan for the Conservation of Mediterranean Marine Turtles | 2008 - COP 15  2013 - COP 18 | IG.21/4 |
| Action Plan for the Protection of the Coralligenous and other Calcareous Bio-concretions in the Mediterranean | 2008 - COP 15  2016 – COP 19 | IG.22/12 |
| Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs | 2016 – COP 19 | IG.22/13 |
| Prevention and Emergency Protocol | Regional strategy addressing ship’s ballast water management and invasive species. | 2012 – COP 17 | IG.20/11 | 14.1, 15.8, 9.1. 9.4 |
| Regional Strategy for Prevention of and Response to Marine Pollution from Ships (2016-2021) | 2012 – COP 17  2016 – COP 19 | IG.22/4 |
| Offshore Protocol | Mediterranean Offshore Action Plan in the Framework of the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil | 2012 – COP 17  2016 – COP 19 | IG.20/12  IG.22/3 | 14.1, 14.2, 9.4 |
| ICZM Protocol | Action Plan for the implementation of the ICZM Protocol for the Mediterranean (2012-2019) | 2012 – COP 17 | IG.20/2 | 14.2 (plus all those in Annex 1) |
| Sustainable Consumption and Production | Regional Action Plan on Sustainable Consumption and Production in the Mediterranean | 2016 – COP 19 | IG.22/5 | 12.2, 12.4 (plus 2.4, 6.4, 9.4) |

Tables 2 to 5 present the key objectives, targets and indicators (where available) from these strategies and plans relevant to the following SDG 14 Targets:

**Table 2: 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. It includes the following:

1. The Ecosystem approach ecological objectives, operational objectives, targets and indicators as adopted by the Contracting Parties of the Barcelona Convention (Decisions IG.20/4, IG.21/3 and IG.22/7)
2. The Strategic Action Programme to Address Pollution from Land-Based Activities (SAP-Med) with its thematic targets adopted in 2003

Additional thematic targets are included taken from the detailed analysis of LBS/SAP-MED and Regional Plans commitments for Ecological Objective at the “*Regional meeting on applying methodology for programmes of measures and economic analysis in the NAP update*” in 2015 (UNEP(DEPI)/MED WG.414/3) which include the regional plans related to pollution as listed in Table 1. The synopsis of the 2016 NAP updates presented at the Regional Meeting on NAPs Implementation – Lessons learned and the way forward (UNEP(DEPI)/MED WG.426/3) provided the analysis of common NAP targets and proposed NAP indicators.

**Table 3.** **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.

**Table 4. SDG Target 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.

**Table 5. 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

It should be noted that in this example, full alignment of targets was not completed where targets overlap between commitments, and further consideration should be given to integrate the objectives and outputs of Decision IG.22/1 UNEP/MAP Mid-Term Strategy 2016-2021, and additional indicators developed such as the Horizon 2020 indicators and thematic strategies.

