

A COMPARATIVE STUDY ON MARINE PROTECTED AREA LEGISLATION IN TAIWAN AND CHINA*

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INTRODUCTION

Adequate protection of marine environments requires proper area-based management techniques.¹ However, studies have confirmed that protected areas “frequently do[] not correlate with biodiversity conservation priorities. The largest deficiency is in the protection of marine environments.”² Traditionally, marine protected areas (MPAs) have been associated with fishery regulation and the restoration of commercially valuable fish species.³ When nations use marine reserves, and MPAs more generally, to preserve biodiversity and ecosystem services rather than fish stocks, complications such as gaps in knowledge about marine ecosystems, geographic requirements, regulatory complexity, and political controversy arise.⁴ Nevertheless, “MPAs are fast becoming a mainstream management tool for biodiversity conservation in almost all of the world’s oceans.”⁵

Scientific support for MPAs as a management tool has grown substantially in recent years.⁶ Studies have confirmed that fish populations are greater within MPA boundaries.⁷ Additionally, MPAs can reduce conflicts between different user groups.⁸ Due to a growing appreciation for the complexity of the ocean and its inhabitants, scientists increasingly recommend MPAs to preserve and restore marine biodiversity.⁹ The benefits of MPAs include: conserving biodiversity, protecting attractive habitats and species, increasing productivity of fisheries, increasing

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1. Robin Kundis Craig, *Taking Steps Toward Marine Wilderness Protection? Fishing and Coral Reef Marine Reserves in Florida and Hawaii*, 34 MCGEORGE L. REV. 155, 173 (2003).

2. Mohamed I. Bakarr & Michael Lockwood, *Establishing Protected Areas*, in MANAGING PROTECTED AREAS: A GLOBAL GUIDE 196, 208 (Michael Lockwood et al. eds., 2006).

3. Craig, *supra* note 1, at 168.

4. *Id.*

5. Jennifer L. Schorr, *The Australian National Representative System of Marine Protected Areas and the Marine Zoning System: A Model for the United States?*, 13 PAC. RIM L. & POL’Y J. 673, 674 (2004).

6. Raquel Goni, Fabio Badalamenti & Mark H. Tupper, *Fisheries—Effects of Marine Protected Areas on Local Fisheries: Evidence from Empirical Studies*, in MARINE PROTECTED AREAS: A MULTIDISCIPLINARY APPROACH 72, 73 (Joachim Claudet ed., 2011).

7. M. Côté, I. Masqueira, & J.D. Reynolds, *Effects of Marine Reserve Characteristics on the Protection of Fish Populations: A Meta-Analysis*, 59 J. OF FISH BIOLOGY, 178, 178 (2001).

8. Doug Obegi, *Is There a Constitutional Right to Fish in a Marine Protected Area? An Analysis of the California Constitution’s Right to Fish Provision and Its Impact on the State’s Power to Create Marine Reserves and Other Types of Marine Protected Areas*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL’Y 1419, 1425–26 (2008).

9. Robin Kundis Craig, *Protecting International Marine Biodiversity: International Treaties and National Systems of Marine Protected Areas*, 20 J. LAND USE & ENVTL. L. 333, 360 (2005).

knowledge of marine science, providing refuge for exploited species, and protecting cultural diversity.¹⁰

Compared to terrestrial protected area systems, MPAs are relatively recent developments, possibly because we long believed the ocean to be a boundless resource.¹¹ It may also be due to the fact that western civilization did not recognize marine ownership claims until recently.¹² It was only in 1962 that the first World Conference on National Parks recognized the need for marine protection.¹³ While MPAs expanded following the Conference,¹⁴ less than one percent of the world's oceans are currently protected under MPAs.¹⁵

The most widely used definition of marine protected areas is advanced by the International Union for the Conservation of Nature (IUCN).¹⁶ It defines an MPA as: "Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment."¹⁷ MPAs can offer a range of protection from complete exclusion of human activity to lesser forms of restriction.¹⁸ A variety of terms can be used to describe the different types of MPAs, including: marine park, marine reserve, fisheries reserve, closed area, marine sanctuary, marine and coastal protected area, nature reserve, ecological reserve, replenishment reserve, marine management area, coastal preserve, area of conservation concern, sensitive sea area, biosphere reserve, 'no-take' area, coastal park, national marine park, marine conservation area, and marine wilderness area.¹⁹ In addition, a number of MPAs have international designations, such as biosphere reserve, RAMSAR site, or World Heritage site.²⁰ MPAs can be categorized into national or

10. WORLD COMMISSION ON PROTECTED AREAS, THE WORLD CONSERVATION UNION, GUIDELINES FOR MARINE PROTECTED AREAS, xvii (Graeme Kelleher ed., 1999).

