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Marine Biodiversity, Ecosystem Services and Better Use of Science Information

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Marine Biodiversity, Ecosystem Services and Better Use of Science Information

Betsy Baker*

With the start of the twenty-first century, the international environmental policy world began to establish multiple assessment platforms, mechanisms and processes, all of which generate and consume science information. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), launched in April 2012, is the latest in this series of initiatives. IPBES, or the Platform, aims to be to the science of biodiversity and ecosystem services what the Intergovernmental Panel on Climate Change is to climate science, providing to policy makers independent scientific assessments of existing knowledge. IPBES is an independent intergovernmental body and, in many ways, picks up where the Millennium Ecosystem Assessment left off in 2005. The Millenium Ecosystem Assessment was designed to provide reliable scientific data for environmental policy makers through a "comprehensive global evaluation of the condition of the five major ecosystems: forests, freshwater systems, grassland, coastal areas and agroecosystems."² The Millenium Ecosystem Assessment produced five volumes of reports between 2001 and 2005, reflecting the then current state of scientific knowledge on biodiversity and ecosystem services.

The most recent attempt to flesh out a mechanism for comprehensive assessment of the marine environment including marine biodiversity traces at

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¹ For the purposes of this paper, "science information" means existing information that is synthesized or consolidated for policy purposes. This is distinct from the production of new science, which IPBES does not do (see note xx, infra). I understand "science" as pure and applied science, based on method, peer review and the acceptance of uncertainty as part of the scientific process. See, e.g., Helen Quinn, "What is Science", *Physics Today*, July 2009, 8-9: "To oversimplify, scientists think of science as a process for discovering properties of nature and as the resulting body of knowledge, whereas most people seem to think of science, or perhaps scientists, as an authority that provides some information – just one more story among the many that they use to help make sense of their world." Quinn's latter definition approximates the term "science information" as used in this paper.

² U.N. Secretary-General, *We the Peoples: The Role of the United Nations in the 21st Century*, ch. 4, Sustaining Our Future (2000), 64.

least to the 2002 Johannesburg World Summit on Sustainable Development³ whose Plan of Implementation called for establishing a "regular process for global reporting and assessment of the state of the marine environment, including socioeconomic aspects." Another product of the Johannesburg Summit, the Assessment of Assessments Report, published in 2009, recommended a mechanism for the Regular Process that builds on existing institutions to process and integrate "all available information" on ocean use.⁵ The Regular Process, now formally established as a mechanism reporting to the General Assembly, held its first meeting in 2011 and initiated the first cycle of the World Ocean Assessment (WOA). The WOA will be "the first global integrated assessment of the state of the marine environment, including socio-economic aspects" and is to be completed by 2014.⁶

Given the range and growing number of these platforms, it is timely to consider their legal nature and suggest ways in which the information they generate can be used for more than the purposes underlying each individual program. The biodiversity conventions have themselves devoted considerable effort to better coordinating the national reports and other information requirements that they generate. As will be seen, these efforts may offer one way to help solidify the two nascent platforms that are the topic of this paper: the IPBES, which applies to biodiversity generally, and the Regular Process/WOA, which focuses on marine biodiversity.

In the marine biodiversity information sharing case study that follows, I first outline the four science platforms introduced above, with a focus on IPBES and, to a lesser extent, the Regular Process [1]. I then briefly examine the legal character of these platforms [2], before summarizing the cohesive network of international biodiversity agreements and how they have given rise to projects

³ Regular process for global reporting and assessment of the state of the marine environment, including socio-economic aspects, Background Paper on the Regular Process [undated, 2011, available at

http://www.un.org/Depts/los/global_reporting/regular_process_background.pdf, [hereinafter RP Background Paper], The AoA was created by a Group of Experts to see if a WOA was feasible, and if so, how practically it could be accomplished. The UN Ad Hoc Working Group for the RP has met annually to explore its findings and make decisions, thereby shaping the form and concept of the first WOA.

⁴ Division for Sustainable Development, UN Department of Economic and Social Affairs, *Johannesburg Plan of Implementation*, 2002, para. 36(b) [hereinafter *Johannesburg Plan of Implementation*]

http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm.

⁵ U.N. Environment Programme & Int'l Oceanographic Comm. of UNESCO, An Assessment of Assessments, Findings of the Group of Experts: Start-up *Phase of a Regular Process for Global Reporting and Assessment of the State of the Marine Environment including Socio-economic Aspects*, UNEP (DEPI)/RS.12 /4, at 12 (2009) [hereinafter *Assessment of Assessments*].

⁶ RP Background Paper, *supra*, note 3, para. 22.

focusing on the marine environment [3]. I conclude by proposing how the international community can foster useful information sharing between the different science entities, treaty bodies, international organizations and other groups involved in these information platforms. I suggest that a sectoral focus on marine biodiversity has the potential to give these platforms more practical effect than when they are applied broadly to all biodiversity concerns [4].

Assessing the Marine Environment, including its Biodiversity – A Guide

Abbreviation	Full Name	History and/or Purpose
MA	Millennium Ecosystem Assessment	Called for by UN Secretary General Kofi Annan in 2000 and coordinated by UNEP, the MA worked with over 1,300 scientists to produce five volumes of reports between 2001 and 2005, reflecting the then current state of scientific knowledge on biodiversity and ecosystem services.
Regular Process	Regular Process	Grows out of 2002 Johannesburg Plan of Implementation, para. 36(b), which called for a regular process for global reporting and assessment of the state of the marine environment to be established by 2004. Phase I: AoA, Phase II: WOA. As of 2011, the Regular Process is formally established as a mechanism reporting to the General Assembly.
AoA	Assessment of Assessments	Startup phase of the Regular Process (see below) for reporting on the marine environment. Produced AoA report in 2009; preface to WOA.

