

Dear Mr. de Serpa Soares,

Reference is made to your letter dated 14 December 2021, inviting the Secretariat of the Convention on Biological Diversity to provide input to the report of the Secretary-General on developments and issues relating to Oceans and the Law of the Sea, on the theme “Ocean Observing”, to inform the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, at its twenty-second meeting, to be held from 6 to 10 June 2022.

Appended herewith is the contribution of the Secretariat, which describes various activities being undertaken in the context of the Convention relating to the monitoring and observation of marine and coastal biodiversity. The Division for Ocean Affairs and the Law of the Sea is invited to post the full text of this contribution on its website.

Yours sincerely,



Elizabeth Maruma Mrema
Executive Secretary

Attachment

Mr. Miguel de Serpa Soares
Under-Secretary-General for Legal Affairs and
United Nations Legal Counsel
United Nations Headquarters
New York, United States of America
E-mail: doalos@un.org

cc: gonchar@un.org; Jessica.howley@un.org

Annex
Information on developments within the Convention on Biological Diversity relating to ocean affairs and the law of the sea, on the theme “Ocean Observing”

Executive Summary

This note summarizes recent work and developments under the Convention on Biological Diversity (CBD) relevant to ocean affairs and the law of the sea on the theme “Ocean Observing”. The Division for Ocean Affairs and the Law of the Sea is invited to post the full text of this contribution on its website.

Ocean observing is critical to the achievement of global goals and targets for biodiversity developed under the CBD. The Aichi Biodiversity Targets, which reached their deadline in 2020, provided valuable lessons on the types of information that is needed to inform efforts to reach global targets. The post-2020 global biodiversity framework, currently being developed under the CBD, provides a valuable opportunity to catalyze and focus ocean observing in support of efforts to achieve and monitor progress towards these new global goals and targets.

Ocean observing is also important in the context of the description of ecologically or biologically significant marine areas (EBSAs). Data derived from ocean observation has been highly useful in the description of EBSAs. Furthermore, EBSAs provide clear indications of areas where enhanced observing efforts may be needed.

The importance of ocean observing has also been addressed in the context of various thematic issue areas discussed under the CBD (i.e., coral reefs, underwater noise, marine debris, cold-water biodiversity). In this regard, the CBD Conference of the Parties (COP) has provided guidance on different elements of ocean observing and monitoring that are needed to support action in these respective areas.

Monitoring and assessment have also been addressed as a key area of focus under the Sustainable Ocean Initiative (SOI) Global Dialogue with Regional Seas Organizations and Regional Fishery Bodies. Discussions under the SOI Global Dialogue have identified areas in need of further collaboration among regional bodies with respect to ocean observing and monitoring.

The CBD Secretariat has also convened a number of workshops focused on marine monitoring on the margins of major CBD meetings. These workshops, organized together with various organizations such as the Global Ocean Observing System (GOOS) Biology and Ecosystems Panel, and GEOBON through the Marine Biodiversity Observing Network (MBON), have provided opportunities to advance dialogue on ocean observations and monitoring in the context of global policy processes.

INTRODUCTION

1. This note consists of brief descriptions of work and experience under the Convention on Biological Diversity (CBD) in the following areas related to ocean affairs and the law of the sea on the theme “Ocean Observing”: (i) Ocean observing in the context of global goals and targets for biodiversity; (ii) ecologically or biologically significant marine areas as a focus for monitoring and observation; (iii) ocean observing in the context of various thematic issues addressed under the CBD; (iv) monitoring and assessment as an area of focus under the SOI Global Dialogue; and (v) workshops on marine monitoring.

OCEAN OBSERVING IN THE CONTEXT OF GLOBAL GOALS AND TARGETS FOR BIODIVERSITY

2. Ocean observing is critical to the achievement of global goals and targets for biodiversity developed under the CBD. The Aichi Biodiversity Targets, which reached their deadline in 2020, underlined the importance of sound information on a range of aspects of biodiversity and ecosystems and highlight the difficulty in achieving global targets in the absence of robust information. The post-2020 global biodiversity framework provides an important opportunity to learn from efforts to achieve the Aichi Targets and to catalyze and focus ocean observing in support of efforts to achieve and monitor progress towards these new global goals and targets.

Aichi Biodiversity Targets

3. The Aichi Biodiversity Targets, adopted in 2010 by the Conference of the Parties (COP) to the CBD as part of the Strategic Plan for Biodiversity 2011-2020, include actions and outcomes to achieve the 2050 Vision for Biodiversity. While all of the 20 Aichi Targets are directly or indirectly relevant to achieving healthy, productive and sustainable marine and coastal areas, some of the Aichi Targets are particularly relevant, namely targets 3, 6, 7, 8, 10, 11, 12 and 15.

