



**United Nations Environment Programme  
World Conservation Monitoring Centre**

## **Working Toward High Seas Marine Protected Areas**

**An Assessment of Progress Made and Recommendations for  
Collaboration**

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## 1. Executive Summary

The areas of the ocean that lie beyond national jurisdiction limits, also called the high seas, are vulnerable to human activities and currently underrepresented when compared to terrestrial and nearshore<sup>1</sup> marine environments under protection. Thus, there is a growing movement among the conservation community to increase measures, such as marine protected areas, that can ensure protection of the largely undiscovered but important biodiversity of the high seas.

The purpose of this report is threefold: (1) to summarise current efforts aimed at protecting marine biodiversity in areas beyond national jurisdiction; (2) identify the knowledge gaps that still exist; and (3) initiate a collaborative effort among stakeholders in the ocean community to implement high seas marine protected areas (HSMPAs) using globally adopted scientific criteria. The recommendations that resulted from this analysis are based on a review of projects, organisations and initiatives addressing the high seas as well as an assessment of the current content, scope, and focus of known and accessible databases related to high seas biodiversity. From this we determine gaps, outline current knowledge, and contribute further insights and approaches relevant for the identification and establishment of protected areas beyond national jurisdictions.

Since the 2002 World Summit on Sustainable Development set the goal for establishing representative networks of marine protected areas (MPAs) by 2012, there have been increasing efforts to ensure that the last remaining oceanic frontier—the high seas—is included in this protected area network. The World Database on Protected Areas describes approximately 4,600 globally recognised MPAs covering around 2.2 million square kilometres of the marine environment (WDPA 2008). However, these have mainly been implemented in states' territorial waters; thus, only 0.51% of the area outside these waters is actually under legal protection (UNEP-WCMC 2008a). Matters are further complicated since, by definition, high seas encompass an area of the open and deep ocean that sits beyond the legal jurisdiction of nations. Because this area covers nearly 50% of the earth's surface and accounts for 90% of the planet's biomass, it should be a priority for marine conservation efforts that aim to protect representative areas of the marine environment.

Protecting large areas of the ocean in such a vast, dynamic and fluid environment comes with numerous challenges for science and governance. New issues such as climate change impacts and emerging uses (i.e., bioprospecting, ocean fertilization, floating energy facilities) widen the gap in existing, dated policies that can significantly delay the creation of MPAs on the high seas. There is currently no international governance framework for regulating and coordinating high seas MPAs (HSMPAs) despite the scientific duty in the United Nations Law of the Sea Convention (UNCLOS) to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life (Hart 2008). In addition, knowledge about the biological features of high seas areas, including some habitats and species, is still relatively recent, patchy, and often localised especially when compared with scientific understanding of oceanographic physical features and nearshore marine environments. Implementing marine protected areas in the high seas will require addressing a suite of unprecedented marine management and enforcement challenges; thus, a coordinated effort among a number of institutions to find solutions is essential.

Despite the existing gaps in a high seas governance framework and the lack of geographically comprehensive biophysical data, there is increasing agreement among the diverse stakeholders engaged with high seas issues that enough collective knowledge exists to proactively begin identifying, proposing and developing pilot sites for marine protected areas in locations beyond national jurisdiction (Laffoley 2005, SCBD 2008). A set of scientific criteria<sup>2</sup> for identifying

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<sup>1</sup> Defined in this report as within 12 nautical miles of the low water mark

<sup>2</sup> Seven scientific criteria exist for identifying ecologically or biologically significant marine areas or sites in need of protection in open ocean waters and deep sea habitats: *uniqueness or rarity; special importance for life history stages of species; importance for threatened, endangered or declining species and/or habitats; vulnerability, fragility, sensitivity or slow recovery; biological productivity; biological diversity; and naturalness*. Five scientific criteria exist for representative

ecologically and biologically significant areas and guidelines for developing networks of MPAs was adopted by the Convention on Biological Diversity's Ninth Conference of Parties in May 2008 (CBD 2008e). These criteria and guidelines include scientific rationale for identifying HSMPAs according to ecological and biological significance as well as areas that are representative of biodiversity in the marine realm. This development provides a landmark opportunity to begin the process of planning and implementing HSMPAs. In addition, ten principles for high seas governance were released at the 2008 World Conservation Congress, raising consensus on the importance of ecosystem and precautionary approaches as well as the need for international cooperation, transparent decision-making, and public availability of information.

Though challenges with managing existing coastal and nearshore MPAs are significant and indeed should be addressed, they should not prevent the advancement of protecting high seas biodiversity. In addition to advancing ways to identify significant and representative areas, it is important that pilot studies or demonstration areas are established in the high seas realm. This is key for two reasons: (1) to secure protection for priority high biodiversity areas as an initial contribution to the global marine protected areas network and (2) to start learning from practical experience how HSMPAs can be managed and compliance secured. At the same time, there exists an urgent need to increase political support of high seas protected areas, to continue widespread and coordinated research on the biophysical aspects of these important ocean areas, to reduce governance gaps, and to identify a legal mechanism supported by sustainable funding sources that will ensure protection will be implemented and enforced. This mechanism may be upheld in a number of ways, including strong participation and peer agreements by and among flag states, the fishing community, private sector, and international bodies that already oversee these processes.

