

# Analysis on the Current Issues of Marine Protected Areas beyond National Jurisdiction and Countermeasures

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**Abstract:** In recent years, the management of sea areas beyond national jurisdiction has been drawing more and more attention from the international community. As new management tools, marine protected areas (MPAs) beyond national jurisdiction have both a scientific and legal basis, and therefore their existence is likely to have a positive impact. Currently, the international community regulates marine protected areas beyond the limits of national jurisdiction to a certain extent, but has not yet formed a complete/comprehensive legal framework. What is more, research on MPAs has lagged far behind, making it difficult for policymakers to make informed decisions. In the future, the international community should promote the implementation and improvement of the international legal framework for these MPAs and continue scientific research on marine biodiversity. In addition, international cooperation should also be emphasized to a greater degree.

**Key Words:** Marine protected areas beyond national jurisdiction; High seas; Deep seabed; Marine biodiversity

With the gradual consumption of natural resources and growing scientific understanding regarding ecosystems, ecosystem management has become a clear objective for many government departments, public and private resource management agencies; in short, the goal is to achieve sustainable development. Take fishing, for example; since the 1990s, fishing activities and intense resource exploitation worldwide have proved that artificial delimitation is not suitable for the management of trans-boundary biological resources. To better conserve marine living resources, any management regulations and actions

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should be based on the best available scientific knowledge with respect to the dynamics of marine ecosystems, competition and cooperation among species, marine ecological development and so on.<sup>①</sup> MPAs are an effective tool for the implementation of ecosystem management, which can not only preserve the integrity of marine resources and the original appearance of the natural environment, but also aid in conservation, restoration, development, introduction, breeding of species communities, and therefore the conservation of biological diversity of species, thus reducing or even eliminating the adverse effects of human activities.

## I. Analysis on Marine Protected Areas beyond National Jurisdiction

### A. Concept

There are two kinds of marine protected areas; nature reserves within national jurisdiction and those beyond national jurisdiction. The establishment of nature reserves under national jurisdiction is subject to the sovereignty or sovereign rights of a given coastal State. These are domestic law issues. On the other hand, establishment of nature reserves in areas beyond national jurisdiction requires the consensus of the international community and is thus a matter of international law. In accordance with the existing international legal framework for oceans, seas beyond national jurisdiction include high seas and international seabed areas. Some international organizations (such as the World Wildlife Fund (WWF)) classify MPAs as either “high seas” or “deep seas”.<sup>②</sup> So, in theory and in practice, nature reserves in marine areas beyond national jurisdiction are one of two types, depending on their being located either on the high seas or in international seabed areas. The former may be referred to as an “Area” nature reserve and the latter a deep seabed nature reserve.<sup>③</sup>

The high seas are not included in the national exclusive economic zone, ter-

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① CHEN Zuozhi, QIU Yongsong and HUANG Shulin, Conservation and Management of Marine Living Creature Resources: Current International Legal Regime and Recent Developments, *Journal of Hubei Agricultural College*, Vol. 22, No. 4, 2002, pp. 334~337.

② At [http://www.panda.org/what\\_we\\_do/how\\_we\\_work/conservation/marine/our\\_solutions/protected\\_areas](http://www.panda.org/what_we_do/how_we_work/conservation/marine/our_solutions/protected_areas), 13 May, 2009.

③ HUA Jingxin, *The Course of the Law of Sea*, Qingdao: Ocean University of China Press, 2009, p. 267.

ritorial sea, internal waters or archipelagic waters of an archipelagic State (UNCLOS, Article 86), accounting for 64% of the global ocean area (361 million square kilometers).<sup>①</sup> The goal of establishing high seas protected areas, also referred to as high seas protected zones, is mainly to protect marine biological resources, particularly the diversity of marine species, including fish, seabirds and other living resources. Over the past few years, international awareness of this issue has been growing, as demonstrated by the great number of related publications and international conferences, collected works, and reports.<sup>②</sup> The establishment of nature reserves in the high seas should be effected through the assembly of states parties to UNCLOS and the Convention on Biological Diversity, or through the diplomatic conferences convened by the United Nations Environment Programme (UNEP), the International Maritime Organization (IMO), the Food and Agriculture Organization (FAO) or other intergovernmental organizations in which sovereign states participate. Such reserves should be managed by specialized agencies through provisions of the related agreements. National rights and obligations in these reserves will ideally be stipulated according to the nature of the objects a given reserve is designed to protect. Deep seabed nature reserves mainly address biological resources and their diversity in the deep seabed, and they should be established and managed by the International Seabed Authority (ISA) in accordance with the provisions of articles 145 and 162 of UNCLOS. In these reserves, no state is allowed to conduct any exploration activity.