11. P. Dee Boersma & Julia K. Parrish, *Limiting Abuse: Marine Protected Areas, a Limited Solution*, 31 ECOLOGICAL ECON. 287, 288 (1999).

12. *Id.*

13. Adam Cole-King, *Marine Protected Areas in Britain: A Conceptual Problem?*, 27 OCEAN & COASTAL MGMT 109, 118 (1995).

14. *Id.*

15. Schorr, *supra* note 5, at 674.

16. WORLD COMMISSION ON PROTECTED AREAS, *supra* note 10, at xvii.

17. *Id.* at 7.

18. Boersma & Parrish, *supra* note 11, at 288.

19. Tundi Agardy et al., *Dangerous Targets? Unresolved Issues and Ideological Clashes Around Marine Protected Areas*, 13 AQUATIC CONSERVATION: MARINE AND FRESHWATER ECOSYSTEMS 353, 356 (2003).

20. *See infra* Part II.

international jurisdictions.²¹ The broadest definition of MPAs will be used in this article, allowing for a more comprehensive review of the relevant legal instruments.

In practice, there are different types of MPAs, including those set up under customary tenure or managed on a voluntary basis. They may be governed by the private sector, local communities, collaborative management systems, or government agencies.²²

There are many international treaties and regulatory organizations that address marine conservation issues. However, many of them do not address area-based conservation or call for the designation of MPAs.²³ Thus, individual countries are responsible for designating MPAs, and the legal basis for MPAs governance lies within the nation.²⁴ However, several international instruments, both hard and soft law, have increasingly played an important role in influencing how countries adopt MPA-related legislation.²⁵ National MPA legislation will thus draw valuable lessons from these international instruments.

Research on national MPAs mostly focuses on developed countries, such as the United States, Australia, and Britain, with little focus on emerging nations, especially in Asia.²⁶ Asian countries offer rich examples of national MPAs. For example, Taiwan is an island state off the coast of mainland China. Most of the coastal areas are highly developed and densely populated.²⁷ China has a coastal line of 18,000 kilometers (km), stretching across three climatic zones: warm temperate, sub-tropical, and tropical.²⁸ Most of the Nation's highly developed cities are near coastal areas.²⁹ Consequently, the marine environment has an important environmental and economic influence over both countries. Years of economic development have caused severe marine environmental and biodiversity problems in

21. Charlotte Salpin & Valentina Germani, *Marine Protected Areas Beyond Areas of National Jurisdiction: What's Mine is Mine and What You Think is Yours is also Mine*, 19 REV. OF EUR. CMTY. & ENVTL. LAW 174, 179–80 (2010).

22. THE WORLD CONSERVATION UNION, *supra* note 10, at xix.

23. Boersma & Parrish, *supra* note 11, at 289.

24. *Id.*

25. Agardy, *supra* note 19, at 354.

26. See, e.g., Donald C. Bauer, W. Robert Irvin, & Darren R. Misenko, *Putting "Protection" into Marine Protected Areas*, 28 VT. L. REV. 497, 503, 565 (2004) (providing a comprehensive review of relevant U.S. legislation).

27. SONG ZHIWEN, *THE SUSTAINABLE CONTRIBUTION OF FISHERIES TO FOOD SECURITY IN CHINA* 78 (Leigh R. Kambhu & Charlotte M. Menasveta, eds., 2000).

28. Qun Liang, *Study of Marine Protected Areas in Australia and in China* (March 2009) (unpublished Master's thesis, University of New South Wales, Australian Defence Force Academy) (on file with University of New South Wales Library, University of New South Wales).

29. *Id.*

these two countries.³⁰ Both countries have used MPAs as a management tool to protect the marine environment.³¹

This article provides an introduction to MPA legislation in Taiwan and China. It also examines international rules and guidelines that may influence national MPA legislation. Last, the article will compare the MPA laws of both nations. Part I of this article will provide a general introduction to the concept of MPAs and will discuss relevant international instruments. Parts II and III will examine the national MPA-related laws in Taiwan and China. Part IV will provide a preliminary comparison between these two sets of national legislation. Part V will conclude the article.