**Table 2. 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 [Indicator 14.1.1. Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **Eutrophication** | | | | | |
| **Ecological Objective 5:**  Human-induced eutrophication is prevented, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algal blooms and oxygen deficiency in bottom waters. | **Operational Objective:**  Human introduction of nutrients in the marine environment is not conducive to eutrophication  **Operational Objective:**  Direct effects of nutrient over-enrichment are prevented | **[State]** 1. Reference nutrients concentrations according to the local hydrological, chemical and morphological characteristics of the un-impacted marine region  2. Decreasing trend of nutrients concentrations in w  ater column of human impacted areas, statistically defined  **[Pressure/Response]** 1. Reduction of BOD emissions from land-based sources  2. Reduction of nutrients emissions from land-based sources  **[State]** 1. Chl-a concentrations in high-risk areas below thresholds  2. Decreasing trend in chl-a concentrations in high risk areas affected by human activities | Common indicator (CI) 13: Concentration of key nutrients in water column (Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast Related Assessment Criteria (IMAP))  CI 14: Chlorophyll-a concentration in water column (IMAP) | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Objectives of the LBS Protocol**  **SAP-MED : Municipal sewage** | | **[Pressure/Response]**   * Promotion of separate collection of rain waters and municipal wastewaters * Promotion of reuse of treated effluents for the conservation of water resources * Coastal cities and urban agglomerations of more than 100,000 inhabitants are connected to a sewer system * Reduce nutrient inputs, from agriculture and aquaculture practices into areas where these inputs are likely to cause pollution * Dispose all wastewater from industrial installations which are sources of BOD, nutrients and suspended solids | Links to MEDPOL indicators:  Biochemical Oxygen Demand in effluents and Chemical Oxygen Demand in effluents  Chlorophyll a and Dissolved oxygen  Nitrate and other forms of Inorganic Nitrogen in transitional, coastal and marine waters, Nutrients in effluents  PH, Salinity, Temperature, transparency | SAP-MED (2003) |  |
| **Objectives of the LBS Protocol and the Regional Plan Marine Litter** | | **[Pressure/Response]**   * Take necessary measures to establish adequate urban sewer and wastewater treatment plants that prevent run-off and riverine inputs of litter |  | Regional Plan Marine Litter Decision IG.21/7 |  |
| **Objectives of the LBS Protocol**  **Regional Plan BOD requirements** | | **[Pressure/Response]**   * Adopt emission limit values (ELV) for BOD5 in urban wastewater after treatment in accordance with the requirements of the “regional guideline on the reduction of BOD5 from urban waste water” * Enforce the adopted ELVs by monitoring discharges from municipal wastewater treatment plants into the environment * Ensure that all agglomerations of more than 2000 inhabitants collect and treat their urban wastewater before discharging them into the environment * Industrial Food Plants outlined in Appendix I which discharge more than 4 000 PE into water bodies shall meet the following requirements: COD 160 mg/l or TOC 55 mg/l and BOD 30 mg/l * In case the food sector installation discharges into the sewerage system, the competent authorities shall establish ELV and an authorization compatible with the operation and the emission discharge values of the urban waste water treatment plant | Links to MEDPOL indicators (as above) | **Regional Plan BOD**  Decision IG.19/7  Decision IG.20/8.2 |  |
| **Objectives of the LBS Protocol**  **Revised NAP targets (2016)** | | **[Pressure/Response]**   * Provide XX% population with connection to sewage networks [2019 to 2025] * Provide XX% of agglomerations in excess of 2000 inhabitants with wastewater collection and treatment [2019 to 2025] * Reduce by XX% of BOD discharged to water bodies [2018 to 2021] * Reduce by XX% nutrient input from agricultural activities discharged to water bodies [2019 to 2020] | Proposed NAP Indicators:   * Share of population with access to an improved sanitation system (total, urban, rural) * Volume of wastewater collected, of which volume of wastewater treated (in population equivalent) * Wastewater treated (in population equivalent) * Total loads of BOD5, Total nitrogen, Total phosphorus discharged to the Mediterranean Sea from urban wastewater treatment * Concentration of key nutrients in the water column | 2016 Revised NAPS  UNEP(DEPI)/MED WG.426/3 |  |
| **Marine Litter** | | | | | |
| **Ecological Objective 10:**  Marine and coastal litter do not adversely affect coastal  and marine environment | **Operational Objective:**  10.1 The impacts related to properties and quantities of marine litter in the marine and coastal environment are minimized  10.2 Impacts of litter on marine life are controlled to the maximum extent practicable | **[State]** Decreasing trend in the number of/amount of marine litter (items) deposited on the coast  **[State]** Decreasing trend in the number/amount of marine litter items in the water surface and the seafloor  **[State]** Decreasing  trend in the cases of entanglement or/and a decreasing trend in the stomach content of the sentinel species. | CI 22: Trends in the amount of litter washed ashore and/or deposited on coastlines  (IMAP)  CI 23: Trends in the amount of litter in the water column including microplastics and  on the seafloor (IMAP)  CI 24: Trends in the amount of litter ingested by or entangling marine organisms  focusing on selected mammals, marine birds, and marine turtles (IMAP) | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Objectives of the LBS Protocol**  **SAP Theme:** Urban Solid Waste | | **[Pressure/response]**   * Urban solid waste management is based on reduction at source with the following waste hierarchy: prevention, re-use, recycling, recovery, and environmentally sound disposal * Establish environmentally suitable and economically feasible systems of collection and disposal of urban solid waste in cities of more than 100,000 inhabitants |  | SAP-Med (2003) | SAP-Med Evaluation (2015) based on data from acquired from the pollutant loads releases into the marine environment (NBB) 2003, 2008, 2013 and the latest E-PRTR |
| **Overall Objectives**  (a) Prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species in particular the endangered species, public health and safety;  (b) Remove to the extent possible already existent marine litter by using environmentally respectful methods;  (c) Enhance knowledge on marine litter; and  (d) Achieve that the management of marine litter in the Mediterranean is performed in accordance with accepted international standards and approaches as well as those of relevant regional organizations and as appropriate in harmony with programmes and measures applied in other seas. | | **[Pressure/Response]**   * Take necessary measures to establish adequate urban sewer and wastewater treatment plants that prevent run-off and riverine inputs of litter * Minimization of impacts related to properties and quantities of marine litter in the marine and coastal environments * Control of impacts of litter on marine life to the maximum extent practicable * Reduction of fraction of plastic packaging waste that goes to landfill or incineration * Ensuring adequate urban sewer systems, WWTP and waste management systems to prevent run-off and riverine inputs of Marine Litter * Application of cost- * effective measures to prevent any marine littering from dredging activities * Adopt preventive measures to minimize inputs of plastic in the marine environment * Enforce measures to combat illegal dumping including littering on beaches and illegal sewage disposal in coastal zones and rivers * Implement programmes on regular removal and sound disposal of accumulations/hotspots of marine litter * Implement adequate waste reducing/reusing/ recycling measures in order to reduce the fraction of plastic packaging waste that goes to landfill or incineration without energy recovery * Close to the extent possible existing illegal solid waste dump sites * Remove existing accumulated litter from Specially Protected Areas of Mediterranean Importance (SPAMI) and litter impacting endangered species |  | Regional Plan Marine Litter Decision IG.21/7 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Objectives of the LBS Protocol**  **NAP targets (2016)** | | **[Pressure/Response]**   * Provide for the collection of XX% of solid waste [2019 to 2025] * Construct XX municipal solid waste landfills [2019 to 2025] * Adopt good practices in solid waste management including waste reduction, sorting, recycling, recovery, and reuse [2020 to 2025] * Regulate/reduce usage/ discharge of XX% of fraction of plastics [2015 to 2025] * Close/ remediate XX% of illegal solid waste dump sites [2019 to 2020] * Reduce XX% of disposed marine litter on beaches/sea [2019 to 2025] * Prevent riverine run-off of marine litter to the sea by XX% [2019 to 2020] | Proposed NAP indicators:   * Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities * Share of recycled, landfilled and incinerated municipal waste with respect to collected amount * Amounts/trends of marine litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source. * Index of coastal eutrophication and floating plastic debris density * Share of existing illegal solid waste dumpsites on land that have been closed (in past 10 years) with respect to the total number | 2016 Revised NAPS  UNEP(DEPI)/MED WG.426/3 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Other Contaminants** | | | | | |