### *B. Analysis of International Law Basis*

The establishment and management of marine protected areas beyond national jurisdiction need the corresponding basis in the international law as a background. The international community did not realize the importance of marine protected areas until the early 1980s. The international convention which first mentioned the establishment of marine protected area in its true sense is the Convention for the Conservation of Antarctic Marine Living Re-

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① 19 Tips on Domestic Marine Management from an Australian Think Tank—Focus on the Indian Ocean (Chinese), at [http://www.china.com.cn/military/txt/2010-06/11/content\\_20237393\\_2.htm](http://www.china.com.cn/military/txt/2010-06/11/content_20237393_2.htm), 18 March, 2010.

② At [http://wwz.ifremer.fr/institut\\_en/actualites/colloques\\_manifestations](http://wwz.ifremer.fr/institut_en/actualites/colloques_manifestations), 13 May, 2009.

sources, signed in 1980, which provides for the establishment of marine protected areas to protect the important habitats of related species.<sup>①</sup> The 1990 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region and the 2001 Convention on the Conservation and Management of Fishery Resources of the South-East Atlantic Ocean also have this tendency. In the 1990s, many countries basically completed the legislation for the waters under their own jurisdiction and turned to modify and adjust the legal regime for waters beyond their national jurisdiction, including the protection of marine biodiversity in the sea areas beyond national jurisdiction. Meanwhile, with the advancement of ocean exploration technology, the interpenetration and interaction among various countries in the use of resources have become increasingly evident. In this context, the internationalization trend of legislation for resources has been gradually strengthened.<sup>②</sup> A large number of global and regional legal instruments, including the 1982 UNCLOS and the Convention on Biological Diversity, constitute the existing international legal framework for the regional marine biodiversity beyond national jurisdiction. Under such a framework, there are significant opportunities for promoting the establishment of marine protected areas beyond national jurisdiction, and the coordination between various instruments may be strengthened to promote the establishment of such protected areas.<sup>③</sup>

The 1982 UNCLOS is the most comprehensive international convention governing/dealing with international maritime affairs. Part *III* of this Convention includes articles on marine environmental protection, yet does not specifically refer to the overall protection of the marine ecology and the role of protected areas. Nonetheless, UNCLOS does indeed reflect the needs of marine ecosystems, if only in a cursory way. For example, article 194, paragraph 5 reads:

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① Before, the international conventions for the management of the development of marine living resources, including the “International Whaling Convention”, “Convention on the Conservation of Antarctic Seals” generally ignored ecological and environmental protection, even if there is awareness of such issues, they only provide temporary shut down for some of the zones. See R. V. Salm, translated by the Supervision Department of State Ocean Administration, *Guidebook for the Planners and Managers of Ocean and Coast Natural Protection Area*, August 1993, p. 23.

② GAN Zangchun, Developmental Trend of Current Legislation for the Sources and its Legislation Revolution in China, Ministry of Land and Resources Website, at [http://www.mlr.gov.cn/ggfw/wskt/wskt\\_dqkt/200503/t20050307\\_65576.htm](http://www.mlr.gov.cn/ggfw/wskt/wskt_dqkt/200503/t20050307_65576.htm), 23 October 2008.

③ UNEP/CBD/WG—PA/1/2, 20 April 2005, paragraph 8(4), at <http://www.cbd.int/doc/meetings/pa/pawg-01/official/pawg-01-02-zh.pdf>, 20 June 2011.