I. RELEVANT INTERNATIONAL RULES AND GUIDELINES OF MARINE PROTECTED AREAS

MPAs first evolved as a result of national initiatives. They have since been slowly incorporated into the growing body of international instruments to ensure conservation of marine and coastal resources.³² Current international initiatives to increase the number and type of MPAs and to enhance their domestic, regional, and international priority status and management are not new. Momentum has been building towards the creation of more MPAs.³³ International initiatives that call for the establishment of MPAs can be categorized based on different standards of measurement. The legal status of these international initiatives can be categorized as non-binding action programs (soft law) or legally binding treaties (hard law).³⁴ These international initiatives are mainly categorized as marine pollution or overfishing and marine biodiversity.³⁵ These categorizations are not mutually exclusive. This Part will focus on legally binding treaties, followed by non-binding, but globally significant, instruments. These will cover both marine pollution and marine biodiversity conservation. The focus will be on international initiatives addressing national MPAs rather than those of international jurisdiction.

30. *Id.*

31. *Id.* at 3.

32. RODNEY V. SALM, JOHN R. CLARK & ERKKI SIIRILA, U.S. AGENCY FOR INT'L DEV., MARINE AND COASTAL PROTECTED AREAS: A GUIDE FOR PLANNERS AND MANAGERS 145 (3rd ed. 2000).

33. Alexander Gillespie, *Obligations, Gaps, and Priorities Within the International Regime for Protected Areas*, 19 GEO. INT'L ENVTL. L. REV. 1, 3 (2006).

34. SALM, CLARK & SIIRILA, *supra* note 32, at 145.

35. Craig, *supra* note 1, at 354, 359.

A. International Treaties

International treaties that provide a legal basis for establishing MPAs include those relating to marine pollution and biodiversity conservation.³⁶ While these treaties provide a legal basis for MPAs, hardly any of these treaties impose a legal obligation on signatories to establish MPAs.³⁷ However, they still provide important guidelines for the establishment and management of MPAs should signatories choose to use these instruments.

International treaties relating to marine pollution use MPA designation to protect environmentally or ecologically sensitive areas. These MPAs are established to preserve the environmental state of the area by prohibiting or restricting certain types of activities that might result in pollution from vessels in the area.³⁸ For example, under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), parties must establish international rules and standards to prevent, reduce, and control marine pollution from vessels.³⁹ The treaty permits coastal states to adopt “special mandatory measures” under certain circumstances to prevent marine vessel pollution.⁴⁰ This requires the approval of the International Maritime Organization (IMO), which permits coastal states to “adopt laws and regulations for the prevention, reduction and control of pollution from vessels . . . for special areas.”⁴¹ In addition, the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL Convention) provides similar regulations.⁴² Annex I to the MARPOL Convention, “Regulations for the Prevention of Pollution by Oil,” permits parties to designate some regions of the ocean as “special areas.”⁴³ These are generally areas so vulnerable to oil pollution that oil discharge is prohibited—with minor and well-defined exceptions.⁴⁴ These special areas are not national MPAs.

Most international treaties that recommend the use of MPAs—especially national MPAs—are concerned with marine biodiversity conservation. International treaties relating to marine biodiversity conservation include: UNCLOS, the Convention on Biological Diversity

36. *Id.* at 357.

37. *Id.*

38. *Id.* at 354.

39. United Nations Convention on the Law of the Sea, art. 211.1, Dec. 10, 1982, 1833 U.N.T.S. 3 [hereinafter UNCLOS].

40. *Id.* at art. 211.6(a).

41. *Id.*

42. Craig, *supra* note 1, at 356.

43. *Id.* at 357.

44. *Id.*

(CBD), the Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), and the Convention on Wetlands of International Important (RAMSAR Convention).⁴⁵

UNCLOS provides that states are obligated to “protect and preserve the marine environment, . . . [and] shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source.”⁴⁶ Some scholars believe that UNCLOS gives coastal states an international legal basis for establishing MPAs.⁴⁷ However, provisions within UNCLOS itself do not actually mention MPAs. In comparison, legal mandates to create MPAs under international treaties, such as the CBD, the World Heritage Convention, and the RAMSAR Convention, protect biodiversity in a wider context.

