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2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Lisbon, 27 June–1 July 2022
Item 9 of the provisional agenda*
Interactive dialogues

Interactive dialogue 2: managing, protecting, conserving and restoring marine and coastal ecosystems

Concept paper prepared by the Secretariat

Summary

The present concept paper was prepared pursuant to paragraph 23 of General Assembly resolution 73/292, in which the Assembly requested the Secretary-General of the 2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development to prepare concept papers on each of the themes of the interactive dialogues, taking into account the relevant ocean-related processes of the Assembly and other possible contributions. The present paper relates to interactive dialogue 2, entitled "Managing, protecting, conserving and restoring marine and coastal ecosystems". In the paper, the status, trends, challenges and opportunities for the achievement of relevant targets of Sustainable Development Goal 14 are set out, under the overarching theme of the Conference: "Scaling up ocean action based on science and innovation for the implementation of Goal 14: stocktaking, partnerships and solutions".

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I. Introduction

1. Healthy, resilient marine and coastal ecosystems are fundamental to sustainable development. They are a source of food, energy, minerals and transport. The ocean economy will be worth an estimated $3 trillion annually by 2030, approximately 5 per cent of global gross domestic product (GDP).[1] The economic and social value of coastal and marine resources and ecosystem services to individual communities and societies is incalculable.

2. An estimated 63 per cent of the total value of the biosphere is contributed by marine ecosystems, mostly coastal ecosystems.[2] Sectors that are critical to the resilience of developing countries include the coastal tourism sector, which contributes up to 40 per cent or more of GDP in some small island developing States, and the marine fisheries sector, which provides nearly 20 per cent of the average intake of animal protein consumed by 3.2 billion people and more than 50 per cent of the average intake in some least developed countries. One in every 10 people rely on the marine fisheries and aquaculture for their livelihoods; the commodities produced in these sectors have a total first sale value estimated at $401 billion.[3]

3. Coastal and open ocean ecosystems play an important role in climate regulation. The ocean acts as a heat sink, absorbing 90 per cent of excess heat caused by global warming and approximately 25 per cent of carbon emissions. Climate change has adverse effects, including sea level rise, heat shocks, ocean acidification and ocean warming. Combined with pollution, climate change also leads to ocean deoxygenation and other disruptions. These adverse effects in turn cause the degradation of ocean food webs, anoxic conditions, mass die-offs and species decline.[4]

4. The ocean is subject to direct pressures that deplete natural resources. The number of overfished stocks is increasing, without yielding higher catches; 34 per cent of fish stocks are considered overfished at biologically unsustainable levels.[5] Other pressures, such as the pollution found in all marine ecosystems, degrade the ocean's capacity to support productive, sustainable ecosystems.[6] Direct and indirect pressures act synergistically, resulting in complex and sometimes severe cumulative impacts on ecosystems and communities. Direct drivers of losses of ocean ecosystem services include changes in land and sea use, direct exploitation, climate change, pollution and invasive alien species.[7]

5. The present challenge is to understand the above-mentioned impacts on the ocean and ensure a more holistic, integrated policy and ecosystem-based management across sectors. Doing so is urgent, as national ocean economies are rapidly expanding.

6. Considerable progress has been made in recent decades with regard to advancing ecosystem-based approaches in policies and practices. However, solutions at scale are

[1] Organisation for Economic Co-operation and Development (OECD), *The Ocean Economy in 2030* (Paris, 2016).

[2] World Wildlife Fund, "The value of our oceans: the economic benefits of marine biodiversity and healthy ecosystems" (Frankfurt, Germany, 2008).

[3] Food and Agriculture Organization of the United Nations (FAO), *The State of World Fisheries and Aquaculture 2020: Sustainability in Action* (Rome, 2020).

[4] Reports section of the Intergovernmental Panel on Climate Change website, including forthcoming reports (available at www.ipcc.ch/reports/).

[5] FAO, *The State of World Fisheries and Aquaculture 2020*.

[6] United Nations Environment Programme (UNEP), *Making Peace with Nature: A Scientific Blueprint to Tackle the Climate, Biodiversity and Pollution Emergencies* (Nairobi, 2021).

[7] Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *The Global Assessment Report on Biodiversity and Ecosystem Services (Version 1)* (Bonn, Germany, 2019).

hindered by difficulties in achieving joint management responses, [8] including capacity-building and technology transfer, in particular in developing regions.

7. The coronavirus disease (COVID-19) pandemic underlines the links between climate change, biodiversity loss and ecosystem health. The links range from the fact that anthropogenic activities are driving the emergence of zoonotic diseases to the pandemic's effects on biodiversity conservation, sustainable resource use, environmental policies, ecosystem services and multiple other facets of conservation. [9]

8. The present paper serves to describe several issues and trends related to the use of the ocean and assess solutions to overcome key barriers in taking innovative action to achieve productive and sustainable marine and coastal ecosystems in the long term. Although the discussion in the paper acknowledges interlinkages among all Sustainable Development Goals, it is centred on targets 14.2 and 14.5.

II. Status and trends

9. In the past half century, the general approach to ocean governance has evolved from a sectoral development focus to a more integrated, cross-sectoral management focus. Broader ecosystem approaches to management and conservation of biotic and abiotic assets are increasingly being adopted, reflecting the full range of human impacts and social and economic considerations.

10. There is growing recognition of the need for a cross-sectoral approach that includes engagement with and action by Governments, the private sector, indigenous peoples, local communities and others.

11. The various drivers of biodiversity loss in the ocean include the following: direct exploitation of organisms (including due to overfishing and the impacts of bottom trawling and dredging on fish and shellfish); changes in land and sea use; marine pollution in all its forms, including wastewater and agricultural run-off; and climate change. [10] Ocean warming, increased frequency and/or intensity of extreme events, acidification, deoxygenation, increased density stratification, changes in carbon fluxes, and sea-level rise as a result of anthropogenic greenhouse gas releases are key drivers, the impacts of which exceed those of local stressors, and have major implications across ecosystems. [11]

12. Data about the state of the ocean are increasingly available and harmonized, allowing for globally relevant time series assessments of the foundational components of some ecosystems (e.g. coral reefs, mangroves, seagrass and algal beds, coastal wetlands and ocean mammal and seabird communities). Snapshot assessments suggest changes in the condition of other elements (e.g. sea mounts, thermal vents and cold-water coral communities). More data and analyses are needed, however, to make projections about whether and how the condition of global socioenvironmental systems will shift in the face of current and future pressures.