*The measures taken in accordance with this section shall include necessary measures for the protection and preservation of rare or fragile ecosystems as well as depleted, threatened or endangered species and other forms of marine life environment.*

Article 150 provides for the “orderly, safe and rational management of the resources of the Area, including the efficient conduct of activities in the Area and, in accordance with sound principles of conservation, the avoidance of unnecessary waste”. Every five years, the Conference of the ISA conducts a comprehensive and systematic review of the practical implementation of the Area’s international regime established by UNCLOS. This is meant to ensure the continued application of various principles concerning protection of the marine environment. Article 145 (2) of the Convention touches on marine environmental protection in the Area:

*The Authority shall adopt appropriate rules, regulations and procedures for protection and conservation of the “Area” of the natural resources and prevent damage to flora and fauna of the marine environment.* (Article 145, paragraph 2).

Clearly, although this provision does not directly address the establishment of marine protected areas, it does provide the legal basis for their being established in all waters, including waters of national jurisdiction and those beyond national jurisdiction, namely the high seas and deep seabed area.

The Convention on Biological Diversity (CBD), drafted by the International Union for Conservation of Nature (IUCN) and amended several times, was adopted in Nairobi on May 22, 1992. Many of its provisions focus on the protection of biological diversity. The Convention defined the relevant concepts pertaining to the protection of bio-diversity and called for national action to protect and sustainably use biological resources. The CBD suggested concrete ways of doing so, such as installing monitoring mechanisms that oversee the conservation of biological diversity and assess the degree to which resources are being used sustainably, education, and environmental impact assessments. In addition, the Convention also makes mention of *in situ* conservation, outlines the establishment of protected area systems and makes provision for granting developing countries monetary or other subsidies in kind. Thus, like UN-

CLOS, it is also a treaty with far-reaching implications.

## II. International Management Practice

After 1990, the issue of deep seabed biodiversity has become increasingly prominent. The international community has recognized the importance of maintaining biological diversity in sea areas beyond national jurisdiction, promoting further dialogue on the interest conflict between marine resources development beyond national jurisdiction and protection of environmental resources. One tangible manifestation of this phenomenon is the advent of high sea protected areas.<sup>①</sup> MPAs have been an important topic of discussion for various international organizations, including the United Nations (UN), Assembly of States Parties to the Convention on Biological Diversity, UNEP, IUCN and WWF, among others. The Convention on Biological Diversity also set up an *ad hoc* working group that specifically deals with MPAs. Meetings from this group have generated a wealth of global and regional legal documents. These instruments have helped reinforce emerging principles of MPA management and led the international community to set its priorities in a new, more environmentally friendly way.

### A. Management Principles, Objectives and Standards

Established principles: The UN General Assembly plays a central role in handling marine biodiversity conservation and sustainable use issues in areas beyond national jurisdiction. In 2002, the UN General Assembly called for “the development of methodologies and tools, including the ecosystem approach and establishing marine protected areas in accordance with international laws and based on scientific knowledge” (Resolution 57/141). Resolution 58/240 aims to “[i]nvite the relevant global and regional institutions in accordance with its mandate to investigate urgently how to better address threats and risks faced by vulnerable and threatened marine ecosystems and biodiversity in areas beyond national jurisdiction, on a scientific basis; to investigate how in this process to make use of existing treaties and other instruments and be consistent with international law, in particular with the United Nations Convention on

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① WANG Hanling, Developmental Trend of International Law of the Sea, at <http://lunwen.5law.cn/news/guojiji/2008-9-28-cs/155EC1KB99J9.html>, 18 June 2008.

Law of the Sea, and in line with the principle of an ecosystem-based integrated management approach, including the identification of the marine ecosystem types that should be given priority attention; and discuss the possible ways and means for the protection and management of these ecosystems.” These resolutions indicate a desire on the part of the UN to incorporate into existing regimes of MPAs beyond national jurisdiction principles of management that accord with international law and align with an integrated scientific, ecosystem-based approach.