| EO 9: Contaminants cause no significant impact on coastal and marine ecosystems and human health (Ecosystem Approach Roadmap) | **Operational Objective:**  9.1 Concentration of priority contaminants is kept within acceptable limits and does not increase  9.2 Effects of released contaminants are minimized  9.3 Acute pollution events are prevented and their impacts are minimized  9.4 Levels of known harmful contaminants in major types of seafood do not exceed established standards  9.5 Water quality in bathing waters and other recreational areas does not undermine human health | **[State]** Concentrations of specific contaminants below EACs or below reference concentrations25  No deterioration trend in contaminants concentrations in sediment and biota from human impacted areas, statistically defined.  **[Pressure]** Reduction of contaminants emissions from land-based sources  **[State]** Contaminants effects below threshold  Decreasing trend in the operational releases of oil and other contaminants from coastal, maritime and off-shore activities.  **[Pressure]** Decreasing trend in the occurrences of acute pollution events  **[State]** Concentrations of contaminants are within the regulatory limits set by legislation  **[State]** Decreasing trend in the frequency of cases of seafood samples above regulatory limits for contaminants  **[State]** Increasing trend in the percentage of intestinal enterococci concentration measurements within established standards | CI 17: Concentration of key harmful contaminants measured in the relevant matrix (IMAP)  CI 18: Level of pollution effects of key contaminants where a cause and effect  relationship has been established (IMAP)  CI 19: Occurrence, origin (where possible), extent of acute pollution events (e.g.  slicks from oil, oil products and hazardous substances), and their impact on  biota affected by this pollution (IMAP)  CI 20: Actual levels of contaminants that have been detected and number of  contaminants which have exceeded maximum regulatory levels in commonly  consumed seafood (IMAP)  CI 21: Percentage of intestinal enterococci concentration measurements within  established standards (IMAP) | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Objectives of the LBS Protocol**  **SAP-MED** | POPS | **[Pressure/Response]**   * Application of BAT and BEPs for environmentally sound management of POPs * Concentration of priority contaminants in biota, sediment or water is kept within acceptable limits |  | SAP-Med (2003) | SAP-Med Evaluation (2015) based on data from acquired from the pollutant loads releases into the marine environment (NBB) 2003, 2008, 2013 and the latest E-PRTR |
| Heavy Metals (Hg, Cd, Pb, Zn, Cu, Cr) | * Phase out discharges and emissions and losses of mercury, cadmium and lead * Eliminate to the fullest possible extent pollution of the Mediterranean Sea caused by discharges, emissions and losses of zinc, copper and chrome |  |  |
| Organometallic Compounds | * Phase out to the fullest possible extent discharges, emissions and losses of organomercuric compounds and reduce those of organolead and organotin compounds |  |  |
| PAH | * Phase out inputs of PAHs |  |  |
| Organohalogen compounds | * Eliminate to the fullest possible extent pollution caused by discharges, emissions and losses of organohalogen compounds |  |  |
| Radioactive substances | * Eliminate to the fullest possible extent inputs of radioactive substances |  |  |
| Hazardous wastes | * Dispose all hazardous wastes in a safe and environmentally sound manner |  |  |
| Nutrients and suspended solids | * Reduce nutrient inputs, from agriculture and aquaculture practices into areas where these inputs are likely to cause pollution * Dispose all wastewater from industrial installations which are sources of BOD, nutrients and suspended solids |  |  |
| Physical Alterations and Destruction of Habitats | * Safeguard of the ecosystem function and maintenance of the integrity and biological diversity of species and habitats * Restore marine and coastal habitats that have been adversely affected by anthropogenic activities |  |  |
| **Objectives of the LBS Protocol**  Regional Plan BOD requirements | | * Industrial Food Plants outlined in Appendix I which discharge more than 4000 PE into water bodies shall meet the following requirements: COD 160 mg/l or TOC 55 mg/l and BOD 30 mg/l * In case the food sector installation discharges into the sewerage system, the competent authorities shall establish ELV and an authorization compatible with the operation and the emission discharge values of the urban waste water treatment plant |  | **Regional Plan BOD**  Decision IG.19/7  Decision IG.20/8.2 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **Objectives of the LBS Protocol**  Regional Plan Mercury requirements | | * Prohibit the installation of new Chlor alkali plants using mercury cells and vinyl chloride monomer production plants using mercury as a catalyst * Adopt National ELVs for mercury emissions based on values included in the “regional plan on the reduction of inputs of mercury” from other than Chlor Alkali industry * Cease releases of mercury from the activity of Chlor alkali plants * Identify existing sites which have been historically contaminated with mercury * Apply environmentally sound management measures to sites which have been historically contaminated with mercury * Achieve environmentally sound management of metallic mercury from the decommissioned plants * Progressively reduce total releases of mercury (to air, water and to products) from existing Chlor alkali plants until their final cessation * Take appropriate measures to isolate and contain mercury containing wastes |  | Decision IG.20/8.1 “Regional Plan on the Reduction of Inputs of Mercury”. |
| **Objectives of the LBS Protocol**  **Bathing Water Quality COP Decision requirements** | | * Prohibit and/or take legal and administrative measures necessary to eliminate the production and use, import and export of POPs and their wastes * Identify stock piles consisting of or containing POPs * Phase out inputs of the 9 pesticides and PCBs and reduce inputs of unwanted contaminants: hexachlorobenzene, dioxins and furans |  | Decision IG.20/9 “Criteria and Standards for bathing waters quality”. |
| **Objectives of the LBS Protocol**  **NAP targets (2016)** | | * Phase out/reduce/control quantities or concentrations of POPs (PCB, pesticides) by 2025 * Phase out/reduce discharges of PAHs by 2025 * Reduce discharge of hazardous substances from industrial plants (apply BAT/BEP) by XX% or dispose in a safe manner [2020 to 2025] * Reduce discharge of heavy metals (mercury, cadmium, lead, zinc, copper, chromium) by XX% * [2019 to 2025] * Decontaminate XX% of sites polluted with mercury or phase out/isolate mercury from closed plants by 2025 | Proposed NAP Indicators:   * Number of substances covered by national standards (ELV), for point source discharges into water or air * Concentration of key harmful contaminants in the relevant matrix (biota, sediment, seawater) * The amount of hazardous wastes environmentally soundly managed or exported by Y categories and by disposal/recovery operation (D-disposal, R- recovery, as well as treated in waste to energy facilities) * Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment * Share of contaminated sites with toxic, persistent and liable to accumulate substances in the coastal area which have been closed/remediated including spills from industrial accidents | 2016 Revised NAPS  UNEP(DEPI)/MED WG.426/3 | MEDPOL Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |

**Table 3. 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. [Indicator 14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **ICZM, Coast and Hydrography, Sea-floor Integrity** | | | | | |
| **EO 6 Sea-floor integrity**  Sea-floor integrity is maintained, especially in priority benthic habitats | Sea-floor integrity is maintained | Target(s) to be developed | Indicators(s) to be developed | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 | PAP/RAC Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **EO7 Hydrography**  Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems. | Alterations due to permanent constructions on the coast and watersheds, marine installations and seafloor anchored structures are minimized | Planning of new structures takes into account all possible mitigation measures in order to minimize the impact on coastal and marine ecosystem and its services integrity and cultural/historic assets. Where possible, promote ecosystem health. | Common Indicator 15: Location and extent of the habitats impacted directly by hydrographic alterations (EO7) to also feed the assessment of EO1 on habitat extent | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 |
| **EO 8 Coastal ecosystems and landscapes**  The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved | The natural dynamic nature of coastlines is respected and coastal areas are in good condition | Negative impacts of human activities on sandy coastal areas are minimized through appropriate management measures | Common Indicator 16: Length of coastline subject to physical disturbance due to the influence of man-made structures (EO8); |
| Target(s) to be developed | Candidate Indicator 25: Land use change (EO8) | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 |
|  |  |  |  |  |  |
| **Biodiversity** | | | | | |
| **Ecological Objective 1:**  Biological diversity is maintained or enhanced. The quality and occurrence of coastal and marine habitats and the distribution and abundance of coastal and marine species are in line with prevailing physiographic, hydrographic, geographic and climatic conditions. | **Operational Objective:**  Species distribution is maintained | **[State]** The ratio Natural / observed distributional range tends to 1  **[Pressure]** Decrease in the main human causes of the habitat decline | Common Indicator 1: Habitat distributional range (EO1) to also consider habitat extent as a relevant attribute | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7 | SPA/RAC Monitoring Program and new IMAP monitoring under development. Data reported every year from countries  Barcelona Convention Reporting (every 2 years) |
| **[State]** No human induced significant deviation of population abundance and density from reference conditions  The species composition shows a positive trends towards reference condition over an increasing proportion of the habitat (for recovering habitats) | Common Indicator 2: Condition of the habitat’s typical species and communities (EO1) |
| **MARINE MAMMALS**  **Monk Seal:** The distribution of Monk Seal remains stable or expanding and the species is recolonizing areas with suitable habitats.  [**Pressure/Response]**: Human activities having the potential to exclude marine mammals from their natural habitat within their range area or to damage their habitat are regulated and controlled.  Conservation measures implemented for the zones of importance for cetaceans  Fisheries management measures that strongly mitigate the risk of incidental taking of monk seals and cetaceans during fishing operations are implemented.  **BIRDS**  **[State]** No significant shrinkage in the population distribution in the Mediterranean in all indicator species, and for colonial-breeding seabirds (i.e., most species in the Mediterranean): New colonies are established and the population is encouraged to spread among several alternative breeding sites.  **REPTILES**  **[State]** Turtle distribution is not significantly affected by human activities Turtles continue to nest in all known nesting sites  **[Pressure/Response]:** Protection of known nesting, mating, foraging, wintering and developmental turtle sites.  Human activities having the potential to exclude marine turtles from their range area are regulated and controlled.  The potential impact of climate change is assessed | Common Indicator 3: Species distributional range (EO1 related to marine mammals, seabirds, marine reptiles) |
| **MARINE MAMMALS**  Populations recover towards natural levels.  **BIRDS**  No human induced decrease in population abundance. Population recovers towards natural levels where depleted. The total number of individuals is sparse enough in different spots.  **REPTILES**  **[State]** No human induced decrease in population abundance. Population recovers towards natural levels where depleted | Common Indicator 4: Population abundance of selected species (EO1, related to marine mammals, seabirds, marine reptiles) |
| **MARINE MAMMALS**  **[State]** Decreasing trends in human induced mortality  Pressure/Response  **Cetaceans:**  Appropriate measure implemented to mitigate incidental catch, prey depletion and other human induced mortality  **Monk Seal:**  Appropriate measures implemented to mitigate direct killing and incidental catches and to preclude habitat destruction.  **BIRDS**  Populations of all taxa, particularly those with IUCN threatened status are maintained in long term following the indication of population models.  Incidental catch mortality is at negligible levels, particularly for species with IUCN threatened status.  **REPTILES**  **[Response]** Measures to mitigate incidental catches in turtles implemented | Common indicator 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) |
| **Ecological Objective 4** Alterations to components of marine food webs caused by resource extraction or human-induced environmental changes do not have long-term adverse effects on food web dynamics and related viability | Alterations of marine food webs do not have long-term adverse effects | Target(s) to be developed | Indicators(s) to be developed |  |  |