This report provides a preliminary approach, using current knowledge, for identifying priority areas of the high seas that are in need of protection. In the end, moving toward HSMPAs will require a balance of two things: (1) increased scientific rigour when proposing and evaluating MPA proposals for the high seas and (2) precautionary action regarding human activities on the open ocean where their environmental impacts are yet unknown.

Key findings and recommendations of this report are summarised below.

Key Findings	Key Recommendations
Generally, existing knowledge of high seas biodiversity is uneven, patchy, and not well coordinated or easily accessible.	<i>Existing data, maps and coverage of bioregionalisations, biogeographic features, species, habitats, and geopolitical information related to high seas biodiversity should be consolidated into a centralised knowledge management system, building on existing agreements and tools such as the high seas interactive Map (IMap) (see CBD 2008b). We recommend one or more focused workshops for the following: (1) to review available high seas data (as outlined in Annexes 8 and 9) and agree on parameters for consolidation into an accessible and interoperable system and (2) to identify knowledge gaps and help prioritise funding and research direction.</i>

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**networks** of marine protected areas that include open ocean waters and deep-sea habitats: *ecologically and biologically significant areas; representativity; connectivity; replicated ecological features; and adequate and viable sites.*

<p>Main gaps in biodiversity knowledge relate to: geographic location; depth and associated biodiversity; complete representation; less charismatic species such as invertebrates; and complex physical and ecological processes. Knowledge is also unbalanced at various scales and largely dependent on the resolution of information available.</p>	<p><i>Funding to support large-scale, long-term ecosystem based monitoring and targeted research efforts should be made available and prioritised.</i></p>
<p>Equally important to the breadth and quality of the knowledge that the scientific community holds regarding high seas marine biodiversity is the ability to compile this information and make it accessible to the marine conservation community and those who need it for making decisions.</p>	<p><i>Efforts to streamline and link existing knowledge systems [such as the Census of Marine Life (CoML), the Global Biodiversity Information Facility (GBIF), and the World Database on Protected Areas (WDPA)] and the generation of new knowledge should be increasingly supported and made interoperable with other relevant databases and initiatives where possible.</i></p> <p><i>Increase capacity for coordination and communication between smaller and broad-scale projects to ensure that data is standardised and more easily accessible to policy makers. In addition, provide summaries of technical reports in language meaningful to policy makers.</i></p> <p><i>Build broad political support through the development of a coherent and well-coordinated high seas campaign and the use of biodiversity information.</i></p>
<p>In addition to a number of existing protective measures for high seas biodiversity (Table 2), at least 12 reports identify 1-41 areas each for potential and proposed HSMPAs. Nine geographic areas were identified where three or more HSMPA proposals have been suggested, a finding which can support a preliminary prioritisation of high seas protection. Adding biodiversity layers as well as reviewing numbers of supporting scientists, organisations, and political constituents increases the utility of this approach.</p>	<p><i>Encourage the use of spatial planning tools and modelling processes using biodiversity data and physical proxies to create maps, such as those on pages 15 – 17, which can inform conservation decisions based on sound science.</i></p> <p><i>Information and lessons learned from past exercises in planning networks of marine protected areas (i.e. Greenpeace's <u>Roadmap to Recovery</u>) should be considered in the process of planning HSMPAs.</i></p>
<p>Existing reports outlining proposals for HSMPAs are somewhat piecemeal with varying methodologies and desired outcomes. To increase the likelihood of a HSMPA proposal being implemented, it should include detailed scientific information (based on a consistent set of criteria) to support the proposal.</p> <p>Detailed management considerations may be developed in concert with or following the submission of an HSMPA proposal. Management implications and political feasibility are important future considerations.</p>	<p><i>Future proposals for pilot HSMPAs should be streamlined to correspond to the CBD COP9 criteria and guidelines, and include adequate scientific information to help justify their designation.</i></p>