Abbreviation	Full Name	History and/or Purpose
IMoSEB	International Mechanism of Scientific Expertise on Biodiversity	A multi-stakeholder process from 2005 to 2007 that explored the relationship between biodiversity science and governance. Its recommendations converged with the MA follow-up process, resulting in the IPBES.
WOA	World Ocean Assessment	Second Phase of the Regular Process. Will be the first global integrated assessment of the state of the marine environment, including socioeconomic aspects. To be completed by 2014.

OTHER ABBREVIATIONS			
AIA	Autonomous institutional arrangements	Term coined by Robin Churchill and Geir Ulfstein in 2000 to describe the then emerging phenomenon of convention-based bodies that are not themselves international organizations yet develop the agreement's normative content and/or ensure compliance with it.	
BLG	Liaison Group of Biodiversity Related Conventions	Received mandate in CBD COP Decision VII/26 (2004); works to improve effectiveness and harmonization of the biodiversity-related conventions: CBD, Wetlands (Ramsar), Desertification, and Migratory Species.	
CBD	Convention on Biological Diversity	Opened for signature in June 1993; entered into force in December 1993.	

OTHER ABBREVIATIONS				
СОР	Conference of the Parties	A mechanism established by some MEAs (e.g. CBD, the Convention on International Trade in Endangered Species, the Framework Convention on Climate Change) as the governing body that advances implementation of the agreement. COPs are a type of AIA.		
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection	Established 1969 by several UN Specialized Agencies; its current activities include advising nongovernmental organizations on marine pollution matters.		
ICP	Open-Ended Informal Consultative Process for the Law of the Sea	Established in 1999 by the UN General Assembly in resolution 54/33 to facilitate the annual review by the Assembly of developments in ocean affairs.		
IPBES	Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services	Grew out of 2007 merger between the Millennium Ecosystem Assessment follow-up process and IMoSEB		
MEAs	Multilateral Environmental Agreements	Commonly used abbreviation		

(1) Science Information Platforms: the Millennium Ecosystem Assessment, the IPBES and the Regular Process/WOA

(a) The Millennium Ecosystem Assessment and the IPBES

The four science information platforms introduced above – the Millennium Ecosystem Assessment, IPBES, the Regular Process, and the Assessment of Assessments – are associated to varying degrees with the biodiversity Multilateral

Environmental Agreements (MEAs). The Millennium Ecosystem Assessment, the earliest of the four, was designed in part to address the assessment needs, that is, the need for an assessment of the state of biodiversity in various sectors of four biodiversity-related instruments: the Conventions on Biological Diversity (CBD), Wetlands (Ramsar), Desertification, and Migratory Species. As early as 2000, the governing bodies of these conventions adopted resolutions supporting the work of the Millenium Ecosystem Assessment. A "fundamental basis" of the Millenium Ecosystem Assessment was the emerging science of ecosystem services. Engaging over 1,360 scientists, the Millenium Ecosystem Assessment compiled five volumes of reports from 2001 to 2005; rather than producing new knowledge, the reports synthesized existing knowledge, related scientific reports, literature and data from a range of sources, including the private sector, indigenous peoples and local communities. Engaging over 1,360 scientists.

When the Millenium Ecosystem Assessment concluded, a formal follow-up mechanism was established to consider how to build on the reports; while separately, an exploratory process known as the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB) considered similar questions. The IPBES grew out of a 2007 merger between the two. IPBES is the product of many years of work, traceable at least to the 1992 United Nations Conference on Environment and Development in Rio de Janeiro (UNCED). Among UNCED's many outcomes was articulating the need for improved access to information,

⁷ See note 59, *infra*, for the full citations to these Conventions.

⁸ The Resolutions from these conventions supporting the work of the MEA are available at http://www.maweb.org/en/Conventions.aspx, which states that "the executives of CBD, CCD, Ramsar, and CMS represented these conventions on the MA Board along with the chairs of the scientific subsidiary body of each convention," Millennium Ecosystem Assessment, Guide to the Millennium Assessment Reports (2005).

⁹ Ezequiel Lugo, "Ecosystem Services, The Millennium Ecosystem Assessment, and the Conceptual Difference Between Benefits Provided by Ecosystems and Benefits Provided by People," 23 Journal of Land Use & Environmental Law (2007/2008) 243, 247.

¹⁰ Ibid., at 247; see also Overview of the Millennium Ecosystem Assessment, http://www.millenniumassessment.org/en/About.aspx.

International Institute for Sustainable Development, "Summary of the Second Session of the Plenary Meeting on the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services," 16-21 April 2012 available at http://www.iisd.ca/ipbes/sop2/, 1. See also "IMoSEB International Steering Committee Bulletin, A Summary Report of the Final Meeting of the International Steering Committee of the Consultative Process Towards an IMoSEB," Published by the International Institute for Sustainable Development (IISD) in collaboration with the IMoSEB Secretariat, (2007) available at http://www.iisd.ca/ymb/sdims/ Vol. 132, No. 6, Tuesday, 20 November 2007.

¹² International Institute for Sustainable Development, *supra* note 9, 1.

including science, for decision makers, ¹³ as well as the role of science ¹⁴ and non-governmental organizations (NGOs)¹⁵ in sustainable development. The International Union for the Conservation of Nature (IUCN), which was integrally involved in creating IPBES, recalls the IPBES's roots in UNCED: "Both principle 10 of the Rio Declaration, adopted in 1992 by UNCED, and the principles set by the Aarhus Convention fully recognize the central role civil society must play in the governance of sustainable management of natural resources and biodiversity conservation." ¹⁶ In keeping with a 2010 General Assembly resolution, UNEP, FAO, UNESCO and other international organizations and their agencies are helping to operationalize IPBES as it begins its work. ¹⁷

According to the 2012 resolution establishing IPBES, the Platform's objective "is to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development;" it will do so by activities that include responding to requests from governments and others and performing "regular and timely assessments of knowledge on biodiversity and ecosystem services and their interlinkages." IPBES will identify and prioritize "key scientific information needed for policymakers at appropriate scales and catalyse

¹³ U.N. Dep't of Econ. & Soc. Affairs, Div. for Sustainable Dev., *Agenda 21*:Section IV, Means of Implementation, Chapter 40, Information for Decision-Making (2009) *available at* http://www.un.org/esa/dsd/agenda21/res_agenda21_40.shtml.