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[8] Monica Contestabile, "Joined up action for biodiversity", *Nature Sustainability*, vol. 4, No. 8 (April 2021), pp. 660–661.

[9] Odette K. Lawler and others, "The COVID-19 pandemic is intricately linked to biodiversity loss and ecosystem health", *The Lancet Planetary Health*, vol. 5, No. 11 (November 2021), pp. e840–e850.

[10] For information on how the severity of these drivers are ranked, see Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *Global Assessment Report on Biodiversity and Ecosystem Services*; Benjamin S. Halpern and others, "Recent pace of change in human impact on the world's ocean", Scientific Reports, vol. 9, No. 11609 (August 2019); and UNEP, From Pollution to Solution: A Global Assessment of Marine Litter and Plastic Pollution (Nairobi, 2021).

[11] Reports section of the Intergovernmental Panel on Climate Change website, including forthcoming reports.

13. Loss of biodiversity and the erosion of ecosystem functions threaten economic, social and cultural life. If integrated management of human uses of coasts and the ocean is not achieved, there is a risk of losing benefits, including food safety and security, material provision, health and well-being, coastal safety (including resilience to climate change) and maintenance of ecosystem services.[12]

14. In the past decade, concerns about the ocean have grown owing to increasing and synergistic anthropogenic threats and pressures, exacerbated by the climate crisis. To maintain and restore the diverse, functional and resilient socioenvironmental systems essential for sustainable development, better understanding of these threats and pressures is necessary, as are wide-ranging, holistic management and judicious conservation.

A. Progress towards target 14.2 of the Sustainable Development Goals: 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

15. Sustainable use, and the adoption of ecosystem-based management principles, are being achieved through incremental adaptive approaches from the local to global levels. However, there is a great deal of variability among national and regional mandates on the uptake and integration of resource management and of conservation tools and guidance, depending on local conditions and levels of political support.

16. Investments in ecosystem management policy and practice are ongoing to avoid the significant adverse impacts of anthropogenic pressures, including in the management of areas facing pressures due to use and the spatial protection and management of marine and coastal biodiversity, habitats and ecosystems. Ecosystem approaches are part of a broad range of management responses aimed at maintaining biodiversity and functional resilience.

17. Traditional coastal activities, such as local fishing and tourism, increasingly conflict with new activities, including mariculture, renewable energy production, scientific research and military activity. New developments in offshore waters potentially challenge management, the purpose of which is to avoid spatial conflicts among shipping, industrial fisheries, mineral development, bioprospecting and energy development, among others. In this regard, various approaches have emerged that encourage greater contributions to cross-sectoral management.

18. Integrated coastal management and integrated coastal zone management evolved from the need to plan and manage economic activities in coastal areas, regulate human behaviour, coordinate policy and management interventions and integrate the use of coastal waters into land-use planning. These ecosystem approaches to managing coastal areas or an exclusive economic zone (EEZ) increasingly incorporate inland processes that impact the coastal and/or marine space, namely with a “from ridge to reef” outlook.[13] Several Regional Seas programmes and fisheries management bodies have implemented integrated coastal zone management planning and protocols.

[12] *The Second World Ocean Assessment: World Ocean Assessment II – Vol. I* (United Nations publication, 2021).

[13] See, for example, Economic and Social Commission for Asia and the Pacific, “Implementing a ‘ridge to reef’ approach to protect biodiversity and ecosystem functions in Tuvalu (R2R Tuvalu)”, Sustainable Development Goals Help Desk website. Available at https://sdghelpdesk.unescap.org/technical-assistance/best-practices/implementing-ridge-reef-approach-protect-biodiversity-and (accessed on 28 April 2022).

19. In the past two decades, marine spatial planning has emerged as a practical ecosystem-based approach. Before 2006, fewer than 10 countries were experimenting with marine spatial planning; in 2017, that number stood at 60. There are marine spatial planning initiatives on a local, subnational or national scale in some 100 countries, at stages ranging from early to revisions to implementation. Best practices in marine spatial planning include the incorporation of climate considerations to harness the economic opportunities of mitigation while responding to climate change through adaptive and integrated ocean management. The European Union is a leading proponent of marine spatial planning.[14] The Regional Seas programmes promote it, some with the support of large marine ecosystem projects funded by the Global Environment Facility. The Intergovernmental Oceanographic Commission is working with experts to develop typology criteria to improve understanding of marine spatial planning.

20. Indicator 14.2.1 of the Goals is the proportion of national EEZs managed using ecosystem-based approaches. It was reclassified in 2019 from a tier 3 to a tier 2 indicator, meaning it is conceptually clear and has an internationally established methodology and standards, but data on the indicator are not regularly produced by countries. A manual for measuring the indicator has been prepared.[15] Further work is needed to operationalize, apply and evaluate the indicator, including support for countries in the areas of data collection, analysis and reporting.

B. Progress towards target 14.5 of the Sustainable Development Goals: 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

21. Marine protected areas are endorsed under several global and regional instruments, including the Convention on Biological Diversity. Ways to measure their conservation effectiveness are being developed. The importance of area-based conservation measures, including marine protected areas, is reaffirmed in the outcome document of the United Nations Conference on Sustainable Development, entitled "The future we want",[16] and recognized in several regional seas conventions and action plans, as well as by regional fisheries management entities.

22. Aichi Biodiversity Target 11,[17] which calls for 10 per cent of coastal and marine areas to be conserved by 2020, is being renegotiated. Parties to the Convention are likely to adopt a more ambitious area-based management target under the post-2020 global biodiversity framework, under which marine protected areas and other effective area-based conservation measures are recognized as tools for biodiversity conservation.

23. Almost 29 million km^2 are covered by 17,720 marine protected areas (7.93 per cent of the ocean, compared with 6.35 per cent in 2017); 2.4 per cent of these areas are classified as being in no-take zones/areas offering a high degree of protection.[18]

[14] See European Union Directive 2014/89/EU of the European Parliament and of the Council of the European Union of 23 July 2014 on establishing a framework for maritime spatial planning.

[15] UNEP, "Global manual on ocean statistics: towards a definition of indicator methodologies", final draft (Nairobi, 2018).

[16] General Assembly resolution 66/288, annex.

[17] By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes (https://www.cbd.int/aichi-targets/target/11).

[18] As of 23 April 2022. See "Marine protected areas", Protected Planet website (www.protectedplanet.net/marine).