4. Although significant progress was made in various areas, none of the Aichi Targets were fully achieved by their 2020 deadline. Lack of solid information on the Aichi Targets has been considered a primary challenge in the efforts to achieve them, in particular in marine and coastal areas. For example, the Global Biodiversity Outlook 5 (GBO-5) reported that the main constraints in achieving target 15 on ecosystem restoration and resilience were the lack of information and data on ecosystem health and quality, as well as a lack of monitoring systems in place.

5. Aichi Biodiversity Target 19, which specifically addresses the issue of the science base, is as follows: “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.” The 5th Global Biodiversity Outlook (GBO-5), in its assessment of the level of achievement of the Aichi Targets, noted that significant progress has been made since 2010 in the generation, sharing and assessment of knowledge and data on biodiversity, with big-data aggregation, advances in modelling and artificial intelligence opening up new opportunities for improved understanding of the biosphere. However, it also noted that major imbalances remain in the location and taxonomic focus of studies and monitoring, and that information gaps remain in the consequences of biodiversity loss for people, and the application of biodiversity knowledge in decision making is limited. As such, the target was assessed as being partially achieved (medium confidence).

Post-2020 Global Biodiversity Framework

6. The post-2020 global biodiversity framework, which will contain a new set of global goals and targets for biodiversity, is currently being negotiated under the CBD and is expected to be finalized and adopted at the 15th meeting of the Conference of the Parties to the CBD in Kunming, China, in 2022. Having learned from the experience with the Aichi Biodiversity Targets, described above, strong emphasis has been

placed on the need for a monitoring framework with headline indicators for measuring progress in the implementation of the global goals and targets of the post-2020 global biodiversity framework. Information derived from ocean observing will be important to not only inform efforts to implement the post-2020 framework, but also to assess the effectiveness of these effort and progress towards the achievement of the goals and targets under the framework.

7. The proposed headline indicators in the draft monitoring framework are relatively generic and are intended to cover a wide range of elements, including in marine and coastal areas. Furthermore, they are intended to complement existing monitoring and reporting processes. Therefore, it is important to identify the specific aspects of the indicators relevant to marine and coastal biodiversity, understand where existing monitoring and reporting processes can address these indicators and examine the information needs for the indicators and existing information in the marine realm, so that governments can effectively report against the indicators with respect to their marine and coastal ecosystems.

8. In response to the need for expert input to the development and refinement of indicators and the monitoring framework for the post-2020 global biodiversity framework with respect to marine and coastal biodiversity issues, the Secretariat produced an information document entitled *Available Monitoring Frameworks and Information to Support Monitoring of Progress toward Goals and Targets of the Post-2020 Global Biodiversity Framework with Respect to Marine and Coastal Biodiversity* (<https://www.cbd.int/doc/c/fd66/fcc9/f3f0cad518efa3eb045559da/sbstta-24-inf-23-en.pdf>). This document provides insights on various information sources and needs for reporting on the implementation of the post-2020 framework in marine and coastal areas. It highlights a number of areas where ocean observing will be important to address the indicators for the post-2020 framework, including through the Global Ocean Observing System (GOOS), the Marine Biodiversity Observing Network (MBON) and the UN Decade of Ocean Science for Sustainable Development (2021-2030).

ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS AS A FOCUS FOR MONITORING AND OBSERVATION

9. The Secretariat coordinates the global process to facilitate the description of ecologically or biologically significant marine areas (EBSAs). Since 2011, the Secretariat has convened a series of regional workshops to facilitate the description of EBSAs, 321 of which have thus far been considered by COP, included in the CBD EBSA repository and transmitted to the UN General Assembly and relevant international processes. The outputs of the regional EBSA workshops, as considered by COP, are available online at the EBSA website (<http://www.cbd.int/ebsa>).

10. The CBD COP has noted the application of the EBSA criteria is a scientific and technical exercise, that areas found to meet the criteria may require enhanced conservation and management measures, and that this can be achieved through a variety of means, including marine protected areas and impact assessments. The COP has also emphasized that the identification of EBSAs and the selection of conservation and management measures is a matter for States and competent intergovernmental organizations, in accordance with international law, including the United Nations Convention on the Law of the Sea (X/29). In addition, the COP, in decision XI/17, took note of the need to promote additional research and monitoring in accordance with national and international laws, including the United Nations Convention on the Law of the Sea, to improve the ecological or biological information in each region with a view to facilitating the further description of the EBSAs already described, the future description of other areas meeting the EBSA criteria.