Established goals and standards: In 2002 the World Summit on Sustainable Development (WSSD) reached an important agreement that aimed to establish a representative network of MPAs by 2012. In keeping with this goal, in 2006 the UN General Assembly Ad Hoc Open-ended Informal Working Group discussed whether to establish multi-functional MPAs, and fleshed out the standards and other issues related to the definition, establishment and management of MPAs. In 2004, the 7th Meeting of the State Parties for Convention on Biological Diversity (CBD) adopted the “Program on protected areas, ocean and coastal areas and forest biological diversity” (Decision VII/28). Its key objective is to: “[e]stablish and expand protected areas in large, undivided, complete, irreplaceable or high-risk areas. “In 2005 the Protected Areas Open-ended Ad Hoc Working Group—formed under the auspices of the CBD—held its first meeting, at which it was declared that “development of standards should be completed rapidly to delineate, mark and establish marine protected areas, and only if all protected areas should reach 40% of the total world’s oceans area, the goal to establish a global network of marine protected areas can be achieved by 2012.”<sup>①</sup> In May 2008, during the 9th Meeting of the State Parties to the CBD, the delegates agreed on the methodology of delineating MPAs, drafted the standards for the establishment of international marine protected areas, and made known their intention to announce the formal regulations for the establishment of MPAs by 2012.<sup>②</sup>

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① Refer to UNEP/CBD/COP/8/31, Decision VIII/24, para. 11, at <http://www.cbd.int/decision/cop/?id=11038>, 20 June 2011.

② Refer to UNEP/CBD/COP/9, Decision IX/20, para. 18, at <http://www.cbd.int/doc/decisions/cop-09/full/cop-09-dec-en.doc>, 20 June 2011.

### *B. Attitudes of Various Parties in the International Community*

The attitudes of the European Union and Australia vis-à-vis high seas protected areas are positive. The EU advocates the negotiation of a third implementation agreement to UNCLOS with a focus on high seas MPAs. Some NGOs, such as Greenpeace, support the EU proposal, with the focus being to stop destructive fishing and the establishment of supervisory organs. They also advocate the establishment of high seas protected areas based on the environmental pre-assessment, the precautionary principle and ecosystem approach, and actively conduct relevant research activities.

Australia strongly advocates regarding MPAs as a means of integrated management of the marine environment. In its view, the marine protected area comprises an ideal platform for showcasing concrete, sustainable biodiversity conservation methods and responsible fisheries, advances in mineral exploration and mining technologies, particularly in sensitive sea areas, as well as information on tourism and scientific research. In May 2000, during the first meeting of the informal consultation mechanism created by the UN's Ocean Affairs Division, the Australian delegation submitted an informal paper indicating that despite a limited understanding of high seas resources, more and more areas of great diversity and value were being discovered there, and these areas should be conserved and used in a sustainable way, and recommending that high seas MPAs should be established in order to protect and conserve biodiversity in vital marine habitats, including deep-sea trenches, ridges, seamounts, and hydrothermal vents.

There has been a recent change of attitude concerning UNCLOS in the United States. Originally, the U. S. perpetually postponed ratification of UNCLOS because it perceived the Convention's provisions relating to deep seabed development as unfairly beneficial to developing countries. In 2004, the U. S. Senate Foreign Relations Committee voted in favor of ratifying the Convention for the first time but failed to submit it for an official vote. Since then, the U. S. has supported UN agreements on high seas MPAs. Some analysts suspect that this shift serves the U. S. interest in controlling the Pacific high seas and navigable waters. As further support of this claim one might adduce the fact that in recent years, the U. S. attempted to set total allowable catch (TAC) limits within high sea fisheries adjacent to its exclusive economic zone. How-



ever, the U. S. specifically opposes the development of a new UNCLOS implementation agreement that addresses high seas MPAs, and further believes that in terms of deep-sea biodiversity conservation, the full and effective implementation of existing agreements and mechanisms should be more than enough to solve the most urgent problems currently being faced. According to the U. S., MPAs should be well-defined areas designed to control environmental impact, not areas banning all activities, and regional fisheries management organizations (RFMOs) and other existing mechanisms should be allowed to play an important role. Japan, Korea, Norway, Iceland and other countries have also advocated the use of existing mechanisms for managing high seas MPAs.

However, the path to reaching these ideals is not without challenges, such as technological limitations, sufficient know-how concerning management of high seas protected areas, and logistical difficulties arising from the remoteness of deep sea areas, to name a few. These obstacles would be even harder to overcome for developing countries.