While marine protected area coverage has grown significantly in the past decade, geographical distribution is very uneven. Most of the area covered is located in a small number of countries. A sizeable share is in Australian, Pacific nations and European waters (including overseas territories).

24. Currently, marine protected area coverage is mainly composed of a few large offshore marine areas, which has prompted consideration of ecological, management and equity issues. Polar regions and areas beyond national jurisdiction have very low levels of spatial protection. A significant increase in the use of area-based management is needed to conserve ecosystems and biodiversity in Africa, Latin America and the Caribbean, South and East Asia, and small island developing States.

25. The officially adopted criteria and guiding principles for other effective area-based conservation measures [19] have led to their increased recognition and designation. To date, 192 such measures (covering 0.08 per cent of the ocean) have been reported in relation to marine ecosystems in the national waters of two countries.[20] Many more Governments recognize that a range of closure types might meet the criteria. They are assessing their area-based management tools against these criteria and will likely establish new measures soon. Sector-specific guidance will then be needed, which can be used at the national level to support sectors like tourism or fisheries while the measures are established.

26. The Committee on Fisheries at its thirty-fourth session, in 2021, noted the relevance of other effective area-based conservation measures to achieving a number of the Sustainable Development Goals and global biodiversity targets. It also noted that the implementation of such measures could be led by fisheries authorities rather than environmental authorities and requested that Food and Agriculture Organization of the United Nations (FAO) produce and disseminate practical guidelines to support the fishing sector in identifying and implementing this novel form of spatial control. Draft guidance is currently in preparation. It will be updated regularly with technical input obtained during regional workshops.

27. The management of marine protected areas and the implementation of other effective area-based conservation measures can be government led or fully or partly carried out by indigenous and local communities. All of them require stakeholder support.[21] Despite progress in increasing the spatial coverage of marine protected areas and other effective area-based conservation measures, their contribution to biodiversity conservation is complex. Monitoring the effectiveness of management outcomes can be difficult. Determining effectiveness is further complicated by climate change which, for example, results in poleward movements and depth changes of some species as ocean waters warm,[22] and by weak cross-institutional cooperation, in particular across jurisdictional boundaries.

28. There is an increasing need for a global evaluation of the effectiveness and equitable outcomes of spatial management approaches.[23] While ecological factors are

[19] See decision 14/8 of the Conference of the Parties to the Convention on Biological Diversity, entitled “Protected areas and other effective area-based conservation measures” (CBD/COP/DEC/14/8).

[20] Protected Planet, World Database on Other Effective Area-Based Conservation Measures, available at www.protectedplanet.net/en/thematic-areas/oecms (accessed on 28 April 2022).

[21] Sylvaine Giakoumi and others, “Revisiting ‘success’ and ‘failure’ of marine protected areas: a conservation scientist perspective”, *Frontiers in Marine Science*, vol. 5, art. No. 223 (June 2018).

[22] James W. Morley and others, “Projecting shifts in thermal habitat for 686 species on the North American continental shelf”, *Plos One*, vol. 13(5), art. No. e0196127 (May 2018).

[23] Linwood H. Pendleton and others, “Debating the effectiveness of marine protected areas”, *ICES Journal of Marine Science*, vol. 75, No. 3 (2018).

key to enhancing the performance of marine protected areas, their capacity, including resources and staff, is fundamental for effective protected area management.[24]

III. Challenges and opportunities

A. Marine and coastal ecosystem planning and management, with a focus on the management of resources in ecosystems under use

1. Enhancing the science-policy interface

Improving and harmonizing approaches to describe and assess ecosystem health

29. The lack of accepted definitions of ecosystem health hinders efforts to determine the status of marine ecosystems and species. Although a methodology exists to describe the status of the main components, monitoring at the appropriate scale to identify global trends is challenging owing to capacity and resource gaps. Opportunities exist to bring use sectors and the biodiversity conservation communities together to harmonize definitions and thereby promote coherent data standards, repositories and reporting.

Increasing cooperation on monitoring the status of ecosystems where methodology exists

30. Progress has been made in cooperating on the collation and analysis of trend data to provide regional and global pictures of changes in the status of ecosystems or their foundational components and of changes in recognized pressures. Collating locally collected information cannot always take into account methodological differences.

Increasing access to global data and knowledge

31. Strengthened regular scientific assessment of the state of the marine environment enhances the scientific basis for policymaking and ocean action. It requires sustained observation and monitoring to collect data, gain access to data sets and collate data in a transparent and timely manner. There are substantial gaps in the coverage of observation systems needed to support these efforts, which often have short-term funding.[25]

Ensuring science-based management planning

32. Including coastal ecosystem services in management planning is important for spatial planning and ecosystem-based management. Natural capital and socioeconomic data, as well as assessments of ecosystem services, enhance the science-policy interface. Guidance on assessing and measuring ecosystem services and natural capital has been developed for various contexts. There are manuals and projects on the inclusion of coastal ecosystem services in management planning. It is critical that biophysical and socioeconomic data be used in management planning and that innovative financing schemes be developed. Investment in coastal blue carbon ecosystems to deliver measurable benefits for people, nature and the climate is an example of such a scheme.

[24] David A. Gill and others, “Capacity shortfalls hinder the performance of marine protected areas globally”, *Nature*, vol. 543, No. 7647 (March 2017).

[25] Global Climate Observing System and others, “The status of the Global Climate Observing System 2021: executive summary”, 2011.

2. Ocean policy, governance and management

Delivering policy cohesion and streamlining implementation

33. The international community and national authorities have created bodies to monitor and implement ocean management and conservation within and across sectoral activities, resulting in spatial and activity-based initiatives, including the promotion of more sustainable use, better management and transparent reporting of ecosystem-based tools, and more effective protection. Shipping, mining and other consumptive and non-consumptive sectors increasingly mainstream biodiversity into sectoral policies and practice. Involving regional, national and local actors is essential. Sector decision makers need to further consider extended producer responsibility as envisioned, for example, in resolution 5/14 of the United Nations Environment Assembly of the United Nations Environment Programme (UNEP), entitled "End plastic pollution: towards an international legally binding instrument".

Resourcing for management and conservation

34. Despite progress in sectors such as fisheries, there is a large funding shortfall. Moreover, a range of financial instruments and incentives have unintended negative consequences, which cause patchy implementation of policies and management gaps. Some subsidies and incentives challenge resilience in fisheries, while regional fisheries management organizations do not exist in all regions.