**Table 4. SDG Target 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. [Indicator 14.4.1 Proportion of fish stocks within biologically sustainable levels]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **EO 3 Harvest of commercially exploited fish and shellfish**  **Populations of selected commercially exploited fish and shellfish are within biologically safe limits, exhibiting a population age and size distribution that is indicative of a healthy stock** |  | Populations of selected commercially exploited fish and shellfish are within biologically safe limits  By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices | Common Indicator 7: Spawning stock Biomass (EO3);  Common Indicator 8: Total landings (EO3);  Common Indicator 9: Fishing Mortality (EO3);  Common Indicator 10: Fishing effort (EO3);  Common Indicator 11: Catch per unit of effort (CPUE) or Landing per unit of effort (LPUE) as a proxy (EO3)  Common Indicator 12: Bycatch of vulnerable and non-target species (EO1 and EO3) | EcAp Decisions IG.20/4, IG.21/3 and IG.22/7  FAO GFCM Decisions | FAO GFCM (in partnership with UNEP/MAP) Monitoring Program |
| **MSSD Objective 1.** Ensuring sustainable  development in marine  and coastal areas | **Strategic Directions**  1.2: Establish and enforce regulatory mechanisms, including Maritime Spatial Planning, to  prevent and control unsustainable open ocean resource exploitation | 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 (SDG 14.4) | Proportion of fish stocks within biologically sustainable levels (SDG Indicator 14.4.1) | MSSD 2016-2025 (COP Decision IG.22/2, 2016) |  |