The CBD was adopted at the 1992 UN Conference on the Environment and Development (the Earth Summit) and came into effect on December 29, 1993.⁴⁸ The CBD encourages parties to adopt *ex-situ* and *in-situ* conservation measures to protect biodiversity resources.⁴⁹ Article 8 on *in-situ* conservation provides that parties can “establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity.” The treaty also provides that parties may “develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity.”⁵⁰ Article 2 defines a protected area as: “[A] geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.”⁵¹ The treaty provisions in the CBD do not specifically examine marine or terrestrial ecosystems or biodiversity.⁵² But the so-called “Jakarta Mandate,” adopted at the Second Session of the Conference of the Parties (COP 2) in 1995, outlined a program of action for implementing the CBD with respect to

45. *Id.* at 354.

46. UNCLOS, *supra* note 39, at art. 191.1, 192.

47. SALM, CLARK & SIIRILA, *supra* note 32, at 146.

48. *See generally* United Nation Convention on Biological Diversity, June 5, 1993, 1760 U.N.T.S. 79.

49. *Id.* at art. 8–9.

50. *Id.* at art. 8(a), (b).

51. *Id.* at art. 2.

52. *See generally* Convention on Biological Diversity, *supra* note 48 (providing a general overview of biological diversity under the Convention without addressing marine or terrestrial biodiversity specifically).

marine and coastal biodiversity.⁵³ One of the five areas identified in the Jakarta Mandate is the establishment of marine and coastal protected areas.⁵⁴ In 2004, COP 7 adopted another decision relating to marine and coastal biodiversity that recognized the importance of MPAs.⁵⁵ The parties noted the contributions of MPAs in protecting biodiversity, which include using components of biodiversity sustainably, managing conflict, enhancing economic well-being and improving the quality of life.⁵⁶ The parties also noted that the number of MPAs are increasing, but that some of the MPAs are ineffective due to management problems and the fact that marine and coastal ecosystems are severely underrepresented as protected areas.⁵⁷ This 2004 COP decision also added the Program of Work on Marine and Coastal Biological Diversity, which recommends MPAs.⁵⁸

The 1972 World Heritage Convention, set up under the auspices of the United Nations Educational, Scientific, and Cultural Organization (UNESCO), came into force on December 17, 1975 and aims to protect “cultural or natural heritage of outstanding universal value.”⁵⁹ UNESCO requires its parties to identify and designate potential sites in order to protect and preserve them.⁶⁰ Article 2 of the Convention defines natural heritage as one of the following:

(1) natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; (2) geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; or, (3) natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.⁶¹

53. *COP 2 Decision 11/10: Conservation and Sustainable Use of Marine and Coastal Biological Diversity*, CONVENTION ON BIOLOGICAL DIVERSITY, available at <http://www.cbd.int/decision/cop/?id=7083>.

54. SALM, CLARK & SIIRILA, *supra* note 32 at 147–48.

55. *COP 7 Decision VII/5: Marine and Coastal Biological Diversity*, CONVENTION ON BIOLOGICAL DIVERSITY, available at <http://www.cbd.int/decision/cop/?id=7742>.

56. *Id.*

57. *Id.* ¶¶ 12–14.

58. *Id.* at Annex 1, Programme Element 3.

59. United Nations Educational, Science and Cultural Organisation [UNESCO], Convention Concerning the Protection of the World Culture and Natural Heritage 1, Nov. 16, 1972, 1037 U.N.T.S. 151 [hereinafter World Heritage Convention].

60. *Id.* at art. 4.

61. *Id.* at art. 2.

The Convention does not specifically mention marine sites, but parties have “designated a number of marine sites as World Heritage Sites, including the Great Barrier Reef in Australia and the Galapagos Islands in Ecuador.”⁶² Thus, the World Heritage Convention can also be regarded as an international treaty that uses MPAs as tools to protect the marine environment.⁶³ However, it does not impose an absolute obligation on its parties.⁶⁴ Under the Convention, parties recognize the duty to conserve and protect UNESCO designated sites for future generations. To this end, parties are expected to expend the utmost of their own resources and, where appropriate, draw from international assistance and cooperation.⁶⁵ International resources include, in particular, any “financial, artistic, scientific, and technical assistance, which it may be able to obtain.”⁶⁶ This duty depends on the parties’ own resources and available international assistance.⁶⁷ Furthermore, parties are entrusted to adopt their own measures.⁶⁸ The Convention itself does not provide any guidelines in this regard. The World Heritage Committee selects sites nominated by the parties to be placed on the World Heritage List.⁶⁹ The Committee adopts criteria for the identification of sites with “outstanding universal value.”⁷⁰ Outstanding universal value is defined as “cultural and/or natural significance . . . so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity.”⁷¹ These criteria determine the global or international significance of the sites. As of the mid-1990s, there were 108 natural World

62. Craig, *supra* note 1, at 361.

63. SALM, CLARK & SIIRILA, *supra* note 32, at 145.

64. See World Heritage Convention, *supra* note 59, at art. 11 (“Every State Party to this Convention shall, *in so far as possible*, submit to the World Heritage Committee an inventory of property forming part of the cultural and natural heritage, situated in its territory and suitable for inclusion in the list provided for in paragraph 2 of this Article.” (emphasis added)).