Climate-resilient development, including mitigating coastal vulnerability, and spatial planning approaches

35. The vulnerability of coastal communities is increased by habitat degradation and loss.[26] The Intergovernmental Panel on Climate Change has identified climate-resilient development pathways and conditions that integrate mitigation efforts and adaptation measures to advance sustainable development while maintaining equity and rights-based approaches.[27] Illustrative model pathways to limit global warming to 1.5°C are characterized by rapid, far-reaching and unprecedented changes in energy systems, land and ecosystems, industrial systems, and urban and infrastructure systems.[28]

36. Transformative adaptation involves transforming systems, including fostering resilience and ecosystem-based solutions, across multiple governance levels.[29] Progress in implementing ecosystem-based adaptation and disaster risk reduction supports climate-resilient development. At its twenty-sixth session, the Conference of the Parties to the United Nations Framework Convention on Climate Change, in the Glasgow Climate Pact, invited its relevant work programmes and constituted bodies to consider how to integrate and strengthen ocean-based action in their existing

[26] Mark Schuerch and others, "Future response of global coastal wetlands to sea-level rise", *Nature*, vol. 561, No. 7722 (September 2018).

[27] Intergovernmental Panel on Climate Change, "Summary for policymakers", in *Climate Change 2022: Impacts, Adaptation, and Vulnerability – Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Hans-Otto Pörtner and others, eds. (Cambridge University Press, 2022).

[28] Intergovernmental Panel on Climate Change, "Summary for policymakers", in *Global Warming of 1.5°C: An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, Valérie Masson-Delmotte and others, eds. (Cambridge University Press, 2022).

[29] United Nations Climate Change Secretariat, "Opportunities and options for integrating climate change adaptation with the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction 2015–2030", 2017.

mandates, and also invited the Chair of the Subsidiary Body for Scientific and Technological Advice to hold an annual dialogue to strengthen ocean-based action.[30]

Nature-based solutions to climate change to increase resilience

37. Healthy marine and coastal ecosystems provide cost-effective nature-based solutions to climate change. The United Nations Environment Assembly, in its resolution 5/5 on nature-based solutions for supporting sustainable development, acknowledged the need for a multilaterally agreed definition of the concept of such solutions.[31]

38. Member States can increase the inclusion of coastal and marine nature-based solutions in national policies and international commitments across ongoing processes and conventions,[32] including, possibly, nationally determined contributions submitted by Parties to the United Nations Framework Convention on Climate Change, in which coastal and marine nature-based solutions are increasingly recognized for their adaptation and mitigation potential.[33]

Post-2020 global biodiversity framework

39. Under the Convention on Biological Diversity, Governments are developing the post-2020 global biodiversity framework as a successor to the Strategic Plan for Biodiversity 2011–2020, including the Aichi Biodiversity Targets. The post-2020 framework will include a new set of goals and targets to achieve the 2050 Vision for Biodiversity of living in harmony with nature. Parties to the Convention have emphasized the importance of the conservation of marine and coastal biodiversity in fulfilling this vision. The post-2020 framework includes action on pollution and the promotion of spatial management tools, including marine protected areas and other effective area-based conservation measures.

Conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction

40. The intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction continues to address marine genetic resources in particular, including the following: sharing of benefits; area-based management tools, environmental impact assessments, capacity-building and other measures; and transfer of marine technology. It is critical that the new implementing agreement under negotiation not undermine existing regional and global instruments.[34]

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[30] United Nations Framework Convention on Climate Change, "Ocean and climate change dialogue to consider how to strengthen adaptation and mitigation action: informal summary report by the Chair of the Subsidiary Body for Scientific and Technological Advice", 29 April 2021.

[31] See United Nations Environment Assembly resolution 5/5, in which nature-based solutions are defined as "actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, and resilience and biodiversity benefits".

[32] Including the United Nations Framework Convention on Climate Change, Convention on Biological Diversity, Ramsar Convention on Wetlands, Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction and others.

[33] Seventy-one countries included coastal and marine nature-based solutions in their new or updated nationally determined contributions in 2020. See Marine Lecerf and others, "Coastal and marine ecosystems as nature-based solutions in new or updated nationally determined contributions: interim analysis as of October 2021", 2021.

[34] See General Assembly resolution 72/249.

United Nations Decade on Ecosystem Restoration 2021–2030

41. Ecosystem restoration entails assisting in the recovery of degraded or destroyed ecosystems and conserving those that are intact. Marine and coastal ecosystem restoration could supply 14 to 30 per cent of the remediation needed to limit the average global temperature increase to 1.5°C. The global public is largely unaware of the extent to which ecosystem degradation impacts well-being and livelihoods, the costs of this degradation and the enormous benefits that would accrue from major investments in this FAO and UNEP-led initiative.[35] Investments would include developing the technical capacity of a wide range of stakeholders; long-term scientific research informing the design of effective ecosystem restoration techniques at the site level; catalysing ecosystem restoration initiatives through changes in policies, regulations, legislation, tax incentives and subsidies; developing new financial mechanisms to support ecosystem restoration; and using public and private finance to implement ecosystem restoration across vast landscapes and seascapes. An internationally coordinated effort would be required, especially to support vulnerable countries, such as small island developing States, least developed countries and those with coastal megacities.

Continued implementation of ecosystem approaches, including biodiversity mainstreaming, with assistance from multilateral environmental agreements

42. Biodiversity mainstreaming[36] has been adopted in in fisheries and aquaculture policies and is being implemented incrementally. In the case of fisheries, biodiversity mainstreaming has led to the significant expansion of legal frameworks and practices with regard to biodiversity conservation. Despite the fact that approximately one third of target stocks are yet sustainably managed, fisheries approaches are progressively focusing on a broader range of biodiversity considerations.[37] The Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Convention on Wetlands of International Importance especially as Waterfowl Habitat are additional global frameworks relevant to biodiversity mainstreaming.

Ensuring that areas under protection are representative and effective

43. Realizing the full potential of recognized spatial tools for biodiversity conservation requires a common language to understand, implement, track and celebrate achievements. Current efforts to develop a framework for classifying spatial protection according to stage of establishment and level of protection can help to support this process.[38]

44. Additional help is provided by recent improvements in Convention on Biological Diversity definitions and criteria for other effective area-based conservation measures,[39] which will play an important role with regard to the post-2020 global biodiversity framework. Awareness-raising about what constitutes spatial protection is an ongoing need to overcome misunderstanding or underappreciation of core principles, definitions and criteria. It is necessary to continually improve knowledge on legal requirements for establishing an area and to promote effective management.[40]

[35] See www.decadeonrestoration.org/.