¹⁴ U.N. Dep't of Econ. & Soc. Affairs, Div. for Sustainable Dev., *Agenda 21*:Section III, Strengthening the Role of Major Groups, Chapter 31 Scientific & Technological Community (2009) *available at*

http://www.un.org/esa/dsd/agenda21/res_agenda21_31.shtml.

¹⁵ U.N. Dep't of Econ. & Soc. Affairs, Div. for Sustainable Dev., *Agenda 21*:Section III, Strengthening the Role of Major Groups, Chapter 27 Strengthening the Role of Non-Governmental Organizations: Partners for Sustainable Development (2009) *available at* http://www.un.org/esa/dsd/agenda21/res_agenda21_27.shtml.

¹⁶Rio Declaration, Principle 10, provides in part: "Environmental issues are best handled with participation of all concerned citizens, at the relevant level. ... States shall facilitate and encourage public awareness and participation by making information widely available." International Union for Conservation of Nature, "IUCN Vision for an Intergovernmental and Multi-Stakeholder Platform on Biodiversity and Ecosystem Services (IPBES)" *First Session of the Plenary Meeting on IPBES*, 3-7 October 2011, Nairobi, Kenya, available at

http://cmsdata.iucn.org/downloads/ipbes_1st_session_of_plenary_position_paper_iucn_final_2.pd f.

¹⁷ Resolution A/65/162 (December 2010). *United Nations 65th General Assembly approval of the creation of an Intergovernmental Platform on Biodiversity and Ecosystem Services* (IPBES), in November 2010; the first session of the plenary meeting, 3-7 October 2011.

¹⁸ United Nations Environment Programme, "Report of the second session of the plenary meeting to determine modalities and institutional arrangements for an intergovernmental science-policy platform on biodiversity and ecosystem services," UNEP/IPBES.MI/2/9, Appendix I, para. 1 (a) and (c) (May 18, 2012).

efforts to generate new knowledge by engaging in dialogue with key scientific organizations, policymakers and funding organizations, but should not directly undertake new research."¹⁹

MEAs are one group from which IPBES expects to receive requests for science information:

Focusing on government needs and based on priorities established by the Plenary, the Platform responds to requests from Governments, including those conveyed to it by multilateral environmental agreements, related to biodiversity and ecosystem services as determined by their respective governing bodies. The Plenary welcomes inputs and suggestions from, and the participation of, United Nations bodies related to biodiversity and ecosystem services as determined by their respective governing bodies (emphasis added). ²⁰

Thus, governments will be the primary consumer of IPBES information, both individually and by conveying collective requests through the governing bodies of MEAs. Other entities, including UN bodies, NGOs, scientific organizations and indigenous groups, will also be able to provide input on the kinds of science information IPBES should provide.²¹ Non-governmental organizations, especially those dedicated primarily to science, were closely involved in the creation of IPBES. The International Council for Science statement on the IPBES makes clear that it sees scientists as both "contributors of knowledge and end-users of IPBES."²²

¹⁹ Resolution UNEP/IPBES.MI/2/9, id., Appendix I, para. 1(b).

²⁰ United Nations Environment Programme, UNEP/IPBES.MI/2/9, *supra* note 16, Appendix I, para. I.1.a (which adopts with minor modification language agreed to in the Busan outcome, Conclusions and recommendations concerning an intergovernmental science-policy platform on biodiversity and ecosystem services.) United Nations Environment Programme, "Third ad hoc intergovernmental and multi-stakeholder meeting on an intergovernmental science-policy platform on biodiversity and ecosystem services," UNEP/IPBES/3/L.2/Rev.1, (June 11, 2010), para. 5(a), 3. http://cmsdata.iucn.org/downloads/busan_outcomes_june2010.pdf.

²¹ United Nations Environmental Programme, UNEP/IPBES.MI/2/9, *supra* note 16, Appendix I, para. I.1.a. ²² Diversitas, "Statement made by ICSU, the International Council for Science, on behalf of the

Diversitas, "Statement made by ICSU, the International Council for Science, on behalf of the group of stakeholders from the scientific community & civil society interested in IPBES, Nairobi, Kenya, on 2 October 2011," available at www.diversitas-international.org. ICSU "is a nongovernmental organization with a global membership of national scientific bodies (120 Members, representing 140 countries) and International Scientific Unions (31 Members)." See http://www.icsu.org/about-icsu/about-us.

(b) The Regular Process: The Marine Environment from UNCLOS III to the World Ocean Assessment

The IPBES, while not marine specific, can provide information about marine biodiversity and ecosystem services if requested. The Regular Process is marine specific but assesses many other aspects of the marine environment beyond marine biodiversity. In helping to establish IPBES, IUCN drew connections to existing marine biodiversity information initiatives, suggesting that "[t]he Regular Process would provide a platform for the work of IPBES in addressing marine biodiversity and ecosystem services." Understanding the origins of the Regular Process helps examine how the IPBES and the Regular Process can complement each others' work on marine biodiversity. This section peels back, onion-like, the layers of international meetings that resulted in the Regular Process, the Assessment of Assessments and the subsequent initiation of the World Ocean Assessment to reveal in reverse chronological order their connections to the Johannesburg, Stockholm and UNCLOS III conferences and other assessment initiatives in international marine policy.

As noted at the outset, the Regular Process emerged from the 2002 Johannesburg World Summit on Sustainable Development. Summit participants agreed in the Johannesburg Plan of Implementation to "establish by 2004 a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments."²⁴ The Assessment of Assessments²⁵ was part of the startup phase of the Regular Process, which ended in 2010.²⁶ The next phase (2010-2012) is preparing an outline for the World Ocean Assessment (WOA) which assessment itself will be produced in the final (2012-2014) phase of the first WOA.