65. *Id.* at art. 4.

66. *Id.*

67. *Id.* at art. 13.4, 21.1.

68. *Id.* at art. 28.

69. *Id.*

70. *Id.* at art. 11.2.

71. Intergovernmental Comm. for the Prot. of the World Cultural and Natural Heritage, *Operational Guidelines for the Implementation of the World Heritage Convention*, art. 2, ¶ 49, WHC. 08/01 (Jan. 2008), available at <http://whc.unesco.org/archive/opguide08-en.pdf>.

Heritage Sites.⁷² Of these, there are fourteen marine and seventeen coastal sites.⁷³

Last but not least, the 1971 RAMSAR Convention, which came into force in 1975, aims for the conservation and wise use of all types of wetlands.⁷⁴ The definition of “wetland,” as provided for in Article 1 includes “areas of marine water the depth of which at low tide does not exceed six meters.”⁷⁵ These include coastal areas, shallow seas, and shallow coral reefs.⁷⁶ Buffer zones may include marine areas of greater depth.⁷⁷ The RAMSAR Convention primarily focuses on wetlands that are important for migratory waterfowl.⁷⁸ The parties are expected, under Article 2.1, to designate at least one wetland to be on the List of Wetlands of International Importance (the List).⁷⁹ Article 4.1 also provides that, “[e]ach Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wardening.”⁸⁰ It is debatable whether Article 4.1 provides a legal basis for the RAMSAR Convention to impose an obligation to designate “nature reserves,” one type of MPA, as a conservation tool. Parties are obligated under this Article to “promote the conservation of wetlands and waterfowl.”⁸¹ It is unclear whether establishing nature reserves on wetlands is the only tool to comply with this obligation. The provision states that this compliance tool applies “whether they are included in the List or not.”⁸² Article 2.1 does not require that wetlands designated and included in the List must be established as a “nature reserve.”⁸³ If the compliance tool for designating wetlands to be included in the List does not exclude other possibilities, it seems that Article 4.1 allows measures other than “establishing nature reserves on wetlands” to comply, and thereby “promote[s] the conservation of wetlands

72. GREAT BARRIER REEF MARINE PARK AUTHORITY ET AL., A GLOBAL REPRESENTATIVE SYSTEM OF MARINE PROTECTED AREAS 9 (Graeme Kelleher et al. eds., 1 vol. 1995) [hereinafter MARINE PARK AUTHORITY].

73. *Id.*

74. Ramsar Convention Secretariat, *The Ramsar Convention Manual: A Guide to the Convention on Wetlands*, 6, 21 (5th ed., 2011), available at <http://www.ramsar.org/pdf/lib/manual5-2011-e.pdf>.

75. *Id.* at 76.

76. *Id.* at 7.

77. MARINE PARK AUTHORITY, *supra* note 72, at 9.

78. Ramsar Convention Secretariat, *supra* note 74, at 59–61.

79. *Id.* at 76.

80. *Id.* at 77.

81. *Id.*

82. *Id.*

83. *Id.* at 76.

and waterfowl.”⁸⁴ With regard to management, Article 3 states that parties “shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory.”⁸⁵ Article 4.4 also requires parties to manage waterfowl populations on appropriate wetlands.⁸⁶ Article 6.2 further instructs the Conference of the Contracting Parties (COP) to “make general or specific recommendations to the Contracting Parties regarding the conservation, management, and wise use of wetlands and their flora and fauna.”⁸⁷ The COP adopted guidelines for implementing the RAMSAR Convention.⁸⁸ They include, among others, identifying wetlands of international importance, management planning for RAMSAR sites and other wetlands, laws and institutions to promote conservation and wise use of wetlands, and conceptual frameworks for the wise use of wetlands.⁸⁹ Guidelines adopted by the COP provide valuable instructions for their designation and management. These are only applicable to those types of MPAs that are designated for the protection of wetlands.