### *C. The Practice of Marine Protected Areas beyond National Jurisdiction*

To date, more than 12% of the land area in the world is classified as protected areas, but less than 1% of the ocean area is protected, and even a smaller proportion of ocean areas classified as high seas or deep sea is protected.<sup>①</sup> Even so, some successful models do exist; the Ligurian Sea Cetacean Sanctuary in the Mediterranean — built by the WWF with the help of the governments of France, Monaco and Italy — is the world's foremost example of a high seas protected area. In the said Sanctuary, Italy, Monaco and France cooperate to tightly control incoming pollution and strictly regulate the fishing industry, in particular by banning trawling within the Sanctuary.<sup>②</sup> The first deep-sea MPA was established/founded by the WWF in the Atlantic Azores around two hydrothermal vents, and more protected areas will be established in the Northwest

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① ISBA/14/LTC/5, para. 10, at <http://www.isa.org.jm/files/documents/EN/14Sess/LTC/ISBA-14LTC-5.pdf>, 20 June 2011.

② LIU Huirong, HAN Yang, Special Protection Areas: A New Perspective on High Seas Biodiversity, *Journal of Hua Dong Politic and Law University*, Vol. 66, No. 5, 2009, pp. 141~145.

Atlantic seamounts, vents, cold water corals and other deep-sea habitats. <sup>①</sup>

Perhaps the high seas MPA that best represents the ideals of the MPA concept is the one located in the southern continental shelf of the South Orkney Islands. This MPA was established by the Commission for the Conservation of Antarctic Living Resources (CCAMLR) in November of 2009 during the 28th CCAMLR General Assembly meeting in Australia. The South Orkney Islands MPA is the first one established in the high seas. Protective measures include banning all fishing activities; monitoring; the creation of a scientific committee, under the auspices of which fisheries-related research activities may be carried out. Such research activities must comply with the provisions of protective measures. In addition, all fishing vessels (including fishing vessels, support vessels for fishing vessels, fish processing vessels, fishing transport vessels and others) passing through the protected area are prohibited from dumping; schemes for monitoring traffic conditions in the protected area were introduced; and fishing vessels intending to enter the area are required to inform the CCAMLR Secretariat of the vessel's flag state, vessel size, IMO number, route and other information as necessary. The above protection measures do not apply under certain circumstances, such as when the safety of vessel personnel is at risk. <sup>②</sup>

### **III. Analysis on Significance, Problems and Trends of Marine Protected Areas beyond National Jurisdiction**

Through examining the background and qualities of the MPA concept, it is easy to conclude that there are many advantages to the establishment of MPAs beyond national jurisdiction. They will help protect marine biodiversity across large areas, and thus are likely to become more commonly utilized among the international community. In spite of the numerous and obvious benefits that the MPA regime offers, in practice certain problems still remain to be solved. They have arisen in such domains as the law, natural science, ocean management and others, and these must be adequately researched and resolved to ensure the MPA regime reaches its full potential.

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① At [http://www.panda.org/what\\_we\\_do/how\\_we\\_work/conservation/marine/protected\\_areas/increasing\\_protection/deep\\_seas/#deepsea\\_mpa](http://www.panda.org/what_we_do/how_we_work/conservation/marine/protected_areas/increasing_protection/deep_seas/#deepsea_mpa), 23 November 2008.

② Commission for the Conservation of Antarctic Living Resources website, at <http://www.ccamlr.org>, 23 November 2009.

### *A. Positive Significance and Existing Problems*

MPAs beyond national jurisdiction can be expected to contribute positively in at least the following three main aspects:

1. Fostering sustainable marine development and helping protect the common property of mankind, including genetic and special biodiversity. High-degree biodiversity areas are consistent with an ecosystem-based integrated marine management approach.

2. Expanding the protection of marine biodiversity to waters beyond national jurisdiction. In the past, concerns and countermeasures from the international community regarding biodiversity in waters beyond national jurisdiction responded primarily to international public opinion or calls from various international environmental protection NGOs, and the actions taken were relatively ineffective. The establishment of MPAs can break this cycle and provide real and effective protection of biodiversity in waters beyond national jurisdiction, all the while contributing to the international community's knowledge base on biodiversity protection.

3. Incorporating scientific methodology into the protection of biodiversity in the waters beyond national jurisdiction. Having adequate scientific data helps properly designate special protection areas in zones outside national jurisdiction on the basis of geographical features, targeted species (including rare or other high-value species), and also enhances cost-effectiveness.