In a 2010 Resolution that built on the 2009 Assessment of Assessments recommendations, the UN General Assembly decided

²³ IUCN, GLAND, Switzerland, July 1, 2010. Report on the Eleventh Meeting of the United Nations Open ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS 11).

²⁴ *Johannesburg Plan of Implementation*, supra note 3 at para. 36(b).

²⁵ Assessment of Assessments, supra note 4.

²⁶ See Global Marine Alliance, Assessment of Assessments (2008) at http://www.unga-regular-process.org/index.php?option=com_content&task=view&id=11&Itemid=11. The AoA was initiated as startup phase for the AoA in keeping UNGA resolution 58/240), para. 64(a), at the request of governments, "to serve as one of the main foundations for the development of a regular process for the global reporting and assessment of the state of the marine environment,," See Assessment of Assessments description available at http://www.unga-regular-process.org/index.php?option=com_content&task=view&id=11&Itemid=11.

that the Regular Process, as established under the United Nations, was accountable to the General Assembly and should be an intergovernmental process guided by international law, including the United Nations Convention on the Law of the Sea and other applicable international instruments, and take into account relevant General Assembly resolutions.²⁷

This acknowledgment that the Regular Process is anchored in existing international instruments is crucial to its ability to link effectively with those instruments in a way that complements rather than duplicates assessments. At the operational level, the UN Division on Ocean Affairs and Law of the Sea provides secretariat support to the Regular Process and the WOA. At the substantive level, until the Regular Process and the WOA produce more tangible outcomes, assessing their potential for protecting marine biodiversity remains a challenge. The structure of the first WOA is promising, especially given its function as a pilot or proof of concept.

The WOA intends to complement rather than duplicate existing assessments, as evidenced by an example that is directly relevant to the IPBES' focus on ecosystem services. The preliminary outline of the WOA chapter on the Assessment of Major Ecosystem Services from the Marine Environment specifies that:

Several chapters in this Part would draw heavily on the work of Intergovernmental Panel on Climate Change (IPCC) – the aim would be to use the work of the IPCC, as well as the framework of the United Nations Framework Convention on Climate Change, not to duplicate it or challenge it."²⁸

At each phase, the Regular Process has aimed to complement, not duplicate, existing assessments. The central recommendation of the 2009 Assessment of Assessments Report called for establishing a mechanism "that builds on existing global, regional and national institutions and processes while integrating all available information, including socio-economic data, on how our seas and oceans

²⁷ G.A. Res. 59/24, Doc. A/Res/65/37, para. 202 (2010).

²⁸ Outline for the First Global Integrated Marine Assessment of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socio-economic Aspects, at 2, available at

 $http://www.un.org/Depts/los/global_reporting/Final\%20Outline\%20First\%20Global\%20Integrate d\%20Marine\%20Assessment.pdf.$

are actually being used."²⁹ The Group of Experts that prepared the Assessment of Assessments Report observed in a similar vein that:

Since the commitment of the World Summit on Sustainable Development in 2002 to establish a regular process, the intention has been that the Regular Process should build upon existing regional assessments. The Assessment of Assessments phase found that, in many cases, an integrated assessment could be improved by supplementing regional assessments with national or thematic assessments. ... This will enhance sharing of knowledge, expertise and lessons learned, and it will advance progress towards common data standards and guidelines, avoid duplication of effort, and improve compatibility of results. ³⁰

If IUCN's suggestion is right and the Regular Process can serve as a non-duplicative platform for IPBES assessments, there is potential for their fruitful inter-linkage once IBPES begins its work in earnest and the WOA provides the anticipated products in 2014.

Another example of institutional inter-linkage comes from the early days of the Regular Process. In 2002 the Johannesburg Plan of Implementation that called for the Regular Process expressly recognized the work of the Open-ended informal Consultative Process (ICP) established by the General Assembly in 1999.³¹ The ICP is not an organ of UN Convention on the Law of the Sea and is not to be confused with the Meetings of States Party to that instrument, also known as SPLOS. The ICP considers a much broader range of ocean related issues. His Excellency Tuiloma Neroni Slade of Samoa, a former co-chair of the ICP, describes it as follows:

³⁰ Set of Options developed by the Group of Experts established pursuant to General Assembly resolution 65/37, para. 23, available at http://www.un.org/Depts/los/global reporting/Set of Options.pdf.

²⁹ Assessment of Assessments, supra note 4 at 12.

³¹ Johannesburg Plan of Implementation, supra note 3 at para. 30: "Ensuring the sustainable development of the oceans requires effective coordination and cooperation, including at the global and regional levels, between relevant bodies, and actions at all levels to: ... (h) Take note of the work of the open-ended informal consultative process established by the United Nations General Assembly in its resolution 54/33 in order to facilitate the annual review by the Assembly of developments in ocean affairs and the upcoming review of its effectiveness and utility to be held at its fifty-seventh session under the terms of the above-mentioned resolution." GA Res 54/33 (1999). available at

 $http://www.un.ord/Depts/los/general_assembly_resolutions.htim.$

It is open-ended and informal. It is a consultative process, not a decision-making or negotiating forum. Its outcome is not to prejudice the decisions to be made in other fora, including the General Assembly. Rather, it is an opportunity to exchange information and ideas towards enhancing the ability of the General Assembly to carry out its annual review of the ocean affairs and law of the sea.³²

Yet such processes, and platforms like the IPBES and WOA, do have the potential to affect policy and state behavior. Slade reminds us that the first draft of the Johannesburg Plan of Implementation contained "hardly a word" about oceans and that, because of the ICP, the final version was "quite comprehensive" regarding the world's oceans. "The significant point" Slade says, "is that the language on integration and the emphasis on coordination in the Plan of Implementation could be drawn directly from the reports of the Consultative Process." Part 3, below, demonstrates how the ICP continues to play a role in working toward a marine biodiversity mechanism, particularly in areas beyond national jurisdiction.