[36] K. Friedman, S.M. Garcia and J. Rice, “Mainstreaming biodiversity in fisheries”, *Marine Policy*, vol. 95 (September 2018).

[37] Maria José Juan-Jordá and others, “Report card on ecosystem-based fisheries management in tuna regional fisheries management organizations”, *Fish and Fisheries*, vol. 19, No. 2 (March 2018).

[38] See the MPA Guide, available at https://mpa-guide.protectedplanet.net/. These efforts build on the International Union for Conservation of Nature protected area categories, see www.iucn.org/theme/protected-areas/about/protected-area-categories.

[39] UNEP, document CBD/COP/DEC/14/8.

[40] UNEP World Conservation Monitoring Centre and others, *Protected Planet Report 2018* (2018).

45. Ensuring that marine networks are representative and provide enduring biodiversity conservation benefits is a challenge across all marine habitats, including with regard to EEZs and the marine biological diversity of areas beyond national jurisdiction.[41] Many large marine protected areas are located at a distance from human activities, raising questions about the effectiveness of investment in these areas compared to establishing near-shore marine protected areas near high-use areas. Assessing the effectiveness of marine protected areas and other effective area-based conservation measures in a regular and standardized manner will be a key challenge in the coming decade.

Integrated marine protected area planning and good, equitable governance

46. Areas with elevated levels of biodiversity protection can be particularly effective in maintaining or restoring the health of ocean and coastal ecosystems when they are part of integrated policy and management systems. Strong governance that influences human behaviour and reduces impacts on marine and coastal ecosystems is essential if marine protected areas are to be effective.

47. Integrated governance can combine the roles of national Governments, local communities and market schemes to enhance the effectiveness of spatial management and the equitable sharing of its costs and benefits. There is no one-size-fits-all solution: governance must be flexible and adapted to each case, including to enable the compensation of those who will face restricted access to resources, among other effects.[42] In addition, it is important to recognize the vital roles that diverse stakeholders play in the governance of areas under various forms of spatial protection, including monitoring and enforcement.[43]

Policy support for the implementation of spatial protection under various jurisdictions

48. The concept of other effective area-based conservation measures presents a new opportunity for States to recognize the biodiversity conservation potential of a wider range of spatial management measures and sectors than ever before.[44] In addition to providing co-benefits for biodiversity, such measures can be integrated across competing sectors to reduce conflicts and help stakeholders to achieve a balance among competing uses of the marine environment.

B. Cross-cutting areas for science and innovation to scale up ocean action

1. Policy and management

Strengthening ecosystem-based approaches, including nature-based solutions

49. Practical ways to support the implementation of ecosystem-based approaches continue to be needed. FAO has developed a tool for monitoring the implementation of the ecosystem approach to fisheries.[45] Similar guidance and communication is

[41] See www.un.org/bbnj/.

[42] P. Jones, R. Murray and O. Vestergaard, *Enabling Effective and Equitable Marine Protected Areas: Guidance on Combining Governance Approaches*, Regional Seas Reports and Studies, No. 203 (UNEP, 2019).

[43] Harry D. Jonas and others, “Equitable and effective area-based conservation: towards the conserved areas paradigm”, *Parks*, vol. 27 (May 2021).

[44] Georgina G. Gurney and others, “Biodiversity needs every tool in the box: use OECMs”, *Nature*, vol. 595 (July 2021).

[45] FAO, *Ecosystem Approach to Fisheries Implementation Monitoring Tool: A Tool to Monitor Implementation of the Ecosystem Approach to Fisheries (EAF) Management – User Manual* (Rome, 2021).

needed for nature-based solutions. Adhering to frameworks such as the International Union for Conservation of Nature Global Standard for Nature-based Solutions[46] can ensure the quality of nature-based solution projects.

Achieving a sustainable blue economy through marine spatial planning

50. Marine spatial planning can be useful at many levels in delivering a sustainable blue economy. If implemented effectively, it addresses cumulative impacts and resource and space conflicts, supporting efforts to reduce risk and build ocean health and resilience. The finance and maritime business sectors have important roles to play in delivering effective implementation of this tool through strong collaboration and information-sharing.

Science-based targets for the sustainable use of marine resources

51. Without a clear understanding of what constitutes the sustainable use of aquatic systems in quantitative terms, it is difficult to indicate what data should be collected to determine whether the global economy is developing equitably and inclusively within planetary boundaries. National progress can be measured against the parts of the ecosystem approach to fisheries that incorporate components of Aichi Biodiversity Target 6.

Establishing an adequate management focus and time frame

52. It is important to adopt ecosystem approaches and recognize that people have a place in socioecological systems and in nature. Management frameworks based solely on biological systems will not achieve lasting progress on targets 14.2 and 14.5 of the Sustainable Development Goals. A recent assessment of the ecosystem context confirmed the importance of conducting complete value chain assessments.[47] Ecosystem approaches, which aim to improve people's relationship with nature, require the allocation of a realistic amount of time for adaptation.

Factoring in climate change

53. Climate change has major and cumulative impacts on the ocean, affecting the biogeochemical cycles and ecosystem functioning that are crucial for ocean health. Action such as the creation of marine spatial plans, marine protected areas and other effective area-based conservation measures must take into account not just current impacts but also future risks due to climate trends, pollution and even global pandemics such as COVID-19, among other threats. Research needs to focus on integrating social, economic, climate and biodiversity considerations to provide science-based solutions that leave no one behind.[48]

2. Financing

Sustainable financing solutions

54. Inclusive, multi-stakeholder engagement and a regional approach that includes securing sustainable financing solutions are required as drivers of much-needed new investments in the sustainable blue economy and as a source of scientific and

[46] International Union for Conservation of Nature, *IUCN Global Standards for Nature-Based Solutions: A User-Friendly Framework for the Verification, Design and Scaling up of NbS* (Gland, Switzerland, 2020).

[47] Lucia Tamburino and others, "From population to production: 50 years of scientific literature on how to feed the world", *Global Food Security*, vol. 24 (March 2020).

