

## COMMENT OPEN



# Getting beyond yes: fast-tracking implementation of the United Nations agreement for marine biodiversity beyond national jurisdiction

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With a new international agreement on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ Agreement) on the horizon, now is the time to start laying the foundation for successful implementation. This paper provides some initial reflections for supporting rapid, effective, and equitable implementation of the BBNJ Agreement in three priority areas: (1) bringing the Agreement into force; (2) establishing the institutional framework, including financial mechanisms; and (3) developing capacity, science, and technology. With reference to selected examples from other international processes, the paper makes suggestions for encouraging wide ratification of the BBNJ Agreement, establishing a Preparatory Commission (PrepCom), mobilizing resources, and building partnerships to advance science and capacity. The growing impacts of climate change and human activities on the global ocean necessitate urgent action, so we must begin to work on the implementation of the BBNJ Agreement as soon as possible to secure ocean health for the benefit of present and future generations.

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## INTRODUCTION

Decades in the making, a United Nations (UN) agreement on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ Agreement) is expected to be concluded in early 2023<sup>1,2</sup>. As States and stakeholders make a final push to conclude the negotiations, it is time to start taking the vital next steps: encouraging ratification, putting in place the necessary institutional structures, and building capacity amongst all States to ensure wide participation and effective implementation.

The BBNJ Agreement will be a significant addition to the existing international ocean governance framework<sup>3</sup>, which comprises a multitude of global and regional instruments and bodies, often with a single-sector focus<sup>4</sup>. This patchwork has proven to be ill-equipped to manage the cumulative impacts of human activities and climate stressors such as ocean warming, acidification, deoxygenation, and marine heatwaves, which can occur in concert and further exacerbate other existing anthropogenic pressures, undermining ocean resilience<sup>5–7</sup>. The BBNJ Agreement, the third implementing agreement under the UN Convention on the Law of the Sea (UNCLOS), will provide a vital platform to improve integrated management of a changing ocean and support collaboration across regions and sectors to sustain marine ecosystems<sup>8,9</sup>.

To this end, the BBNJ Agreement will not only fill discrete gaps in the legal framework, but also provide a forum for coherent and informed collective action<sup>10,11</sup>, as well as joint research,

capacity development, and the sharing of data, information, and technology<sup>12</sup> (as called for by the Second World Ocean Assessment)<sup>13</sup>. The negotiations for a BBNJ Agreement address the four topics identified in the package agreed in 2011, in particular, together and as a whole: (i) marine genetic resources (MGRs), including questions on the sharing of benefits; (ii) measures such as area-based management tools (ABMTs), including marine protected areas (MPAs); (iii) environmental impact assessments (EIAs); and (iv) capacity building and the transfer of marine technology (CBTMT).

To meet their obligations under the Agreement, Parties will need to develop legislative, administrative, and policy measures in cooperation with other States and stakeholders. Parties must further ensure that sufficient national, regional, and global institutional mechanisms are in place, taking into account capacity-building needs. Partnerships and commitments of monetary and non-monetary support will be essential to advance science, knowledge, and action.

Drawing upon the authors' extensive and diverse experience supporting intergovernmental processes such as UNCLOS, the UN Framework Convention on Climate Change (UNFCCC), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the BBNJ Agreement negotiations, here we provide initial reflections on three priorities for supporting rapid, effective, and equitable implementation of the BBNJ Agreement:

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1. Bringing the Agreement into force, by securing sufficient ratifications;
2. Establishing core institutions, including financial mechanisms; and
3. Developing capacity, science, and technology.

### BRINGING THE AGREEMENT INTO FORCE

Preparatory work to encourage and support States to ratify the BBNJ Agreement should begin without delay so that it can enter into force in a timely manner. The ratification process is summarized in Box 1. Examples of supporting actions are highlighted in bold and are further discussed below, including awareness raising, inspiration from other international processes, and developing technical assistance resources.

#### Awareness raising

*Awareness raising at the national, regional, and global levels can be critical for ensuring understanding, acceptance, and ratification of an agreement*<sup>14</sup>. Such efforts can inform States of the benefits, opportunities, and responsibilities that may result from ratification of the Agreement. This can be coupled with provision of information and capacity-building whenever necessary. Outreach activities could include regional workshops, webinars, and high-level events. A range of supporting materials will also be necessary. These activities and materials will need to engage diverse stakeholders: the public, the scientific community, industry, parliaments and relevant government agencies, and intergovernmental bodies and processes.