In 2001, a year before the World Summit on Sustainable Development, the UNEP Governing Council directed the UNEP Executive Director to take active part in the work of the ICP.³⁴ In the same instrument, Decision 21/13, the Council agreed to explore the feasibility of a regular process for assessing the state of the marine environment.³⁵ That Decision refers in turn to other supporting initiatives, including the work of the Commission on Sustainable Development, Part XII of

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³² H.E. Tuiloma Neroni Slade, Permanent Representative of Somoa to the United Nations, "United Nations Open-ended Informal Consultative Process on Ocean Affairs," UNCLOS + 20, DOALOS/UNITAR Briefing on Developments on Ocean Affairs, (25-26 September 2002) at http://www.un.org/Depts/los/convention_agreements/convention_20years/PresentationAmbassado rSlade.pdf. Slade is currently Secretary General of Pacific Island States Forum Secretariat, Slade has also served as a judge on the International Criminal Court, and as Permanent Representative of Samoa to the United Nations.

³³ Ibid.

³⁴ Division of Early Warning and Assessment, United Nations Environment Programme, Assessment of the State of the Marine Environment, Decision 21/13 (February 9, 2001) at http://www.unep.org/dewa/Assessments/Ecosystems/Water/AssessmentoftheStateoftheMarineEnvironment/tabid/6963/Default.aspx

³⁵ *Ibid.*, para. 4: "Requests the Executive Director, in cooperation with the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organisation and other appropriate United Nations agencies, the Secretariat of the Convention of Biological Diversity and in consultation with the regional seas programmes to explore the feasibility of establishing a regular process for the assessment of the state of the marine environment, with active involvement by governments and regional agreements, building on ongoing assessment programmes."

the UN Convention on the Law of the Sea, and the 1995 Jakarta Mandate on Marine and Coastal Biological Diversity of the CBD.³⁶

An annex to the UNEP Governing Council Decision acknowledges two reports by GESAMP (the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection) published in 2001 on the state of the marine environment.³⁷ GESAMP's work over the preceding three decades had consistently contributed to the call for a more systematic evaluation of the world's marine ecosystems.³⁸ As the Virginia Commentary on the LOS Convention³⁹ reminds us, the GESAMP report on marine pollution to the 1972 Stockholm Conference on the Human Environment (UNCHE) was reflected in recommendations 86 to 94 of the UNCHE Action Plan for the Human "Recommendation 92 endorsed the general principles for assessment and control of marine pollution contained in Annex III of the Stockholm Conference Report 'as guiding concepts' for UNCLOS III" which first convened in 1974.⁴⁰ Indeed, these principles "served as a basis or starting point" for several provisions in Part XII of the Convention, including Article 200 on research programs and exchange of information.⁴¹

³⁶ Initiatives referenced in Decision 21/13 include decision 7/1 of the Commission on Sustainable Development, *Part XII of the UN Convention on the Law of the Sea*, paragraph 5 of the 2000 Malmö Ministerial Declaration of the First Global Ministerial Environment Forum, the work programme of marine and coastal biodiversity under the Jakarta Mandate on Marine and Coastal Biological Diversity of the CBD, and the Global International Waters Assessment, the Global Ocean Observing System and the United Nations Atlas of the Oceans. Ibid.

³⁷ GESAMP (IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection), "A sea of troubles" Rep. Stud. GESAMP No. 70, (2001) para. 35. At

http://unesdoc.unesco.org/images/0012/001229/122986e.pdf . See also, GESAMP, "Protecting the Oceans from Land-based Activities: Land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment," GESAMP Rep. and Studies No. 71 (2001) at

http://www.jodc.go.jp/info/ioc_doc/GESAMP/report71.pdf.

³⁸ The Group of Scientific Experts on Aspects of Marine Pollution, established in 1969 by the FAO, UNESCO, WMO and the International Maritime Consultative Organization (IMO's predecessor) "now serves as an advisory group to [NGOs] on matters relating to marine pollution." M. Nordquist, S. Rosenne and A. Yankov, eds. *The United Nations Convention on the Law of the Sea 1982, A Commentary*, vol. IV (1985), 9.

³⁹ The Virginia Commentary, cited in the preceding footnote, is a definitive multi-volume commentary on the Law of the Sea Convention and the conference at which it was negotiated: the Third United Nations Conference on the Law of the Sea (UNCLOSIII, 1973-1982). The series draws on formal and informal documentation as well as the knowledge of many participants at UNCLOS III.

⁴⁰*Ibid.*, at 9.

⁴¹Article 200 provides inter alia that States "shall endeavour to participate actively in regional and global programmes to acquire knowledge for the assessment of the nature and extent of pollution, exposure to it, and its pathways, risks and remedies." *Ibid.*, 9,92.

As this cursory historical survey reveals, despite some thirty years of efforts to provide a more systematic assessment of the state of the world's marine environment, in many ways those initiatives are just gaining traction. As Part 4 will demonstrate, whether and how they succeed depends in part on how actively states use platforms such as IPBES. Leveraging the fact that these platforms are independent of individual MEAs can also contribute to their eventual success.

(2) The Legal Status of Science Information Platforms

The four initiatives introduced in the preceding section are associated with biodiversity MEAs to differing degrees. This distinguishes them from the "autonomous institutional arrangements" or AIAs that Churchill and Ulfstein famously labeled "a little-noticed phenomenon in international law" in 2000. Churchill and Ulfstein saw a pattern emerging from the kinds of institutional arrangements that MEAs began to create in the 1970s, such as conferences and meetings of states party. The two scholars characterized these institutions as "autonomous," that is, autonomous of intergovernmental organizations but attached to specific MEAs. 43

At first glance, the science information platforms described above do not appear to have much in common with the autonomous institutional arrangements in MEAs of Churchill and Ulfstein's study. Those autonomous institutional arrangements—Conferences of the Parties, Subsidiary Bodies, and Secretariats of MEAs — drew the authors' attention because they were not classic intergovernmental organizations, yet the MEAs that created them were using these autonomous institutional arrangements to develop the agreement's normative content⁴⁴ and/or to ensure compliance with it.⁴⁵ This in turn raised questions about what law applied to the autonomous institutional arrangements — the law of intergovernmental organizations, treaty law or both? Churchill and Ulfstein concluded that:

international institutional law should apply to [AIAs] and supplement the law of treaties when it comes to assessing their

15

⁴² Robin Churchill, Geir Ulfstein, "Autonomous institutional arrangements in multilateral environmental agreements: a little-noticed phenomenon in international law," 94 Am. J. Int'l L. 623 (2000).