[48] United Nations Framework Convention on Climate Change, "Ocean and climate change dialogue to consider how to strengthen adaptation and mitigation action: informal summary report".

technical knowledge crucial to the management of ocean activities and their impacts on biodiversity and ocean space. Linking international cooperation with coastal and marine management and planning, including marine spatial protection, is needed.

55. Investments should be biodiversity-neutral or, ideally, biodiversity positive. Currently, the amount of financing mobilized to promote and conserve biodiversity is at most one tenth the amount of environmentally harmful subsidies.[49]

Scaling up financing

56. Major ocean donors (e.g. multilateral, bilateral, philanthropic and private sector donors) need to prioritize and increase their financial commitments to dramatically scale up the application of area-based management to marine ecosystems. Attention needs to be focused on creating new managed marine areas and on enhancing the effectiveness of management and the financial sustainability of existing area-based conservation efforts.

Bilateral and multilateral institutions, including private sector involvement

57. Financial commitments from bilateral and multilateral institutions should be secured to establish a fund to support national efforts to protect vulnerable ecosystems and dependent coastal communities. There is growing interest and support from the private sector, including actors not previously involved (e.g. the insurance industry) and from philanthropic organizations, with regard to not just financing but also knowledge, data and on-the-ground contacts.

Opportunities created by climate change financing

58. Financing for nature-based solutions remains low compared with other climate financing. Governments and the private sector need to increase funding for coastal and marine nature-based solutions.[50]

Incentives for financing

59. Identifying current and future investment needs, meaningful incentive, and innovative finance and investment mechanisms is necessary to accelerate priority actions. Such mechanisms could include blue bonds and impact investment funds. The largest gains would be won by ensuring that mainstream investment targets the most sustainable pathways.[51] Blended finance offers opportunities to strengthen the natural resource base and its effective management to reduce the overall risk profile of sustainable development projects.

IV. Existing partnerships

60. The interlinkages among marine productivity, pollution, climate change, societal change and biodiversity change are important to recognize to foster effective, coherent and integrated actions on targets 14.2 and 14.5 of the Sustainable Development Goals. In addition to the voluntary commitments emerging from the United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development, many other partnership are ongoing at all

[49] OECD, *Biodiversity: Finance and the Economic and Business Case for Action* (2019).

[50] See www.unglobalcompact.org/take-action/events/climate-action-summit-2019/nature-based-solutions.

[51] World Wide Fund for Nature, “The sustainable blue economy finance principles”, 2 March 2018. See also www.unepfi.org/blue-finance/.

levels – indeed, too many to list here. However, set out below are examples of multilevel, stakeholder and intergenerational partnership processes, programmes and initiatives that bring together expertise, resources and knowledge to accelerate the advancement of policy and practice continue to strengthen action on the ocean.

61. **United Nations Decade of Ocean Science for Sustainable Development**. The Decade calls for cooperation through a common framework to ensure that ocean science can fully support countries to achieve the 2030 Agenda for Sustainable Development.[52]

62. **United Nations Decade on Ecosystem Restoration**. The Decade is closely linked to job creation, food security and addressing climate change. It also offers a unique opportunity to advance solutions on blue carbon habitats in tandem with the United Nations Framework Convention on Climate Change.

63. **United Nations Convention on the Law of the Sea**. The Convention provides the foundational legal framework for the conservation and sustainable management of marine living resources, marine biological diversity and the protection and preservation of the marine environment. The General Assembly, in its annual resolutions on the law of the sea and on oceans and the law of the sea, including resolution 76/72, has called upon States to strengthen the conservation and management of marine biodiversity and ecosystems, and has invited them to enhance cooperation to better protect the marine environment.

64. **Global Environment Facility and large marine ecosystems**. Since 1996, with support from the Facility and several of its agencies (UNDP, UNEP, FAO, United Nations Industrial Development Organization, World Bank, Intergovernmental Oceanographic Commission), more than 120 countries have worked together to advance multi-country, cross-sectoral integrated ecosystem management in approximately 24 of the world's 66 large marine ecosystems. Large marine ecosystems and related programmes are widely recognized by commissions and under conventions, protocols to regional seas conventions, new and innovative coordination mechanisms and other approaches, as critical in addressing the transboundary drivers of ecosystem degradation.

65. **Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide**. Since 2017, the European Commission and the Intergovernmental Oceanographic Commission have been leading a global initiative with the principal aim that 30 per cent of the surface area of the world's EEZs will have government-approved marine spatial plans by 2030 (other partners include United Nations agencies, regional institutions, regional seas conventions and action plans, Member States, the private sector, non-governmental organizations (NGOs)). The efforts focus on raising ambition, giving technical assistance, offering financial support, monitoring processes and sharing best practices and lessons learned in the development and implementation of marine spatial planning and its translation into sustainable blue economy strategies.[53]

66. **High-level Panel for a Sustainable Ocean Economy**. This initiative involving 16 countries has set out an ambitious ocean transformation agenda that supports protected, productive and prosperous oceans, including by developing useful resources and materials (Blue Papers)[54] to inform policy and enable transitions to a more sustainable ocean economy. The High-level Panel is committed to sustainably managing 100 per cent of the ocean areas under national jurisdiction, guided by sustainable ocean plans

[52] See www.oceandecade.org/.
[53] See www.mspglobal2030.org/msp-roadmap/.
[54] See www.oceanpanel.org/ocean-science#reports.

with support from Ocean Action 2030,[55] an international coalition of partners including UNEP, FAO, the Intergovernmental Oceanographic Commission, the Convention on Biological Diversity, UNDP, the World Bank, the Global Environment Facility, the World Resources Institute and the World Wildlife Fund.

67. **Global Ocean Accounts Partnership**. The Global Ocean Accounts Partnership is a global, multi-stakeholder partnership established to enable countries and other stakeholders to go beyond GDP to measure and manage, in an effective manner, progress towards ocean sustainable development. It is aimed at supporting at least 30 countries by 2030 to build complete sequences of national ocean accounts and co-create knowledge products that support the development of globally accepted and standardized ocean accounting practices by 2023. Chaired by the Economic and Social Commission for Asia and the Pacific and Fisheries and Oceans Canada, it brings together governments, international organizations and research institutions to build a global community of practice for ocean accounting.[56]

68. **Species-based conservation approaches**. The Convention on the Conservation of Migratory Species of Wild Animals and the Convention on International Trade in Endangered Species of Wild Fauna and Flora both promote international cooperation on conservation or trade measures for listed species. With regard to promoting resource management, protection and controls on trade, species-based approaches can contribute markedly to ensuring the functionality of coastal and marine ecosystems.