#### Inspiration from other international processes

*The (interim) Secretariat and civil society* can create momentum by highlighting benefits and responsibilities arising from joining the Agreement and providing legal, scientific, and technical assistance, as well as public outreach. The UN Food and Agriculture Organization (FAO) conducted extensive outreach

activities in support of the Port State Measures Agreement (PSMA), convening 100 countries and other organizations through regional workshops that focused on presenting the benefits and basics of implementation and understanding the main gaps and constraints in each region<sup>15</sup>.

*The private sector* can play a vital role. For example, the Global Industry Alliance (GIA), a public-private partnership including businesses and investors, facilitated entry into force of the Ballast Water Management Convention<sup>16</sup>. The Alliance contributed to the GloBallast Partnerships Programme<sup>17</sup> to advance implementation, and invested in ballast water treatment technologies, training and industry capacities<sup>17–19</sup>. The Marrakech Partnership for Global Climate Action supports implementation of the Paris Agreement, enabling collaboration between governments and cities, regions, businesses and investors to act on climate change<sup>20</sup>.

*Assisting governments with national codification processes* can be valuable. CITES provides a model law<sup>21</sup> capturing the key obligations of the treaty, a legal checklist<sup>22</sup> and, in collaboration with FAO, has developed a more specific legal guide to implementing CITES provisions for marine species<sup>23</sup>. The World Bank provided a legislative guide for implementing the 1993 FAO Compliance Agreement and 1995 UN Fish Stocks Agreement<sup>24</sup>. The FAO also developed legislative templates for the PSMA<sup>25</sup>.

*Dedicated financial and technical support* can accelerate ratification. With respect to the Nagoya Protocol on access and benefit sharing (ABS) of genetic resources, the Global Environment Facility (GEF) supported activities to ensure compliance with and support implementation of the Protocol<sup>26</sup> including: gap analyses of ABS provisions in existing policies, laws, and regulations; assessment of institutional capacity including research organizations; and the development and implementation of national strategies and action plans (including regulatory frameworks, institutional arrangements, and administrative procedures). This also included support for regional collaboration and building capacity amongst stakeholders and institutions to carry out research and development (R&D) to add value to their own genetic resources and complement traditional knowledge<sup>26</sup>.

*Funding is critical*. Funding for implementing the BBNJ Agreement could further advance global capacity to achieve the UN Sustainable Development Goals<sup>27</sup>, but this needs to be tracked and coordinated<sup>28</sup>. The Assistance Fund of the UN Fish Stocks Agreement (UNFSA), established to assist developing countries with implementation, has largely been used to cover travel costs for delegates to attend relevant meetings and has been consistently depleted<sup>29,30</sup>.

#### Developing technical assistance resources

Awareness raising, capacity-building, and other technical assistance play an important role in helping States decide whether to sign and become party to an agreement, as well as support Parties in successfully implementing an agreement. For example, the Montreal Protocol's Multilateral Fund, which provides financial and technical assistance, including institutional strengthening, for developing country Parties to transition away from ozone-depleting chemicals, was a key incentive for some countries to ratify the Protocol<sup>31</sup>.

*An initial step could be helping States to identify and map rights and obligations arising from the BBNJ Agreement*. The above examples show that supporting potential Parties to codify their obligations can facilitate speedy ratifications and establish common practices. Local knowledge and understanding of national laws are needed, and differences between common and civil law countries need to be considered<sup>32,33</sup>.

#### Box 1 Bringing a treaty into force

1. A State generally signs a treaty to signal its intention to participate; this creates an obligation to refrain from acting contrary to the object and purpose of the treaty prior to entry into force<sup>73</sup>. **A special event organized by the depositary once the agreement is open for signature could promote participation** in the agreement.
2. Each State must go through its own legislative and executive processes to ratify a treaty. National ratification processes are diverse, thus **supporting or promoting participation requires an approach tailored to national requirements**<sup>74</sup>.
3. The State then submits its instrument of ratification to the designated depository<sup>75</sup>. A State can also express its consent to be legally bound by the Agreement by depositing an instrument of approval or acceptance. If a State has not signed the Agreement within the period it is open for signature, it may still establish its consent to be bound by the Agreement through the deposit of an instrument of accession.
4. An agreement enters into force once it has been ratified by a specified number of States. UNCLOS set the threshold at 60 and took 12 years to enter into force, while the 30 ratifications required by the UN Fish Stocks Agreement took 6 years<sup>76</sup>. **Awareness raising and preparatory activities will be necessary to attract the required number of ratifications in a timely manner**.
5. A State is not legally bound by an agreement until it has entered into force, though an agreement can provide for provisional application. (A State can notify the depositary at the time of signature or deposit of its instrument of adherence that it consents to such provisional application). If the BBNJ Agreement provides for provisional application, this could provide an important window of opportunity to build momentum and prepare for the first Conference of Parties (COP). For example, future Parties can collaborate to **develop draft rules of procedure, identify key experts, assess capacity needs, and initiate collaborative research**.