⁴³ "The phenomenon we have chosen to call "autonomous institutional arrangements" is one that we believe to be significant, as in comparison to traditional IGOs, it marks a distinct and different approach to institutionalized collaboration between states, being both more informal and more flexible, and often innovative in relation to norm creation and compliance." *Ibid.*, 625.

⁴⁴ "[O]ne of the reasons autonomous institutional arrangements are included in MEAs is to develop the norms they contain." *Ibid.*, 636.

⁴⁵ *Ibid.*, 658.

powers. On this basis, AIAs have a wide range of both explicit and implied powers. These include powers at the internal level for purposes such as the establishment of subsidiary bodies and the adoption of rules of procedure and a budget; powers to develop substantive obligations. 46

Whether today's science information platforms also have, or need, such powers is doubtful. Their practice is not yet sufficiently developed to make a definitive statement (they date only from 2005 to 2012), but they do not appear to develop institutional norms, or contribute to compliance or implementation beyond providing information that MEAs might use to measure performance.

Today's science information platforms come closest to the subsidiary scientific bodies discussed by Churchill and Ulfstein, though technically they are not subsidiary to any MEA because they are not part of any one agreement. Science bodies fall primarily under the second category of autonomous institutional arrangements, subsidiary organs and, more specifically, advisory subsidiary organs:

"Subsidiary organs may be established by the MEA itself or subsequently by the COP, and are generally of three kinds. The first is advisory [and ...] may be established by a separate arrangement outside the MEA; for example, the Intergovernmental Panel on Climate Change, which serves the Climate Change Convention, was established by UNEP and the World Meteorological Organization (before the Convention was adopted in fact)."

The MEAs that will be using IPBES clearly see this affinity between the information platforms and science advisory bodies. In 2011, the group of six biodiversity related MEAs stated their understanding that "IPBES, when established, should report to the Conference of the Parties of the biodiversity-related conventions through their respective scientific bodies." This arrangement does not, however, affect the independence IPBES enjoys from individual conventions. The Operating Principles for the Platform specify that it shall (a) Collaborate with existing initiatives on biodiversity and ecosystem

⁴⁶ Ibid.

⁴⁷ According to the authors, the two other types of subsidiary bodies deal with financial/technology transfer matters, and compliance/implementation. *Ibid.*, 626.

⁴⁸ United Nations Environment Programme, Special Meeting of the Liaison Group of the Biodiversity-Related Conventions, BLG/8/2 (April 13, 2011, posted June 22, 2011) para.27 at http://www.cbd.int/cooperation/doc/blg-08-02-en.pdf.

services, including multilateral environment agreements, United Nations bodies and networks of scientists and knowledge holders, to fill gaps and build upon their work while avoiding duplication; [and](b) Be scientifically independent and ensure credibility, relevance and legitimacy through peer review of its work and transparency in its decision-making processes."49

The legal status of IPBES was discussed at length by the plenary meeting to determine its modalities and institutional arrangements.⁵⁰ In the end, IPBES was established as "independent intergovernmental body," not affiliated with any MEA.⁵¹ A few words about COPs help explain what it is about the status of MEA COPs and Subsidiary Bodies that interests scholars of international organizations law.⁵² Annecoos Wiersema characterizes the work of conferences of the parties to MEAs as "consensus-based COP activity."53 She suggests that we ask not about the legal status of such activity, i.e. "is it law?" but rather "what the relationship is between consensus-based COP activity and the original international legal obligations of the parties to the underlying treaty."⁵⁴ This matters, she suggests, because "the way in which a tribunal frames the question about the status of consensus-based COP activity can have a real effect on whether that tribunal will view COP resolutions and decisions as affecting parties' international legal obligations."55 Wiersema also suggests that the influence of COPs and consensus-based COP activity contribute to the fragmentation of the international legal system.⁵⁶ By contrast, information platforms such as IPBES and the Regular Process cannot affect parties' obligations because the platforms are independent of any single MEA. Further, if thoughtfully implemented, these information platforms may have the effect of reducing fragmentation by providing information that can be used across a number of MEAs.

The Network of Biodiversity Conventions and their connection to **Marine Biodiversity**

⁴⁹United Nations Environmental Programme, UNEP/IPBES.MI/2/9, supra note 16, Appendix I, para. II(2)(a) and (b).

⁵⁰ International Institute for Sustainable Development, *supra* note 9 at 10-13.

⁵¹ See United Nations Environmental Programme, UNEP/IPBES.MI/2/9, *supra* note 16, Appendix

I, para. 1.

Subsidiary bodies, rather than COPs, are a closer analog for information platforms such as IPBES; still Wiersema's comments are relevant to both types of AIAs.

⁵³ Annecoos Wiersema, "The New International Law Makers? Conferences of the Parties to Multilateral Environmental Agreements," 31 Michigan Journal of International Law (2009) 1, pagination as downloaded from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1367815##

Wiersema, ibid., at 3.

⁵⁵ Wiersema, ibid., at 1.

⁵⁶ Wiersema, ibid., at footnote 40.

Biodiversity instruments have worked toward better exchange and management of information with each other since at least the 1990s, through the efforts of such groups as the World Conservation Management Center. Internally, the CBD developed the Biodiversity Clearing House Mechanism to improve global information regarding implementation of the CBD, as required by Article 18(3) of the Convention. Externally, the CBD also contains an explicit mandate for cooperation with other instruments. Article 23(4)(h) provides that the COP shall communicate through the CBD Secretariat with other relevant conventions – those "dealing with matters covered by this Convention" – with a view to entering into "appropriate forms of cooperation." The CBD has done this through Memoranda of Understanding (MOUs) with individual entities, and through forming closer partnerships with other biodiversity-related conventions.