69. **Biodiversity protection for disaster risk reduction**. Many organizations, such as the World Meteorological Organization (WMO), are working on improving resilience and reducing impacts on the coastal and marine areas from storm surges and coastal inundation by improving observation (in situ and satellite) for better ocean forecasting. Partners such as the Pacific Community are focusing on delivering robust early warning systems for coastal populations, in cooperation with national meteorological and hydrological services and national disaster management agencies.

70. **Fisheries and regional seas cooperation**. The Sustainable Ocean Initiative global dialogue with regional seas organizations and regional fisheries bodies, coordinated by the secretariat of the Convention on Biological Diversity, FAO and UNEP, provides a platform to advance regional cross-sectoral collaboration for ocean governance. Platforms such as the global dialogue provide a useful means to explore and pursue opportunities to improve regional governance and cross-regional learning.

71. **Philanthropic foundations and influencers**. In 2017, the Pew Charitable Trusts and the Bertarelli Foundation established a $30 million partnership (the Pew Bertarelli Ocean Legacy project) for highly and fully protected large-scale marine protected areas around the world. The Antarctica 2020 champions are an international group of influencers from the worlds of sport, politics, business, media and science who are working together to build support for the designation of a network of marine protected areas in the Southern Ocean.

72. **Blue Carbon Initiative (sponsored by Intergovernmental Oceanographic Commission, International Union for Conservation of Nature and Conservation International Foundation) and International Partnership for Blue Carbon**. This type of global multi-stakeholder network provides a forum for governments, scientists and practitioners to connect with one another and advance efforts towards the protection, restoration and sustainable use of coastal blue carbon ecosystems. They include component initiatives, such as the Global Mangrove Alliance, which brings together technical experts, civil society organizations, governments, local communities, businesses, funding agencies and foundations to accelerate a

[55] See https://oceanpanel.org/action/ocean-action-2030.
[56] See www.oceanaccounts.org/.

comprehensive, coordinated, global approach to mangrove conservation and restoration at a significant scale.

V. Possible areas for new partnerships

73. To encourage integrated and well-coordinated ocean action, examples of possible new partnerships and/or opportunities are outlined below:

(a) **Participatory management and co-management approaches**. Partnerships that empower community-based organizations, such as local civil society organizations and NGOs, the private sector, scientists and academics, indigenous peoples, youth and women are important for the success of interventions. Co-management or participatory management arrangements should be established to give all stakeholders a voice and to promote knowledge-exchange and the sharing of best practices to support coastal communities facing complex challenges;

(b) **Strengthening of the nexus between the ocean and climate change**. It is necessary to promote and build bridges among international initiatives and partnerships working at the ocean-climate nexus (e.g. the annual dialogue to strengthen ocean-based action, the Blue Carbon Initiative, the Global Mangrove Alliance, Blue Nature Alliance, Friends of Ecosystem-based Adaptation and Green-Gray Community of Practice) in order to provide the critical ocean information required to mitigate and adapt to climate change. For example, opportunities exist for continued collaboration among WMO, the Intergovernmental Oceanographic Commission, the United Nations Office for Disaster Risk Reduction and others to provide coastal and marine multi-hazard early warning systems. WMO is also working with partners such as the International Maritime Organization and the International Atomic Energy Agency to scale up new methods to assists with pollution prevention and response (e.g. to address oil spills and nuclear fallout);

(c) **Ongoing developments in global ocean observation systems**. There is a need to foster new partnerships to streamline in situ and ex situ ocean data observation systems, as described in the road map for implementing the United Nations Decade of Ocean Science for Sustainable Development[57] (e.g. the Global Ocean Observing System and the Global Climate Observing System). Likewise, new partnerships could take the form of global communities of practice, such as the Global Coral Reef Monitoring Network. With regard to collating and standardizing marine data sets, partnerships could resemble the Ocean Biodiversity Information System of the Intergovernmental Oceanographic Commission;

(d) **Post-2020 global biodiversity framework**. The new set of 30-year framework goals and targets that will be defined in late 2022 provides an enormous opportunity to catalyse broad-based action through an all-of-society approach to preserve and restore the health of marine and coastal ecosystems. Cross-sectoral plans need to be added to National Biodiversity Strategies and Action Plans developed in accordance with the Convention on Biological Diversity;

(e) **Blue Nature Alliance**. This partnership brings together NGOs, governments, local communities and the private sector to provide technical expertise and financial support to catalyse large-scale ocean conservation;

(f) **Blue Food Assessment**. This is an international joint initiative of 100 scientists from more than 25 institutions to support decision makers in evaluating

[57] Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, document IOC/EC-LI/2, annex 3.

trade-offs, including between conservation and sustainable use needs in the ocean, and implementing solutions to build healthy, equitable and sustainable food systems;

(g) **Ocean Risk and Resilience Action Alliance**. This alliance will advance private investment in coastal resilience and nature-based solutions. It will accelerate and drive research, analysis and modelling; plan, develop and support innovative finance projects for coastal resilience to help to mitigate ocean risk and close the protection gap in developing countries; and inform ocean resilience policy, governance and public understanding;

(h) **Private sector opportunities**. Private sector opportunities could include exploring the use of cryptocurrency and blockchain technology to verify ecosystem integrity and establish finance projects focused on coastal ecosystem conservation and blue carbon, as well as projects focused on other aquatic ecosystems of emerging interest.

VI. Conclusions and recommendations

74. **Management and conservation**. Management and conservation should take into account the big picture. Integrated coastal zone management and marine spatial planning, considering all users, climate change and biodiversity conservation, need to be able to jointly deliver 100 per cent managed landscapes and seascapes. Doing so requires further investment in collaborative work and long-term planning to deliver a sustainable and integrated blue economy, conservation of natural seascapes, improved stakeholder security, and transparency and access to information.

75. **Operational approaches to defining ecosystem concepts**. The Sustainable Development Goals process should be used for the development of such approaches. International processes, both existing and to be defined, should be linked up (e.g. ecosystem approaches to sustainable use, plastic pollution and the marine biological diversity of areas beyond national jurisdiction), and there is a need to harmonize the vision for how to measure the health of ecosystems, a well-used term for which there is still no agreed measurement methodology.