<p>Significant gaps exist in the legal and governance framework that is needed for the implementation of a network of HSMPAs.</p> <p>No global instrument currently in place is competent to address the threats impacting the high seas in a cross-sectoral manner, nor is there a governance structure with the capabilities to facilitate cooperation and coordination of activities on the high seas (IUCN 2008).</p>	<p><i>Encourage international agreements regarding the implementation of UNCLOS to protect biodiversity on the high seas based on ecosystem-based management and the precautionary approach. This would provide a mechanism to establish a network of MPAs including on the High Seas.</i></p> <p><i>Research programmes should aim to inform the implementation of international agreements.</i></p>
<p>There are a number of management regimes involved in high seas conservation, such as the Regional Seas Fisheries Organisations; however, the biodiversity protection gaps that still exist both within and outside these regimes are substantial.</p>	<p><i>Reform and expansion of RFMOs is needed to build increased protective measures for high seas biodiversity.</i></p> <p><i>Specific and clear practical guidance is recommended so that institutions and governments understand the next steps required for implementation of HSMPAs, and other sectors such as industry can then plan to avoid carrying out activities in certain areas. This guidance would be developed based on lessons learned through the designation of pilot HSMPA sites as well as experience gained in managing MPAs in remote, offshore areas.</i></p>
<p>In light of the significant amount of research yet to be undertaken on the high seas, there exists a significant gap in funding available for high seas research and filling the knowledge gaps necessary for identifying key areas for HSMPAs.</p>	<p><i>Identification and application of innovative funding mechanisms is needed to support implementation of HSMPAs, e.g. endowment funds and market-based costs.</i></p>
<p>Given the dearth in information available, more specific guidance may be needed on the application of the precautionary approach in this context.</p>	<p><i>Need to develop guidance on the use of proxies to assist with the identification of potential areas of ecological and biological significance, and to identify areas representative of a particular habitat or community type in a specific bioregion, in order to support the development of representative networks of MPAs.</i></p>

## 1.1 Objectives and Methodology

This report aims to compile existing and generate further recommendations regarding priority actions necessary to identify and establish a representative MPA network on the high seas. Special attention is given to the scientific criteria developed through the Convention on Biological Diversity's expert workshop in the Azores in October 2007 and adopted in May 2008 (see footnote, pg 4).

Key aims of this report are to:

1. Summarise current efforts focused on protecting high seas habitats and biodiversity
2. Identify the gaps that still exist in scientific knowledge and management capabilities
3. Initiate a collaborative effort among stakeholders in the ocean community to implement HSMPAs using globally adopted scientific criteria

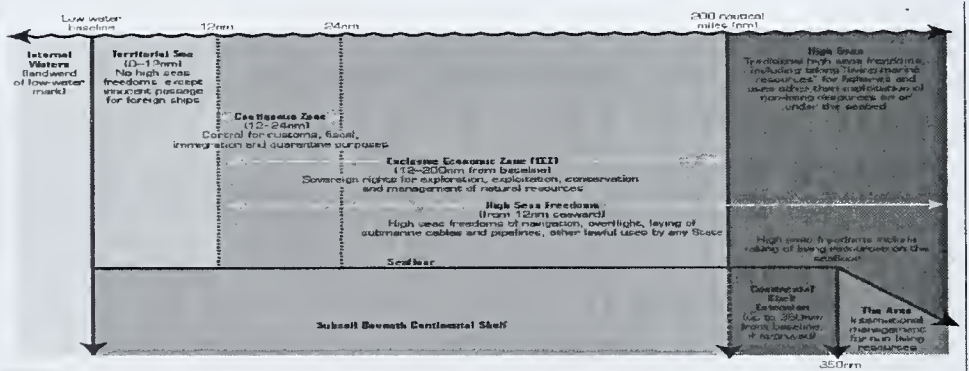
A thorough literature review of policy documents, grey literature, and scientific publications related to marine biodiversity and protection in the high seas was conducted to understand the range of important concepts and debates regarding the establishment of HSMPAs. Existing recommendations

were gleaned from these sources and informed the content of this document and the generation of further recommendations. In addition, conversations with experts and exposure to meeting dialogue at the CBD's 13<sup>th</sup> Subsidiary Body on Scientific, Technical and Technological Advice (SBSTA) meeting in Rome, Feb 2008, and the Global Forum on Coasts, Oceans, and Islands in Hanoi, April 2008, provided additional context and insights not readily available in written format.

The results from the literature review were compiled into three comprehensive matrices, which can be found in the annex. These include (1) relevant high seas biodiversity databases and information sources; (2) various approaches and mechanisms employed to protect and manage the high seas (such as conventions, agreements, and codes of conduct); and (3) relevant institutions at work in high seas biodiversity conservation and management. Data sources for all maps generated in this report can be found in Annexes 1 and 2.

## 2. Introduction: Ocean Protection and Marine Protected Areas

Oceans and seas cover more than two-thirds of the world's surface. About 64 percent of this marine environment is located beyond any national jurisdiction or territorial water, where it lacks rules or enforcement to implement integrated conservation efforts (UNEP 2006). This area, called the 'high seas' or the *area beyond national jurisdiction* (ABNJ) comprises the water column located beyond states' 200-nautical mile (nm) exclusive economic zone (EEZ). Similarly, the seabed outside the 200nm EEZ, or the outer edge of the continental margin where this lies beyond 200nm, is considered outside of the state's legal continental shelf and therefore is also beyond national jurisdiction. The collective seabed, ocean floor and subsoil that lie beyond the legal continental shelf are known as the 'Area' (see Figure 1).



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