*Support though activities such as those highlighted in bold above and further described below will be needed to ensure rapid and effective implementation of the Agreement once it enters into force.*

An initial capacity needs assessment can illuminate the legal, administrative, institutional, and technical aspects of implementing substantive obligations (e.g., those related to EIAs, ABMTs, and MGRs). Regional needs assessments can identify options for strengthening regional institutional capacities to facilitate inter-governmental cooperation and complement national initiatives. The GEF's financial support to the Nagoya Protocol includes an assessment of gaps and needs, followed up by capacity-building efforts. FAO undertook a similar exercise to identify key regions, countries, and needs for the implementation of CITES' provisions on marine species that informed later CITES/FAO joint capacity-building efforts<sup>34</sup>. CITES's technical body, the Animals Committee, has also kept implementation gaps and needs for CITES provisions under regular review and has reported its findings to the CITES COPs<sup>35,36</sup>. Needs assessments are usefully accompanied by gap analyses and strategies to meet needs in the long-term, such as through partnerships and capacity-building programs.

### **BUILDING UP THE INSTITUTIONAL MECHANISMS FOR IMPLEMENTATION**

The establishment of institutional mechanisms<sup>37</sup> (including financial) for implementation provides the foundation for rapid progress and long-term success. Some actions can start as soon as the treaty text is finalized, such as convening a Preparatory Commission (PrepCom) and interim working groups to lay the foundation for the first COP, consider finance needs, and highlight key elements identified in the Agreement to be developed by the COP or one of its subsidiary bodies.

#### **Preparatory Commission**

Following the example of the Third UN Conference on the Law of the Sea, a PrepCom could be established by a resolution of the Intergovernmental Conference (IGC), and a subsequent UN General Assembly (UNGA) resolution<sup>38</sup>. The PrepCom could be tasked with preparing for the establishment of the institutional arrangements pending entry into force of the new agreement, including: the provisional agenda of the first session of the COP and subsidiary bodies; draft rules of procedure; draft financial rules; and recommendations for the first budget. The PrepCom could also establish subsidiary bodies and make broader recommendations on institutional arrangements (including, for example, how to support the enhanced global, regional, and cross-sectoral collaboration envisaged by the BBNJ Agreement). It could be serviced by the UN Division for Ocean Affairs and the Law of the Sea (DOALOS) Office of Legal Affairs, acting as interim secretariat. Expenses could be paid from the UN regular budget, subject to the approval of the General Assembly. The rules of procedure of the IGC could apply to the PrepCom, including with respect to observers' participation.

#### **Scientific & Technical Body and Interim Working Group**

The BBNJ Agreement looks set to assign a range of functions to the Scientific and Technical Body (STB), including providing recommendations on specific proposals or measures, such as the establishment of an MPA. A PrepCom could establish an interim scientific and technical working group to provide guidance on how the STB could be structured to meet these broad functions, including by identifying modalities for cooperating with other scientific bodies and experts. Other relevant bodies include the scientific advisory bodies of regional fisheries management organizations (RFMOs), as well as scientific processes such as the UN Regular Process for Global Reporting and Assessment of the State of the Marine Environment (the Regular Process) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

By initiating consultations prior to entry into force, preliminary guidance could be ready for review by the first COP. The interim working group, in conjunction with scientific experts, could develop guidance that addresses substantive scientific and technical matters, such as best practices for designing coherent networks of MPAs and for the conduct of EIAs and Strategic Environmental Assessments (SEAs).