B. International Non-Binding Instruments

International non-binding instruments also include those relating to marine pollution and biodiversity conservation. Although these are non-binding in nature, they still provide countries with valuable guidelines for the establishment and management of domestic MPAs regimes.

International non-binding instruments relating to marine pollution also use MPA designation as a tool to protect environmentally or ecologically sensitive areas. For example, UNCLOS and the MARPOL Convention established “special areas.”⁹⁰ The IMO adopted a similar concept and established several guidelines for “Areas to be Avoided” and “Particularly Sensitive Sea Areas.”⁹¹ The revised “Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas” was adopted by the IMO Assembly at its 24th session in November/December 2005 (Resolution

84. *Id.* at 77.

85. *Id.*

86. *Id.*

87. *Id.* at 78.

88. *The Guidelines adopted by the Conference of the Contracting Parties, THE RAMSAR CONVENTION ON WETLANDS*, http://www.ramsar.org/cda/en/ramsar-documents-guidelines/main/ramsar/1-31-105_4000_0_ (last visited Dec. 2, 2012).

89. *Id.*

90. *Special Areas Under MARPOL*, INTERNATIONAL MARITIME ORGANIZATION <http://www.imo.org/OurWork/Environment/PollutionPrevention/SpecialAreasUnderMARPOL/Pages/Default.aspx> (last visited Oct. 22, 2012); UNCLOS, *supra* note 39, at 6(a).

91. MARINE PARK AUTHORITY, *supra* note 72, at 10.

A.982(24)). A “Particularly Sensitive Sea Area” is “an area that needs special protection through action by IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities.”⁹² A “Particularly Sensitive Sea Area” can be protected by a designation as an “area to be avoided,” through ship-routing measures.⁹³ An “area to be avoided” is an area with defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid marine casualties.⁹⁴ Currently there are thirteen “areas to be avoided”.⁹⁵ The IMO may only recommend regulations.⁹⁶ The primary rule-making mechanism for the IMO is through its Conventions, such as the MARPOL Convention.⁹⁷ Members of the IMO, therefore, are not obliged to designate such areas. The IMO Assembly adopted a proposal to designate specific measures for its members. Members are advised to apply routing measures, strict application of MARPOL discharge and equipment requirements for ships, and control maritime activities in such areas.⁹⁸ Similar to the system of “special areas,” the “particularly sensitive areas” and “areas to be avoided” are established to preserve the environmental state of an area by restricting certain types of maritime activities that might result in pollution.

Most of the international non-binding instruments that recommend using MPAs as a management tool relate to marine biodiversity conservation, especially national MPAs.⁹⁹ Some examples are UNESCO’s Man and Biosphere Programme and Agenda 21.

UNESCO’s Man and Biosphere Programme (MAB), launched in the early 1970s, is an intergovernmental scientific program. It aims to “set a scientific basis for the improvement of the relationships between people and their environment globally.”¹⁰⁰ Sub-programs and activities focus on specific ecosystems such as the “marine, island and coastal ecosystems.”¹⁰¹ Several activities are undertaken by this sub-program, such as the

92. *Particularly Sensitive Sea Areas*, INTERNATIONAL MARITIME ORGANIZATION, <http://www.imo.org/OurWork/Environment/PollutionPrevention/PSSAs/Pages/Default.aspx> (last visited Dec. 4, 2012).

93. *Id.*

94. *Id.*

95. *Id.*

96. Rebecca Becker, *MARPOL 73/78: An Overview in International Environmental Enforcement*, 10 GEO. INT’L ENVTL. L. REV. 625, 627 (1997–98).

97. *Id.*

98. *Particularly Sensitive Sea Areas*, *supra* note 92.

99. Agardy et al., *supra* note 19, at 354.

100. *Man and Biosphere Programme*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme> (last visited Dec. 4, 2012).