At present there are four main problems that need addressing:

1. A relevant international legal framework has not yet been established. The current trend of adopting internationalized ecological resource legislation provides the necessary backdrop for MPAs beyond national jurisdiction. There are a large number of international legal documents that provide opportunities for the management of MPAs outside national jurisdiction, but currently international laws regulating high seas special protected areas, including the relevant provisions of UNCLOS and the CBD, belong to the comprehensive international conventions, thus only a guiding principle is provided. To date, international laws providing direct regulation for MPAs beyond national jurisdiction do not exist.

2. There is a potential conflict with the existing marine legal system that might affect the existing patterns of ocean order. This issue is most evident in the high seas and deep seabed regimes; in theory, the establishment of high seas

protected areas will set certain restrictions on freedom of navigation in the high seas, fishing and scientific research, etc. The intricacies of how existing international laws and mechanisms interrelate and how newly-established MPAs will affect them must be adequately researched and negotiated among the relevant parties.

3. The international community's attitudes are inconsistent. Some countries fear that the establishment of protected areas may preclude development and utilization of resources within the region, and some developing countries maintain a "wait and see" attitude due to technical or pecuniary limitations.

4. Regarding the establishment of MPAs, relevant researches have lagged far behind the needs of present-day practice. So far, the concrete details on the establishment of protected areas have not yet been developed.

### *B. Trend Analysis and Countermeasures*

1. It will become inevitable to conduct ample research on the relevant legal framework. Since no international legal framework of MPAs outside national jurisdiction has yet been established, there are naturally no conflicts with the existing maritime legal system. To ensure it remains that way, it will be necessary to adequately study the coordination between the management of MPAs and relevant international treaties and discuss ways to promote a global MPA framework on the basis of UNCLOS, the CBD, the 1995 UN Fish Stocks Agreement (this probably needs a full citation) and other related agreements in order to establish a network of MPAs beyond national jurisdiction that fully comply with international law.

2. Implementation of the MPA regime will be most effective if the countries involved are able to reach consensus on the details of management; this would also serve to strengthen regional cooperation on MPAs. Although a group of developed countries led by the United States and some developing countries have different ideas on MPAs, there has been much dialogue between the two camps recently, and future theoretical research and collaboration on this issue will certainly only expand from these humble beginnings. In May 2008, during the 9th meeting of States Parties to the CBD, the delegates undertook to establish a global network of MPAs by 2012. MPAs beyond national jurisdiction require high-tech equipment and sophisticated scientific expertise, both of which are lacking in developing countries, so enhancing international cooperation is essential to the successful implementation of the high seas pro-

tected area regime.

3. Scientific research on MPAs is only at its initial stages. In 2004 the International Union for Conservation of Nature published a work entitled “How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness”. The guide provides a field-tested, methodical process for planning and evaluating management effectiveness of MPAs.<sup>①</sup> Other future research should also be directed toward the identification of priority marine areas most suited to the establishment of MPAs; the development of standards, guidelines and principles for the definition, establishment and subsequent management of MPAs; obtaining a deeper understanding of the threats to biodiversity in MPAs and seeking to apply the precautionary principle;<sup>②</sup> surveying and charting out seafloor topography and the various oceanographic functions of seamounts, cold-water coral reefs and other ecosystems and the ecological importance of associated species; ascertaining how best to share information through a centralized information mechanism;<sup>③</sup> on the basis of scientific analysis, exploring the possibility of managing deep-sea resources in an ecologically sustainable way; and defining which ecosystems or eco-regions should be considered conservation priorities.<sup>④</sup> Another issue that could be investigated is the potential role and practicability of so-called “multi-purpose” MPAs.

Four kinds of countermeasures warrant discussion in the present contribution: First, the establishment and management of MPAs beyond national jurisdiction must be carried out through the international community, and therefore the related international developments should be closely followed, including both legal and scientific aspects; second, on the basis of these observations, the relevant research on international and domestic laws should be strengthened, both theoretical and practical research, thereby enhancing awareness of high seas biodiversity problems from a scientific perspective; third, active participa-

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① UNEP/CBD/SBSTTA/10/2, Page 6, 29 November 2004, at <https://www.cbd.int/doc/meetings/sbstta/sbstta-10/official/sbstta-10-02-en.pdf>, 20 June 2011.