11. In line with the guidance from the COP, ocean observation and monitoring is critically important to providing information to inform the description of EBSAs. EBSAs also provide focus for areas that may be in need of ocean observing and monitoring. EBSAs can highlight areas of the ocean where observations could or should be focused to monitor ecosystem health, and/or ecosystem response to changing local, regional or global conditions. EBSAs have presented researchers with a clear and unambiguous, internationally recognized scientific rationale for their selection as areas of focus for monitoring and

observation. Indeed, some national governments have reported that their participation in the EBSA process has stimulated new funding for both monitoring efforts and scientific research.

OCEAN OBSERVING IN THE CONTEXT OF VARIOUS THEMATIC ISSUES ADDRESSED UNDER THE CBD

Priority Actions to Achieve Aichi Biodiversity Target 10 for Coral Reefs and Closely Associated Ecosystems

12. In decision XII/23, the CBD COP adopted the *Priority Actions to Achieve Aichi Biodiversity Target 10 for Coral Reefs and Closely Associated Ecosystems*. These actions include specific elements related to ocean observing and monitoring, including, for example:

- Enhancing public awareness of the socio-cultural and environmental values of coral reefs and improve the capacity of civil society to contribute to monitoring, including through the use of mobile data applications;
- Developing and implementing early warning systems for major reef health incidents such as bleaching or disease events, tropical storms and flood plumes; and
- Developing water chemistry monitoring programmes for coastal and inshore waters to determine the natural spatial and temporal variability of ocean carbon chemistry, and detect trends.

Anthropogenic Underwater Noise

13. The CBD COP has addressed the issue of anthropogenic underwater noise in various decisions, including in decision XII/23, in which it encouraged Parties and other Governments as well as indigenous and local communities and other relevant stakeholders, to take appropriate measures, as appropriate and within their competencies, and in accordance with national and international laws, to avoid, minimize and mitigate the potential significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity. This includes specific elements related to ocean observing and monitoring, including, for example:

- Defining and differentiating types or intensities of underwater noise where there are adverse impacts, and characterizing noise by source;
- Combining acoustic mapping with habitat mapping of sound-sensitive species with regard to spatial risk assessments in order to identify areas where those species may be exposed to noise impacts; and
- Conducting impact assessments, where appropriate, for activities that may have significant adverse impacts on noise-sensitive species, and carrying out monitoring, where appropriate.

14. This issue is further addressed in a forthcoming CBD Technical Series report, expected to be published in early 2022.

Marine Debris

15. In decision XIII/10, the CBD COP took note of voluntary practical guidance on preventing and mitigating the impacts of marine debris on marine and coastal biodiversity and habitats. This guidance include specific elements related to ocean observing and monitoring, including, for example:

- Supporting and promoting, as appropriate, harmonized approaches to monitoring, analysis and reporting based on standardized methodologies, taking into account existing monitoring guidance for marine litter, such as the European Union Monitoring Guidance for Marine Litter in European Seas;

- Ensuring access to, sharing and utilization of technology to support marine debris management and monitoring, particularly in developing countries, in particular the least developed countries and small island developing States and the most environmentally vulnerable countries, as well as countries with economies in transition;
- Developing and strengthening the use of citizen science schemes that address the monitoring and enforcement of environmental standards on marine debris; and
- Developing monitoring and follow-up strategies, taking account the following needs:
 - i. To evaluate population-level impacts that consider, in a coordinated way, the migration routes and the distribution of species and populations;
 - ii. To include species' life stages and their specific vulnerability to marine debris (for example, monitoring of juveniles to quantify the burden on adults);
 - iii. To address sublethal effects while taking into account that a broad range of interacting natural and human factors determines the survival and reproductive success of individual animals;
 - iv. To take into account that, in the case of highly endangered species, direct harm caused by marine debris on one individual can easily have an effect on the entire population.

Voluntary Specific Workplan for Biodiversity on Cold-Water Areas within the Jurisdictional Scope of the Convention

16. In decision XIII/11, the CBD COP adopted the voluntary specific workplan for biodiversity in cold-water areas within the jurisdictional scope of the Convention. The workplan includes specific elements related to ocean observing and monitoring, including, for example:

- Developing a coordination strategy to leverage the efforts of various scientific organizations that actively research cold-water biodiversity, including through initiatives such as the Global Ocean Acidification Observing Network and the International Atomic Energy Agency's Ocean Acidification International Coordination Centre, and provide a platform for information sharing among these initiatives in support of the work of the Convention;
- Integrating physicochemical water chemistry monitoring within national jurisdictions into international programmes, such as the Global Ocean Acidification Observation Network and initiatives such as the Global Ocean Observing System;
- Improving knowledge-sharing among various actors and provide opportunities for participation in assessment, monitoring and research; and
- Improving monitoring of environmental conditions in cold-water habitats to understand variability in carbonate chemistry:
 - i. Developing or expanding upon existing physicochemical water chemistry monitoring programmes in cold-water areas to better understand the natural spatial and temporal variability of ocean carbon chemistry;
 - ii. Integrating physicochemical water chemistry monitoring within national jurisdictions into international programmes, such as the Global Ocean Acidification Observation Network and initiatives such as the Global Ocean Observing System;

- iii. Supporting the development of technology for the rapid and economical assessment of seawater carbonate chemistry;
- iv. Integrating carbonate chemistry sampling into marine monitoring programmes, where possible.

MONITORING AND ASSESSMENT AS AN AREA OF FOCUS UNDER THE SOI GLOBAL DIALOGUE

17. The CBD Secretariat, in collaboration with the Food and Agriculture Organization of the United Nations, the United Nations Environment Programme, established the Sustainable Ocean Initiative (SOI) Global Dialogue with Regional Seas Organizations (RSOs) and Regional Fishery Bodies (RFBs) to facilitate dialogue between regional organizations in order to address issues related to fisheries management and the conservation and sustainable use of marine biodiversity, as well as to progress on global goals for the oceans.

18. Monitoring and assessment of marine and coastal biodiversity is one of the areas of focus under the SOI Global Dialogue. The outcome document of the first SOI Global Dialogue held in Seoul in 2016, the [Seoul Outcome](#), recognized action at both regional and national levels was needed to achieve the Aichi Biodiversity Targets and the Sustainable Development Goals; it also acknowledged the challenges in achieving these goals and targets, particularly those related to the limited information base, monitoring, assessing and reporting progress in implementation. It highlighted the essential role of regional bodies and organizations in supporting and assessing progress against these global goals and targets. The Seoul Outcome further highlighted the commitment to promoting harmonized approaches for data collection and assessment as well as exchanging scientific information between various entities, for example on EBSAs and vulnerable marine ecosystems (VMEs) or between the Ocean Biogeographic Information System (OBIS) and the Global Ocean Observing System (GOOS). These approaches and information lead to the production of complementary and holistic assessments of the status and trends of the environment in the oceans, including biodiversity, fisheries and ecosystems.

19. The [Seoul Outcome +2](#), the outcome document of the second SOI Global Dialogue held in Seoul in 2018, reaffirmed the need for transformational change towards sustainability, through strengthening monitoring and data sharing via cross-sectoral cooperation at the regional and sub-regional scale, in order to support assessments of the status and trends of ocean biodiversity and fisheries resources. The discussions suggested that coordination between RSOs and RFBs should foster the collaboration of scientists from the biodiversity and fisheries sectors, for example in monitoring protocols, joint projects, or the development of new surveys. Additionally, collaboration with other actors, such as indigenous communities, can provide support in addressing capacity and knowledge gaps.

WORKSHOPS ON MARINE MONITORING

20. The CBD Secretariat has organized several workshops on marine monitoring in recent years. The Technical Workshop on Monitoring of Marine and Coastal Biodiversity was convened by the CBD Secretariat in April 2016, on the margins of SBSTTA 20, in collaboration with the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Intergovernmental Oceanographic Commission of UNESCO through its Global Ocean Observing System (GOOS) Biology and Ecosystems Panel, and GEOBON through the Marine Biodiversity Observing Network (MBON). The workshop brought together representatives of some of the major global initiatives related to marine assessment and monitoring: the UN First World Ocean Assessment, the Large Marine Ecosystem program, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the GOOS Biology and Ecosystems Panel, the MBON Pole to Pole initiative, the Global Coral Reef Monitoring Network, UNEP, IUCN, the Global Ocean Biodiversity Initiative (GOBI), and the Ocean Biogeographic Information System (OBIS) of IOC/UNESCO. Through panel discussions, delegates from various regions presented opportunities and challenges related to marine

monitoring and measuring the progress towards achieving the Aichi Targets at the national level, including the urgent needs for long-term capacity development.

21. The CBD Secretariat convened the 2nd Technical Workshop on Monitoring of Marine and Coastal Biodiversity – Building on the Convention’s Work on EBSAs, on the margins of COP 13 in Cancun, in December 2016, in collaboration with: National Marine Biodiversity Institute of Korea (MABIK), The Commonwealth Scientific and Industrial Research Organisation (CSIRO), The Global Ocean Observing System (GOOS) and Marine Biodiversity Observation Network (MBON).