#### **Financial mechanism and interim working group on finance**

The financial mechanism proposed under the draft BBNJ Agreement will play a vital role in ensuring the success of the BBNJ Agreement. Early resources could be provided by donors in public-private partnership formats using innovative finance mechanisms<sup>39</sup> and will be needed, for example, to galvanize participation, support the preparatory institutional structure and needs assessments, and develop capacity for implementation, as is being done through the GEF for the post-2020 Global Biodiversity Framework under the CBD<sup>40</sup>.

The PrepCom could be charged with establishing an interim finance working group. This group would help prepare the BBNJ COP to establish a Committee on Finance and agree to potential finance arrangements with third parties. The UNFCCC operates effectively through a Standing Committee on Finance to review key issues and engage broader participation. The working group could build momentum for the mobilization of financial resources (in particular provided to developing State Parties) and improve coherence and coordination. The working group could seek cooperation with existing financial institutions and develop new and innovative finance mechanisms, such as an Ocean Sustainability Bank<sup>39</sup>.

#### **Clearing-house mechanism**

The clearing-house mechanism (CLHM) is primarily envisaged as an open access web-based platform to share information, though there is also the expectation that a 'human element' will provide proactive information exchange and assist in matchmaking between countries requiring capacity and technology and those willing to enter partnerships to provide it. The specific form of the CLHM and operational modalities will be determined by the COP, yet given the many expectations and demands on the CLHM, it will be important for the PrepCom to identify needs, good practices, and options for structuring, housing, and facilitating the operations of the CLHM.

#### **Preparing for review of Implementation and Compliance**

While a designated committee or the COP would only start its review of implementation and compliance once the Agreement has entered into force, there may still be opportunities for a PrepCom to begin preparations. The PrepCom could identify and map key provisions (including what information is available to monitor implementation) and compile best practices from other multilateral treaties. This would be helpful both for States considering ratification and for any future implementation and compliance mechanisms.

#### **Capacity building & technology transfer**

An interim working group under the PrepCom could start the process of providing guidance for developing capacity needs assessments and priorities at the national and regional levels. Working with States and regional organizations, it would identify ways in which these assessments could be conducted so that they are country-driven, yet adequately supported through financing and technical assistance. Concurrently, the interim working group can start an assessment of existing ocean-relevant capacity-building and technology transfer initiatives that could be further built upon to maximize effectiveness while avoiding duplication.

This could be done at the global level, as well as nationally and regionally as part of the needs assessment process. Similarly, States and other institutions can initiate efforts to identify potentially relevant technologies to inform the needs assessment processes.

### Access and benefit-sharing mechanism

Given the significant scope of work envisaged for the proposed ABS mechanism, an ABS working group could lay the foundation for rapid establishment once the BBNJ Agreement comes into force. An ABS working group could: prepare an initial roster of qualified expert candidates for the ABS mechanism and begin consultations relating to the CLHM. These consultations could identify best practices relating to the collection and sharing of MGR samples and data (including digital sequence information). Initial work could also be undertaken towards guidelines for benefit-sharing, in particular, how to provide transparency and ensure fair and equitable outcomes.

### DEVELOPING CAPACITY, SCIENCE, AND TECHNOLOGY FOR EFFECTIVE AND EQUITABLE CONSERVATION AND SUSTAINABLE USE IN ABNJ

All States have a stake in the health of the interconnected global ocean<sup>41</sup>. For the BBNJ Agreement to be equitable, it needs to contribute to ensuring that all Parties have the capacity to contribute to and benefit from the conservation and sustainable use of BBNJ<sup>42</sup>. Enhanced capacities for marine science can inform responsible and climate-smart decision-making<sup>43</sup>, improve conservation and management outcomes, and identify common interests to galvanize political will. This section highlights some ways to prepare capacity for the implementation of all four package deal elements: Capacity needs assessments at national and regional levels; preparing for MPAs and other ABMTs; preparing for EIAs and SEAs; advancing capacity for using MGR-related tools for conservation; and partnerships amongst States and other stakeholders to implement the BBNJ treaty as a whole.

#### Capacity needs assessments at national and regional levels

Ensuring that all Parties have the capacity to participate in the conservation and sustainable use of BBNJ will require considerable investment in human, scientific, technological, organizational, and institutional capacity. Capacity-building can take the form of technical assistance, knowledge sharing, skill development, institution building, funding, and development of good practices.