**Table 5. 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. [14.5.1 Coverage of protected areas in relation to marine areas]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **MSSD Objective 1.** Ensuring sustainable  development in marine  and coastal areas | **Strategic Directions**  1.2: Establish and enforce regulatory mechanisms, including Maritime Spatial Planning, to  prevent and control unsustainable open ocean resource exploitation | By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national  and international law and based on best available scientific information (SDG 14.5) | Coverage of protected areas in relation to marine territorial waters (SDG Indicator 14.5.1) | MSSD 2016-2025 (COP Decision IG.22/2, 2016) |  |

## ANNEX 3: Caribbean Environment Program strategic objectives and targets

In 1976 UN Environment launched the Caribbean Environment Programme (CEP)[[2]](#footnote-2), which embraces the region's diversity in its efforts to advance economic prosperity and environmental health. Laying the groundwork for the CEP, the governments identified a number of pressing issues:

* Land-based sources of municipal, industrial and agricultural wastes and run-off;
* Over-exploitation of resources such as fish, molluscs and crustaceans;
* Increasing urbanization and coastal development as populations and economies expand;
* Unsustainable agricultural and forestry practices and a profound need to strengthen government and institutional capacity to address environmental problems.

The Caribbean Action Plan was adopted in 1981 by Twenty-Two States. The action plan led to the adoption of a legal framework in 1983 – the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (**Cartagena Convention**), which entered into force in 1986. The Convention is supported by three technical agreements or Protocols on Oil Spills, Specially Protected Areas and Wildlife (SPAW) and Land Based Sources of Marine Pollution (LBS).

Table 1 presents the main strategic documents of CEP. There are a number of thematic strategies under development.

**Table 1. Main strategic documents of UNEP/MAP[[3]](#footnote-3)**

| **Relevant Protocol** | **Strategy/Plan** | **Year adopted and COP** | **Relevant SDG target** |
| --- | --- | --- | --- |
| Cartagena Convention  and overarching strategic documents | Action Plan for the Caribbean Environment Programme, adopted in 1981 and which led to the adoption of the Cartagena Convention | 1981 | 14.1, 14.2, 14.5 and other SDG targets |
| Regional Strategy for the Protection and Development of the Wider Caribbean Region. Implementing the Cartagena Convention & Supporting the 2030 Agenda for Sustainable Development.  2020-2030 | 2019 |
| Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem | 2012/2015 | 14.1, 14.2, 14.4, 14.5, 14.6, 14.7 and other SDG targets |
| Strategic Action Programme for the Caribbean and North Brazil Shelf Large Marine Ecosystems | 2013 |
| Protocol Concerning Co-operation in Combating Oil Spills | Biennium work programme | 2019 | 14.1, 14.2 |
| Protocol Concerning Specially Protected Areas and Wildlife (SPAW) | Biennium work programme | 2019 | 14.2, 14.5 |
|  |  |  |
| Protocol Concerning Pollution from Land-Based Sources and Activities (LBS) | Biennium work programme | 2019 | 14.1, 14.2 |
| Regional Action Plan on Marine Litter Management (RAPMaLi) for the Wider Caribbean Region (2014) | 2014 | 14.1 |
| Strategic Plan for Marine Litter Management in The Wider Caribbean Region Caribbean Node for Marine Litter (GPML-CARIBE) | 2019 | 14.1 |