The CBD Secretariat has entered into MOUs or developed joint work plans with secretariats of other international instruments as well as with non-treaty groups. However these are often phrased in general terms and do not specify details regarding matters of information exchange or reporting harmonization. Another example of the CBD engaging in inter-treaty linkages for better information exchange is the Liaison Group of Biodiversity Related

⁵⁷ Rüdiger Wolfrum and Nele Matz, Conflicts in International Environmental Law (Berlin, Germany, 2003) 172, (citing, e.g. to the World Conservation Monitoring Center and to T.H. Johnson/I.K. Krain/M.V.Sneary, Feasibility Study for a Harmonised Informations Management Infrastructure for Biodiversity-related Treaties, (1998)). On the Feasibility Study, see also United Nations University, Inter-Linkages: Synergies and Coordination between Multilateral Environmental Agreements, Tokyo, Japan, 14 (July 1999) available at http://www.ias.unu.edu/binaries/Interlinkages.PDF.

Convention on Biological Diversity, Art. 18(3), (1992) available at http://www.cbd.int/convention/articles/?a=cbd-18 ("The Conference of the Parties, at its first meeting, shall determine how to establish a clearing-house mechanism to promote and facilitate technical and scientific cooperation").

⁵⁹ Art. 23 deals with the COP and Art. 23.4 with the COP's review of implementation. Art. 23.4(h) provides that the COP shall "Contact, through the Secretariat, the executive bodies of conventions dealing with matters covered by this Convention with a view to establishing appropriate forms of cooperation with them. Convention on Biological Diversity, Art. 23, (1992) *available at* http://www.cbd.int/convention/articles/?a=cbd-23; *Cf.* Convention on Biological Diversity, Art. 5, (1992) *available at* http://www.cbd.int/convention/articles/?a=cbd-5: ("Each Contracting Party shall, as far as possible and as appropriate, cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity").

⁶⁰ See, e.g. Thilo Marauhn, "The Potential of the Convention on Biological Diversity to Address the Effects of Climate Change in the Arctic" in T. Koivurova et al., eds., Climate Governance in the Arctic (2009), 263-286, at 280.

⁶¹ Wolfrum and Matz, *supra* note 52, at 79 (comment on the failure of such MOUs to address information requirements).

Conventions.⁶² The Liaison Group of Biodiversity Related Conventions coordinates efforts of the Secretariats of six international biodiversity conventions⁶³ to improve cooperation, communication, harmonization and implementation of the conventions.⁶⁴ As Andrew Long explains in his overview of the Liaison Group's founding, the CBD was the driving force for the Group as an experiment in inter-treaty linkage. In 2004 the CBD COP called for biodiversity related MEAs to work more closely together.⁶⁵

Long sees the CBD "actively pursu[ing] institutional linkages, perhaps more so than any other international environmental regime, by identifying and promoting connections with other regimes and institutions that can promote biodiversity preservation."66 The CBD's outreach to groups interested in marine issues, even if their focus is not primarily biodiversity, is one example of this active pursuit of linkages.

The CBD has long fostered connections with UN oceans related processes to promote marine biodiversity. At its second meeting, in Jakarta, Indonesia in 1995, the CBD COP instructed the CBD Executive Secretary to consult with the UN Office for Ocean Affairs and Law of the Sea to study the relationship between the CBD and the LOS Convention "with regard to the conservation and sustainable use of genetic resources on the deep seabed."67 The same COP

⁶² For a brief history of the BLG see Andrew Long, "Developing Linkages to Preserve Biodiversity," presented at the 2011 Vermont Law School Colloquium on Environmental Scholarship, (paper on file with author) and published as "Developing Linkages to Preserve Biodiversity," Yearbook of International Environmental Law (2010) 21(1): 41-80 first published online March 14, 2012.

⁶³ Listed chronologically: Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, Feb. 2, 1971, TIAS No. 11,084, 996 UNTS 245 [Ramsar Convention]; Convention Concerning the Protection of the World Cultural and Natural Heritage, Nov. 16, 1972. 1037 UNTS 151, 27 UST 37 [World Heritage Convention]; Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 UST 1087, 993 UNTS 243 [CITES]; Convention on the Conservation of Migratory Species of Wild Animals June 23, 1979, 1990 UKTS No. 87 [Bonn Convention]; Convention on Biological Diversity, Jun. 5, 1992, 31 ILM 818 (1992) [CBD]; The International Treaty on Plant Genetic Resources for Food and Agriculture, FAO/RES/3 (2001).

⁶⁴ Convention on Biological Diversity, "Cooperation with other conventions and international organizations and platforms," CBD COP 7 Decision VII/26, (2004) http://www.cbd.int/decision/cop/?id=7763.

⁶⁵ Long, supra note 58, at 21; see also UNEP, Decision Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Seventh Meeting, Cooperation with Other Conventions International Organizations and Initiatives, U.N. Doc. UNEP/CBD/COP/DEC/VII/26 (2004).

⁶⁶ Long, supra note 58, at 22.