Assessment of needs and priorities of developing States for capacity building and technology transfer can take place at the national and regional levels. In some regions, regional organizations are likely to play an important role in assisting countries with conducting the assessments, and in acting as a facilitator between the national and global levels<sup>44</sup>. It is important that targeted support, including financial support, is made available as early as possible, and that needs assessment processes are flexible enough to accommodate different national and regional situations. The needs assessment process should also include a prioritization exercise so that essential needs can be distinguished from needs that can be addressed in the medium or long term. It is also key to determine the extent to which infrastructure for BBNJ-related activities, such as research vessels or laboratories for MGR analysis, could be shared regionally, further building on and strengthening existing facilities where possible.

A global assessment of the capacity-building landscape could be launched in collaboration and coordination with UN Agencies and intergovernmental bodies, non-governmental organizations (NGOs), scientific initiatives, and academia<sup>45</sup>. Such an assessment could also provide a better understanding of gaps and spur the formation of partnerships designed to fill them. The interim

working group on finance could assist in securing start-up funding and potential donor matchmaking. It is important that such efforts also focus on building long-term institutional capacity, including by strengthening national and regional universities.

### Preparing for MPAs and other ABMTs

The process of developing ABMTs, including MPAs, can draw on a wealth of existing work<sup>46,47</sup>, but will also require global- and regional-scale partnerships, coordination, and outreach<sup>48</sup>. It will involve developing further scientific support, ensuring equitable participation, empowering inclusion of indigenous peoples and knowledge, applying the proposed criteria for ABMTs for important areas, coordinating outreach to gain support, and, crucially, beginning to design coherent networks of MPAs and wider systems of ABMTs.

- (i) **Preparing for the first tranche of MPA proposals:** To achieve international MPA targets, multipronged efforts to develop the first tranche of MPA proposals for ABNJ need to begin now<sup>49,50</sup>. Financial and other assistance will be required to compile existing information on important places<sup>47,51,52</sup>, identify priorities, build support, and coordinate efforts amongst partners and stakeholders. Informal alliances with dedicated funding, such as those established for the Sargasso Sea and Thermal Dome, can facilitate early collaboration amongst stakeholders to build knowledge and trust. Such informal alliances could, for example, enable access to and exchange of data, build support for buy-in to conservation measures<sup>53</sup>, and advance ideas for management, funding, research, and plans for monitoring, control, and surveillance (MCS)<sup>54</sup>.
- (ii) **Securing comprehensive protection for areas that have some existing management measures:** Additional candidates could include areas with at least some pre-existing protection, such as Vulnerable Marine Ecosystems (VMEs) established by RFMOs that are protected from bottom contact fishing<sup>55</sup> or Areas of Particular Environmental Interest (APEIs) and other no-mining areas established by the International Seabed Authority (ISA)<sup>56</sup>. The BBNJ Agreement can complement the work of these sectoral and regional management authorities, building upon existing management measures by making their protection cross-sectoral, coherent, and connected to other measures.
- (iii) **Drawing from established scientific criteria and data compilation and assessment efforts:** While the BBNJ Agreement is likely to include indicative criteria that future BBNJ MPAs will need to meet, the CBD, International Union for Conservation of Nature (IUCN), and other organizations have dedicated significant efforts to describing areas based on specialized criteria, such as Ecologically or Biologically Significant Areas (EBSAs), Important Bird and Biodiversity Areas (IBAs), Important Marine Mammal Areas (IMMAs), and Key Biodiversity Areas (KBAs). It is now possible to recognize discrete areas of the ocean that are significant for highly mobile animals via web-based platforms such as MiCO<sup>57</sup>. The knowledge of indigenous peoples can provide another important source of information, especially in areas with traditional voyaging societies such as the Pacific Ocean<sup>58,59</sup>.
- (iv) **Designing a comprehensive system of ABMTs, including a network of ecologically representative and connected MPAs:** To date, most ABMTs have focused primarily on important areas with little-to-no consideration of representativity or to connectivity with other important areas<sup>46</sup>. A network of connected MPAs can be particularly beneficial to highly migratory animals<sup>60</sup>. Thus even before the BBNJ Agreement comes into force, work can begin on a systematic approach to MPA network design by considering

(1) both ecologically important and representative areas, (2) areas at multiple scales, from transboundary to regional to global, and (3) how a network of high seas MPAs might effectively connect discrete important and representative sites<sup>46</sup>.