Tables 2 to 5 present the key objectives, targets and indicators (where available) from these strategies and plans relevant to the following SDG 14 Targets:

**Table 2: 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.

**Table 3. 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.

**Table 4. SDG Target 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.

**Table 5. 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.

**Tablele 2. 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 [Indicator 14.1.1. Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **Strategic objective 2:** Increase use of innovative pollution prevention and reduction tools, innovative/appropriate technologies including circular economy approaches, waste as a resource and sustainable consumption and production - Pollution Prevention, Reduction and Control. | **Objective: 1.** To strengthen the ability of Contracting Parties to the LBS and Oil Spills Protocols to implement pollution reduction and prevention measures | Increased use of the ecosystem-based management approach in countries to prevent, reduce and control pollution thereby sustaining ecosystem services from coastal and marine ecosystems. | (i) Increase in number of countries that have progressed in integrating ecosystem-based management approaches into sectoral and national development planning processes, strategies and action plans.  (ii) Increase in number of countries adopting action plans to reduce marine litter, untreated wastewater, nutrient and petroleum discharges into the marine environment. | CEP Regional Strategy (CAR IG.42/5, 2019) | Cartagena Convention reporting mechanism |
| Increased use of pollution prevention and reduction tools and innovative/appropriate technologies to protect human health and reduce degradation of selected priority ecosystems. | (i) Increase in number of countries developing and using tools, technologies and management practices for pollution prevention and reduction leading to reduced degradation of coastal and marine ecosystems and improved delivery of ecosystem services at national and regional levels. |  |  |
| Increased capacity of countries to develop and implement local and/or national plans of action for pollution prevention, reduction and control. | (i) Increase in number of countries developing and implementing local and national pollution reduction plans including national monitoring and assessment programmes. |  |  |
| **Objective: 2.** To empower stakeholders in their policy and decision making by providing scientific information and knowledge for the Wider Caribbean Region | Enhanced regional and national decision-making and policy-making for improving the management of coastal and marine resources of the Wider Caribbean Region through increased generation, dissemination and use of quality data and information and participatory processes. | (i) Increase in number and/or strengthening of partnerships for data and information management; (ii) Increase in number of countries, regional intergovernmental fora and institutions using data on environmental trends to take policy and/or other actions; |  |  |
| Increased capacity and financing opportunities of states and other stakeholders to assess, manage and reduce risks to human health and the environment posed by land and marine-based sources of marine pollution and associated activities including from chemicals and wastes. | Increase in the number of countries using available tools, mechanisms, strategies, technologies and decision-support systems for monitoring, analysis, evaluation and dissemination of environmental data and information including for improved awareness and decision-making; |  |  |
| **Long-term Ecosystem Quality Objective (EcoQO):** Improve water quality; enhance economic vitality by avoiding depletion and recover living marine resources; and conserve and restore coastal and marine ecosystems | **Ecosystem Quality Strategic Area I**  Establish strategies and actions for the reduction and control of nutrient over enrichment, harmful algal blooms and for the elimination of dead zones | Increase wastewater treatment.  Formulate or implement four legal, policy or planning instruments related to reduce water pollution. | Wastewater treated/total of wastewater (other indicators: number of wastewater discharges; number of wastewater treatment plants; DBO5; SST; reduction of nutrients from the watersheds; decrease of agrochemicals)  Number of legal, policy, planning or monitoring instruments related to water pollution reduction (number of sites monitored; flow that meets ecological objectives; surface and underground water availability calculations; waste management; water reserves)  Number of formulated or implemented instruments/. Programmed mean planned instruments | Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem (2015) | SAP implementation project from 2019 to monitor SAP progress |