⁶⁷ United Nations Environment Programme, "Report of the Second Meeting of the Conference of the Parties to the Convention on Biological Diversity," UNEP/CBD/COP/2/19, para. 12, 16 (November 30, 1995) http://www.cbd.int/doc/meetings/cop/cop-02/official/cop-02-19-en.pdf.

concluded the 1995 Jakarta Mandate on Marine and Coastal Biological Diversity, whose work plan was adopted in 1998. In a separate but related platform, the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP), introduced in part 2, above, also convened discussions on Conservation and Management of the Biological Diversity of the Seabed in Areas beyond National Jurisdiction in 2004.⁶⁸ The same year, the UN General Assembly established an Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (the ABNJ Working Group).⁶⁹ The CBD COP invited its own members and other states, in the context of the ABNJ Working Group, to consider related issues, including the work of the IMO and the FAO.⁷⁰

In 2011 the General Assembly ABNJ Working Group recommended that

A process be initiated, by the General Assembly, with a view to ensuring that the legal framework for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction effectively addresses those issues by identifying gaps and ways forward, including through the implementation of existing instruments and the possible development of a multilateral agreement under the United Nations Convention on the Law of the Sea" (Emphasis added).⁷¹

The same working group, meeting in 2012, recommended convening intersessional workshops on whether to elaborate a possible implementing agreement under the LOS Convention.⁷² The summary of the 2012 working group discussions makes no mention of the information platforms discussed in this paper, but the "Exchange of information on research programmes regarding

For a brief history of marine

⁶⁸ For a brief history of marine biodiversity beyond areas of national jurisdiction, see "International Institute of Sustainable Development, Fourth Meeting of the Working Group on Marine Biodiversity Beyond Areas of National Jurisdiction," *Earth Negotiations Bulletin*,25.66 (May 31-June 3, 2011), available at http://www.iisd.ca/vol25/enb2566e.html.

⁶⁹ Oceans and the Law of the Sea, G.A. Res. 59/24, Doc. A/Res/59/24, para. 73 (2004).

⁷⁰ See, e.g., United Nations Environment Programme, Report of the Expert Workshop on Scientific and Technical Aspects Relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction, UNEP/CBD/SBSTTA/14 INF/5 (8 March 2010) at http://www.cbd.int/doc/meetings/sbstta/sbstta-14/information/sbstta-14-inf-05-en.pdf.

⁷¹ United Nations General Assembly, "Letter dated 30 June 2011 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly," A/66/119 (June 30, 2011).

⁷² United Nations General Assembly, "Letter dated 8 June 2012 from the Co-Chairs of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly," A/67/95 (June 13, 2012).

marine biodiversity in areas beyond national jurisdiction" is listed as a topic for the intersessional workshops, which will also consider environmental impact assessment needs⁷³ and "issues related to international cooperation and coordination." Whether these discussions are a sufficient bridge to the IPBES, or the Regular Process, as a mechanism for assessing the state of knowledge of marine biodiversity remains to be seen.

(4) Conclusion

Of the information platforms introduced in this paper's opening paragraphs the Millennium Ecosystem Assessment has effectively merged into the IPBES, and the Regular Process for assessing the state of the marine environment is moving beyond its startup phase represented by the Assessment of Assessments into the production of a robust World Ocean Assessment. These developments beg the question of how to both use the newly established IPBES and the Regular Process to produce better information on marine biodiversity for policy and decision makers. I conclude with modest and general suggestions for building on two points raised above: the IUCN observation that the Regular Process is well-suited to serve as a platform for IPBES' work in the field of marine biodiversity, and the fact that the independence of IPBES and the Regular Process from individual the biodiversity MEAs might reduce fragmentation or duplication for those MEAs.

Neither IPBES nor the Regular Process is associated with individual biodiversity MEAs but both are indirectly connected to the six biodiversity MEAs that form the Liaison Group of Biodiversity-Related Conventions. These six conventions have been discussing information exchange needs on a more prosaic level than assessing the overall state of biodiversity in any given sector since 2000, namely: how to move "[t]owards the harmonization of national reporting to biodiversity-related treaties." At a 2004 workshop, representatives of several biodiversity conventions concluded inter alia that "Consideration should also be given to the fact that information requested for one convention might address an information requirement in another convention, and appropriate steps taken to share information and approaches."

⁷³ For concrete suggestions on how EIAs can work in ABNJ see Robin Warner, "Tools to Conserve Ocean Biodiversity: Developing the Legal Framework for Environmental Impact Assessment in Marine Areas beyond National Jurisdiction," 26 *Ocean Yearbook* (2012), 317-341.

⁷⁴ United Nations General Assembly, A/67/95, *supra* note 67, 13.

⁷⁵ United Nations Environment Programme, African-Eurasian Migratory Bird Agreement, Final draft Report of the 1st Meeting of the AEWA Standing Committee, AEWA/StC Inf. 2.5, (October 10, 2004) at

http://www.unep-aewa.org/meetings/en/stc_meetings/stc2docs/pdf/stc2_5_minutes_stc1.pdf.

⁷⁶ Ibid. See also Convention on International Trade in Endangered Species of Wild Fauna and Flora, "Thirteenth meeting of the Conference of the Parties Bangkok (Thailand)," COP 13, Doc.

Now, conforming reporting requirements across biodiversity treaties is clearly a separate process from the kinds of knowledge assessment IPBES is designed to undertake. Nonetheless, if the process that is still working toward harmonizing biodiversity reporting requirements can both feed into and draw upon reports that IPBES will produce in the future, there is potential to provide states that are party to a number of related conventions the ability to use the same – or more standardized – science information for complying with their obligations under those agreements. Applying this approach on a pilot basis to questions of marine biodiversity – admittedly a broad field in its own right – rather than to the universe of biodiversity issues IPBES is designed to address, also supports Andrew Long's proposition introduced above that linking individual issues in biodiversity rather than institutional or treaty linkage holds more promise for concrete progress in protecting biodiversity. Finally, using the World Ocean Assessment of Regular Process as the primary source for IBPES' activity in the area of marine biodiversity could avoid duplication of resources and ensure the involvement of scientists who have studied very specific questions of marine biodiversity to inform the IPBES process. Drawing on the strengths of both the IPBES and the WOA would also allow for a more tailored, marine-focused pilot project to standardize reporting requirements across biodiversity conventions that are relevant to the marine environment and the preservation of marine biodiversity.

18 (October 2-14, 2004): Interpretation and implementation of the Convention. Regular and special reports. REPORTING REQUIREMENTS., which details many practical suggestions and pilot projects for harmonizing reporting across biodiversity conventions.