### Preparing for EIAs and SEAs

- (i) **Developing scientific, technical, and policy expertise:** Many States currently lack access to the legal framework, knowledge, and expertise needed to provide baseline information and to oversee EIAs of activities with the potential to affect marine biodiversity in ABNJ. Under national EIA laws, project proponents are often not required to share data, assess potential effects outside their proposed project site, or consider alternatives that include not undertaking the activity. Comprehensive assessment of potential cumulative effects also requires significant scientific capacity and technology. Collaborative marine environmental research and assessment projects, including SEAs, can be advanced at multiple scales (ocean basin to sub-regional)<sup>61</sup> in advance of the entry into force of the BBNJ Agreement to build domestic institutional, scientific, and technical capacities to conduct EIAs.
- (ii) **Accelerating SEAs:** SEA processes conducted at larger regional/ecosystem scales have the potential to be vital tools to inform more proactive governance of marine biodiversity in ABNJ<sup>61,62</sup>. Early support for SEA processes could create a platform for advancing strategic thinking and an integrated approach to conserving biodiversity and enhancing the sustainability of human uses in a changing ocean<sup>62,63</sup>. Potential partners in such platforms include States, scientific institutions, sectoral organizations, NGO experts, knowledge holders, and others with an interest (including conservation) in the region. The platforms can support efforts to gather and share baseline data; identify sensitive habitats and areas of socio-economic importance; and conduct integrated ecosystem and socio-economic assessments to understand drivers, pressures, and trends to better predict and model potential cumulative impacts. The results can then inform decision-making, stakeholder engagement, and more integrated management<sup>64,65</sup>.

### Advancing capacity for using MGR-related tools for conservation

The capacity to undertake marine scientific research in ABNJ does not currently exist in most developing countries<sup>12,66,67</sup>. As genomic and molecular technologies ('omics') based on the genetic properties of marine organisms are rapidly becoming a core part of the tools to explore, understand and manage marine biodiversity, capacity efforts in marine science can demonstrate some of the key conservation benefits of MGRs. For example, DNA-barcoding, genetic markers and eDNA sequencing are increasingly deployed together with traditional taxonomic tools in the study of biology, taxonomy, ecosystem role, and connectivity of organisms in deep sea coral and sponge communities<sup>68</sup>. Current applications range from fisheries management, aquaculture development, food and water safety, species and habitat conservation, seafood consumer protection, biodiversity monitoring, and natural products discovery<sup>68</sup>.

International scientific partnerships can play a key role in enhancing capacity and access to technology for marine scientific research including for MGRs. To achieve this, partnerships will be needed to address national and regional needs, be co-designed and co-implemented from the beginning, provide

for respectful two-way learning, and be sufficiently resourced in the long term<sup>69</sup>.

### Partnerships that bring it all together

Inclusive codesigned partnerships under the umbrella of the UN Decade of Ocean Science for Sustainable Development (2021–2030) (Ocean Decade) could also foster many of the objectives of the BBNJ Agreement<sup>70</sup>. The Ocean Decade is seeking to stimulate "transformative ocean science solutions for sustainable development". Collaborative regionally focused partnerships in pilot ocean systems can seek to discover and describe new species, learn about their ecological sensitivity, and understand the impacts of multiple stressors and human activity. Such efforts could use this knowledge to support MPA proposals and underpin design of MPA networks and ABMT systems that are adjacent to, straddle, or even include areas within national jurisdiction, as well as inform future EIAs and SEAs in these areas, using molecular/genomic tools and other technologies.

Such efforts for key ocean regions could be stimulated via a series of funded networking workshops, preceded by virtual preparatory meetings, and used to write a concrete proposal(s) for scientific partnerships that would help implement the BBNJ Agreement. These outputs could be used to inform development of a Global Plan of Action for the study of BBNJ that could guide initiatives, including under the Ocean Decade, as well as support future monitoring efforts<sup>71</sup>. It could be designed to develop and reflect a shared global vision and strategy for addressing country science capacity and technology needs for implementing the BBNJ agreement based on expressed country needs and aspirations<sup>72</sup>.

### CONCLUSION

The long-awaited conclusion of the negotiations for a BBNJ Agreement will be a landmark achievement in the development of the international ocean governance framework and promises to advance implementation of the UNCLOS provisions on the conservation and sustainable use of marine biodiversity beyond national jurisdiction. Much work will be needed to deliver on this promise, prioritizing bringing the Agreement into force, establishing an institutional framework, and developing the capacity needed for effective implementation.