76. **Enhanced decision-making, cross-sectoral coordination and multilevel cooperation**. Alignment between global, regional, national and subnational policies, conventions and initiatives provides the opportunity to catalyse political will to deliver on societal needs and clearly articulate priorities while providing the required financial and regulatory tools for implementation. Informed decision-making can support the effective planning, implementation, monitoring and evaluation of actions globally, while supporting local action on the ground and making efforts to collate local information to serve as inputs to the overall global understanding of the health and productivity of the ocean.

77. **Humankind's relationship with nature**. Humankind's relationship with nature should be strengthened by linking sustainable use, the conservation of ecosystems, sustainable development, resilience-building and climate change. The majority of the planet's ecosystems are under pressure where they come into contact with people living, interacting and exploiting natural resources. Investments should be made to extend the application of ecosystem approaches to government and private management of natural resources and to climate change mitigation and adaptation.

78. **Traditional and indigenous knowledge**. This knowledge should be included to inform inclusive management and the sustainable use of natural resources. In particular, knowledge from small-scale aquatic food producers and local tourism operators, among others, should be integrated to ensure that any trade-offs between

conservation and sustainable use are properly understood and addressed in a way that leaves no one behind.

79. **Participatory planning and implementation**. The enabling environment for participatory planning and implementation should be improved. There is a need to invest in initiatives from the local level to the regional level and to engage local communities, women, indigenous people and other key stakeholders. Effective recognition of all governance types involved in the management of protected and conserved areas is central, as is the securing of minimum conditions and respect for the rights of park rangers and other practitioners.

80. **Strengthened area-based management**. Area-based management should be strengthened to maintain or restore ocean and coastal ecosystems. Momentum must continue to accelerate progress towards achieving the Convention on Biological Diversity spatial management targets (marine protected areas and other effective area-based conservation measures, including other effective area-based management tools, such as those under the regional fisheries management organizations) and, similarly, towards achieving Sustainable Development Goal 14 to help to restore and build the resilience of coastal and marine ecosystems.

81. **Consolidated ocean action**. Silos should be broken to consolidate ocean action. Science and management stakeholders in the environmental, economic and social disciplines should be brought together to support management solutions that link ecological and social opportunities, incorporating stakeholders across all value chains who are involved in use sectors and in area-based policymaking and planning.

82. **Thematic support and ongoing dialogue on ocean action**. Thematic support and an ongoing dialogue on ocean action should be developed. Providing clear, ongoing updates of practical experience and lessons learned across countries and regions with regard to the achievement of targets 14.2 and 14.5 of the Goals would help to maintain the issues associated with them alive in the public conversation.

83. **Thematic programmes linked to data and information streams**. Thematic programmes should be linked to data and information streams. Each target needs to have a centralized method for the collation of data and information on progress towards targets 14.2 and 14.5 of the Goals. Facilitating the visualization of progress over time would increase the visibility of the efforts related to these targets and keep the issues associated with them alive in the public conversation.

84. **Local capacities and management support frameworks**. Greater investment is needed in local capacity-building, tools and management support frameworks linked to resources in selected disciplines and methodologies (e.g. ecosystem service assessment and ocean monitoring) and capacity-building partnerships, with help from United Nations agencies, civil society, academia, regional organizations (regional seas organizations and regional fisheries management organizations) and the private sector. Investment also needs to support the provision of training and education on marine and coastal issues by educational institutions, government agencies and civil society. Sustainable financing solutions are necessary to support overall engagement and the effective protection, management and transparent reporting of spatial protection.

85. **Linked commitments, targets, resources and monitoring frameworks**. Commitments, targets, resources and monitoring frameworks should be linked and better aligned across international initiatives to feed into international processes. For example, Ocean Action 2030 and the United Nations Conference to Support the Implementation of Sustainable Development Goal 14 could call for the post-2020 process to incorporate ambitious commitments and targets for the ocean, building on and supporting Goal 14 and ambitions that may be expressed by the Conference of

the Parties to the United Nations Framework Convention on Climate Change at its twenty-seventh session.

86. **Biodiverse, functioning ecosystems for nature and people**. There is a need to communicate the importance of maintaining biodiverse, functioning ecosystems for nature and people. The achievement of the Goals requires a working definition of biodiversity and a narrative to communicate the concept clearly so that the link between diversity within and between species and the functioning of ecosystems is more strongly conveyed and the link between biodiversity and productive and resilient ecosystems and human health, as highlighted by the ongoing COVID-19 pandemic, is recognized. The delivery of positive messaging and a narrative that engages people and promotes sustainable economies will help to broaden the constituency for biodiversity and ecosystem conservation for the achievement of targets 14.2 and 14.5 of the Goals.

VII. Guiding questions

87. The following guiding questions may be used to inform the dialogue:

Overall vision and engagement

(a) How can information on bottom-up engagement be better collated and shared?

(b) How can countries better support one other in the spatial planning process and the implementation of resulting plans? How can the ocean planning and conservation communities develop a collaborative scientific research agenda that identifies strategic priorities, standardizes data formats and reduces redundancy?

Financing

(c) Where will money for capacity-building and ongoing implementation related to targets 14.2 and 14.5 of the Sustainable Development Goals come from? Can use sectors and private interests be encouraged to contribute?

(d) How can the costs and benefits of a transition towards resource-efficient and sustainable blue economy sectors be shared equitably among countries and stakeholders?

Protection versus sustainable use, or a cooperative interconnected approach?

(e) How can sustainable fisheries management lead to biodiverse, functioning and productive ecosystems? How can investment be distributed among management and protection groups?

(f) How can greater collaboration be fostered between marine protection and sustainably managed sectors (e.g. fisheries and tourism) to benefit marine species and habitats and the communities that depend on them?

Sociocultural inclusion: ensuring the human capacity for delivery

(g) How can it be ensured that targets 14.2 and 14.5 of the Goals are inclusive of local communities, women, young people, indigenous and traditional communities and other stakeholders? Is multilevel dialogue between the State, the scientific community, those who implement innovative solutions on the ground, and all stakeholders a step towards putting people at the centre of decisions?

(h) How can better strategies be developed for sharing data, knowledge and experiences (e.g. case studies, best practices and failed practices)?

Climate mitigation, adaptation and resilience

(i) How can the likely cumulative impacts of climate change, habitat change, pollution and overfishing on marine species be determined?

(j) How can climate mitigation and adaptation strategies be supported by strong legal and regulatory frameworks that help to reduce the exposure and vulnerability of coastal infrastructure and build resilience?