② The 1st meeting of the Open-ended Ad Hoc Working Group for CBD protected areas, 13–17 June 2005, “Options for cooperation for the establishment of marine protected areas in marine areas beyond the limits of national jurisdiction”, explained by the Executive Secretary, para. 8(5).

③ Refer to UNEP/CBD/COP/8/31, Decision VIII/24, para. 44 (a), at <http://www.cbd.int/decision/cop/?id=11038>, 20 June 2011.

④ WANG Wenge, Study on the Legislative Issue on the Ecological Environment Building, *Environmental Protection*, Issue 8, 2005, pp. 20–23.

tion in drafting relevant legislation should be encouraged among the international community; fourth, greater international cooperation should be sought to both achieve China's legitimate interests while also fulfilling its international obligations.

To this end, at this stage it is recommended to focus future research on the following issues:

1. Harmonization with the existing high seas system. The establishment of protected areas is bound to affect the freedom of fishing in high seas, including China's offshore fishing. It should be noted that this impact has been generated by the development of international law of the sea. Substantive changes to UNCLOS, such as the 1995 Straddling and Highly Migratory Fish Stocks Agreement, have placed greater restrictions on fishing freedoms in the high seas. The past few decades have proved that unrestricted fishing can ravage living resources in the high seas; consequently, the exercise of fishery freedom in the high seas should be tempered by the international obligations to conserve biodiversity. In particular, countries must fulfill their obligations of conservation and management of high seas living resources when fishing in the high seas. MPAs set reasonable limits on excessive or harmful human activities. Moreover, MPAs beyond national jurisdiction are more likely to be established in areas of rich biodiversity. Such areas may possess unique environments with special deep-sea fauna (such as hydrothermal vents and seamounts), and their area is limited, thus they do not impinge upon the use of marine resources, through fishing or other activities, in non-protected areas.

2. The relationship between protection and development. Hydrothermal vents, seamounts and other features have a high degree of endemism. They contain biological, mineral and hydrocarbon resources that could be profitably developed. Indeed, the establishment of MPAs does not preclude reasonable development and utilization. In fact, the IUCN outlines different types of MPAs, ranging from areas with a high degree of protection to those with somewhat less stringent protection standards and greater flexibility for use. Existing national MPAs confirm the idea of coordinating protection and development, allowing MPAs to simultaneously protect the marine environment and also act as a platform to promote local economic development. The Australian Great Barrier Reef Marine Park, for instance, serves a wide range of functions from biodiversity protection and scientific research to robust fisheries and tourism/entertainment industries that generate billions of Australian dollars annually. The relevant studies have shown that the establishment of

Australia's Marine Park has not thwarted economic interests but actually increased the income of local fishermen. Achieving sustainable economic development and environmental protection in this way truly creates a win-win situation.<sup>①</sup>

3. Comparison between similar protected areas. Many domestic or co-created MPAs have similarities with marine protected areas beyond national jurisdiction in their location, geology, targeted species, or protection methods, which can provide very useful first-hand knowledge. For example, the protected area established with the help of WWF in the Portuguese Rainbow vent area is the first coastal MPA located on the continental shelf of coastal States. Another pilot deep-sea MPA is underway with the participation of WWF along Canada's Atlantic coast, which encompasses a large underwater canyon with depths of more than 2000 meters.<sup>②</sup> Canada and Portugal are both attempting to establish their respective marine protected areas around seamounts<sup>③</sup>

(Editor: SU Baoqing;

English Editor: Joshua Owens)

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① ZHAO Lingdi, ZHANG Yan, Lesson from Australian Marine Parks for Promoting the Income of Our Fisher Folk, *Fisheries Economy Research*, Issue 2, 2008, pp. 51~56.

② At [http://www.panda.org/what\\_we\\_do/how\\_we\\_work/conservation/marine/our\\_solutions/protected\\_areas/increasing\\_protection/high\\_seas](http://www.panda.org/what_we_do/how_we_work/conservation/marine/our_solutions/protected_areas/increasing_protection/high_seas), 13 May 2009.

③ At <http://www.dfo-mpo.gc.ca/CanOceans/INDEX.HTM>, <http://www.joel.ist.utl.pt/dsor/Projects/Asimov>, 21 November 2009.