**Table 3. 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. [Indicator 14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **Strategic objective 3:** Support policies, strategies and action plans that enable the integrated management and sustainable use of coastal and marine resources; - Marine Biodiversity Conservation and Management; | Objective 1. SPAW Protocol promotion and improved implementation | States increasingly implement their obligations under the Cartagena Convention, the SPAW Protocol and supporting MEAs while achieving their national environmental priority goals, targets and objectives | Increased number of countries ratified / acceded to the Cartagena Convention and the SPAW Protocol and associated MEAs and establish enabling legislation to fulfil MEA obligations | CEP Regional Strategy (CAR IG.42/5, 2019) | Cartagena Convention reporting mechanism |
| States increasingly integrate ecosystem-based management approaches into national development and planning processes | Increased number of States within the Wider Caribbean Region incorporate integrated watershed and coastal area management approaches into National Environmental Management Strategies / National Planning Processes through legal, institutional and policy reforms |
| States increasingly incorporate and facilitate capacity building training and awareness campaigns into national development and planning processes | Increased number of States within the Wider Caribbean Region are empowered and have strengthened their ability to identify and address threats to marine and coastal resources |
| **Objective 2:** Improved coordination on SPAW related issues | States increasingly collaborate with each other, and the Cartagena Convention Secretariat, to address emerging environmental issues | Increased number of regional and international collaborations, including working together to address problems faced across the region and data sharing, particularly with respect to shared resources |  |  |
| **Long-term Ecosystem Quality Objective (EcoQO):** Improve water quality; enhance economic vitality by avoiding depletion and recover living marine resources; and conserve and restore coastal and marine ecosystems | **Ecosystem Quality Strategic Area III** - Conserve and Restore Coastal and  Marine Ecosystems | Restore 3,000 ha of wetland.  Formulate or implement five legal, policy or planning instruments related to coastal and marine ecosystems conservation | Wetlands surface restored Number of hectares restored/ Number of hectares planned  Number of legal, policy or planning instruments related to coastal and marine ecosystems conservation (national protected areas, RAMSAR sites; twining programs; land and sea use plans; wildlife management programs; biodiversity strategies; red tide prevention, prediction and mitigation; implementation of the recommendations developed during the LME project).  Number of formulated or implemented instruments / Number of programmed instruments | Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem (2015) | SAP implementation project from 2019 to monitor SAP progress |
| Identify and reduce impacts of invasive species. | Public regional invasive species database;  Invasive species control program or specific actions at key sites |

**Table 4. SDG Target 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. [Indicator 14.4.1 Proportion of fish stocks within biologically sustainable levels]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
| **Long-term Ecosystem Quality Objective (EcoQO):** Improve water quality; enhance economic vitality by avoiding depletion and recover living marine resources; and conserve and restore coastal and marine ecosystems | **Ecosystem Quality Strategic Area II -** Avoid depletion and recover degraded  living marine resources | Manage fishing effort.  Formulate or implement seven legal, policy or planning instruments related to fish or aquaculture management. | Number of fishing vessels decreased or maintained at sustainable levels. Other indicators include: Percentage of stocks subject to overfishing; Percentage of by-catch of target and non-target  species.  Number of legal, policy or planning instruments related to fish or aquaculture management (aquaculture and fisheries management programs; update of the national fisheries chart; restoration programs, implementation of the model developed from the first phase of the LME project) Number of formulated or implemented instruments/ programmed mean planned instruments | Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem (2015) |  |

**Table 5. 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. [14.5.1 Coverage of protected areas in relation to marine areas]**

| **Regional Sea Strategic and/or Ecological Objective** | **Regional Sea Operational Objective** | **Regional Sea Target** | **Indicators (if available)** | **Strategic document** | **Monitoring/Reporting mechanism** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

**ANNEX 4. Regional Seas Indicators Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **N**  **O** | **Category of Indicator** | **regional Seas**  **Coordinated Indicator** | **SDG 14 (plus SDG**  **1 SDG 2 others)** | **TWAP indicators1** | **Desirability in RS** |
| 1 | Total inputs of nitrogen and phosphorus 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 concentratıon 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 ıncludıng 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  classıfıcatıon of beach litter items | 14.1 | Marine Plastic Litter | NOPAP /HELCOM/  PERSGA /Nairobi |
| 4 | Ocean warming | Annual mean sea surface temperature (25m below the 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 | Destructıon 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 | Locatıons and frequency of  algal blooms reported | 14.1 | Index of coastal eutrophication | agreed |
| 10 | Pollution hot spots2 | 1) Concentration of Status of | 14.1 | Floating plastic debris | agreed |

1 A detailed table is presented below.

2 Actual pollution hotspot and source of hotspot

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **N**  **o** | **Category of Indicator** | **Possible regional Seas**  **Coordinated Indicator** | **SDG 14 (plus SDG**  **1 SDG 2 others)** | **TWAP indicators1** | **Desirability in RS** |
|  |  | selected pollutant contamination in biota and sediments and temporal trends  2) Number of hotspots |  |  |  |
| 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 |
| 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 | 14.1 | NA | agreed |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **N**  **o** | **Category of Indicator** | **Possible regional Seas**  **Coordinated Indicator** | **SDG 14 (plus SDG**  **1 SDG 2 others)** | **TWAP indicators1** | **Desirability in RS** |
|  |  | 1. Incentives to reduce land based sources3 2. Amount of recycled waste on land (%) |  |  |  |
| 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 In monetary terms

1. As of December 2017 [↑](#footnote-ref-1)
2. <http://www.cep.unep.org/> [↑](#footnote-ref-2)
3. As of December 2017 [↑](#footnote-ref-3)