As highlighted in Table 1 below, ratifications could be encouraged through targeted outreach activities, a special signature event, and technical and financial support to codify the Agreement into national law and conduct needs assessments. A PrepCom could be established to advance preparations for the first COP and establish interim working groups to develop the institutional structure and financial mechanism. Finally, support should be mobilized to advance a range of scientific, legal, organizational, and institutional capacities for effective implementation. Scientists and other interested stakeholders can build on existing efforts to develop the first tranche of candidate areas for MPAs and other ABMTs, lay the groundwork for EIAs and SEAs, promote integrated environmental and socio-economic assessments in pilot regions, and build science and management capacity.

These efforts can be initiated via a wide variety of players on a country-by-country basis, at the regional level, as well as globally, to advance all components of the BBNJ Agreement. With its focus on transformative approaches to obtaining knowledge for sustainable development, the Ocean Decade is a timely umbrella to leverage efforts to build knowledge and capacity at all levels to understand and adapt to accelerating climate change and other human pressures.

By supporting inclusive and participatory efforts to fast-track implementation and to better understand ocean biodiversity and

**Table 1.** Summary of workstreams and recommendations.

Bringing the Agreement into Force	Awareness raising	Inform States of benefits, opportunities, and responsibilities of joining Organize outreach activities (e.g., regional workshops, webinars, and high-level events)
	Developing technical assistance resources	Assist with national codification processes (e.g., via model laws and legal checklists) Identify legal, administrative, institutional, and technical aspects of implementing substantive obligations
Building Up the Institutional Mechanisms	Preparatory Commission	Prepare for the institutional arrangements (e.g., preparing draft terms of reference, guidelines)
	Scientific and technical advice	Recommend modalities for collaboration with other institutions and processes (e.g., IPBES, UN Regular Process, RFMOs, CBD) Provide guidance on best practices for MPAs, EIAs, and SEAs
	Finance	Mobilize financial resources Cooperate with existing financial institutions & develop new and innovative finance mechanisms (e.g., Ocean Sustainability Bank)
	Clearinghouse Mechanism	Identify needs, good practices, and options for structuring, housing, and facilitating the CLHM
	Implementation & Compliance	Identify and map key provisions, metrics for implementation, and compile good practices from other multilateral treaties
	Capacity Building & Technology Transfer	Prepare guidance for needs assessments and priorities at the national and regional levels Identify relevant technologies for implementation to inform the needs assessment processes
	Access and benefit sharing mechanism	Prepare an initial roster of qualified expert candidates Identify best practices for collecting and sharing MGR samples and data (including digital sequence information) Develop interim guidelines related to benefit-sharing
Developing Capacity, Science, and Technology	Capacity needs assessments from local to global	Secure targeted support, including financial support Launch global assessment of the capacity building landscape Identify and examine infrastructure for BBNJ-related activities, such as research vessels or laboratories for MGR analysis
	Preparing for MPAs and other ABMTs	Establish global and regional-scale partnerships for coordination and outreach Advance first tranche of MPA proposals by e.g., compiling information, facilitating data-exchange, and building support Promote comprehensive protection for sectoral ABMTs Support scientific work on MPA network design
	Preparing for EIAs	Identify and address gaps in expertise for conducting EIAs Build domestic and regional capacities for EIAs & SEAs through, e.g., collaborative marine environmental research projects
	Sharing conservation benefits of MGRs	Identify and demonstrate key conservation benefits of MGRs Establish and resource international scientific partnerships to enhance capacity and access to technology for marine scientific research including for MGRs
	Advancing marine science	Support scientific initiatives & partnerships via e.g., UN Decade of Ocean Science to inform ecosystem-based management Develop Global Plan of Action to advance BBNJ science capacity

monitor ocean change, BBNJ-relevant initiatives can fill critical gaps in capacity for integrated and coordinated ocean management to safeguard marine biodiversity across generations and for the benefit of all.

### Reporting summary

Further information on research design is available in the Nature Research Reporting Summary linked to this article.

### DATA AVAILABILITY

No data was collected for this paper, and thus no permissions are required.

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## AUTHOR CONTRIBUTIONS

K.M.G. and N.A.C. initially conceived of the work, all authors contributed substantially to the analysis and drafting of the work. K.M.G., N.A.C., K.C. and G.W. led on the revision of the work, with input from the other authors.

## COMPETING INTERESTS

The authors declare no competing interests.

## ADDITIONAL INFORMATION

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