101. *Id.*

“[r]egional seas partnership on marine and coastal protected areas.”¹⁰² This is a joint UNESCO-UNEP Regional Seas-CBD partnership that aims to “coordinate information related to marine and coastal protected areas in UN and other international processes.”¹⁰³ Under MAB, “biosphere reserves are sites established by countries recognized . . . to promote sustainable development based on local community efforts and sound science.”¹⁰⁴ Biosphere reserves are defined as “areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO’s Programme on Man and the Biosphere.”¹⁰⁵ Criteria for designation include “representativeness, diversity, naturalness and effectiveness as a conservation unit.”¹⁰⁶ Secondary criteria include “knowledge of the history of the area, presences of rare or endangered species, and value of the site for education and research.”¹⁰⁷ Biosphere reserves are divided into three main zones: core areas (for conservation, monitoring, and non-destructive research), buffer zones surrounding or adjoining core areas (for activities compatible with sound ecological practices), and transition areas (for activities where stakeholders work together to sustainably manage the area’s resources).¹⁰⁸ This would constitute a multi-use MPA. Biosphere reserves were originally designed for terrestrial ecosystems, but the concept has been extended to marine areas, particularly in coastal regions.¹⁰⁹ The World Network of Biosphere Reserves within the MAB primarily promotes international cooperation through “sharing knowledge, exchanging experiences, building capacity and promoting best practices.”¹¹⁰ Designated biosphere reserves remain

102. *Id.*

103. *Marine, Coastal, and Island Areas*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/specific-ecosystems/island-and-coastal-areas> (last visited Dec. 4, 2012).

104. *Biosphere Reserves—Learning Sites for Sustainable Development*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/> (last visited Dec. 4, 2012).

105. *Statutory Framework of the World Network of Biosphere Reserves*, UNESCO, art. 1, <http://sovereignty.net/p/land/mab-stat.htm> (last visited Dec. 4, 2012).

106. MARINE PARK AUTHORITY, *supra* note 72, at 10.

107. *Id.*

108. *What is a Biosphere Reserve?*, UNESCO, <http://www.unesco.org/mab/doc/faq/brs.pdf>.

109. SALM, CLARK & SIIRILA, *supra* note 32, at 150.

110. *World Network of Biosphere Reserves*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr> (last visited Dec. 4, 2012).

under national jurisdiction, which requires national governments to manage them.¹¹¹

Agenda 21, adopted at the 1992 Rio Summit, is an important soft-law instrument that provides a comprehensive set of program actions to guide international societies and national governments in enacting and implementing strategies that promote sustainable development. Chapter 17 of Agenda 21 is devoted to the protection of the marine environment.¹¹² It contains seven program areas, two of which identify management tools to implement the program areas.¹¹³ Program Area A is “[i]ntegrated management and sustainable development of coastal and marine areas, including exclusive economic zones.”¹¹⁴ Paragraph 17.7 suggests that coastal states should “undertake measures to maintain biological diversity and productivity of marine species and habitats under national jurisdiction. Inter alia, these measures might include: . . . establishment and management of protected area.”¹¹⁵ Program Area D, “[s]ustainable use and conservation of marine living resources under national jurisdiction,” advises states to “identify marine ecosystems exhibiting high levels of biodiversity and productivity and other critical habitat areas and should provide necessary limitations on use in these areas, through, inter alia, designation of protected areas.”¹¹⁶ Additionally, “priority should be accorded, as appropriate, to: (a) coral reef ecosystems, (b) estuaries, (c) temperate and tropical wetlands, including mangroves, (d) seagrass beds, and (e) other spawning and nursery areas.”¹¹⁷

C. Summary

As demonstrated, a variety of instruments, both binding and non-binding, exist that emphasize the important role MPAs play in preventing marine pollution and conserving the marine environment and its biodiversity. None of these instruments impose an obligation on the parties to use MPAs, nor do these instruments establish specific rules or criteria for designating and managing national MPAs. Where such guidelines exist, they are advisory in nature. National governments have great flexibility in

111. *Ecological Sciences for Sustainable Development*, UNESCO, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves> (last visited Nov. 29, 2012).

112. U.N. Econ. and Social Dev., Div. of Sustainable Dev., Agenda 21, § II ¶ 17.1 (June 1992).

113. *Id.*

114. *Id.*

115. *Id.* ¶ 17.7.

116. *Id.*

117. *Id.* ¶ 17.85.

designating and managing their own MPAs according to their own laws, rather than following international rules. Various regional arrangements, treaties,¹¹⁸ and authoritative guidelines published by influential NGOs (such as the IUCN),¹¹⁹ have also recognized the importance of MPAs. These documents provide case studies and detailed guidelines to design and implement national legislation concerning MPAs.¹²⁰ Despite the lack of an international obligation to create MPAs, the importance of MPAs as an effective management tool has not diminished. This lack of obligation provides ample space for governments to design their own national MPA legislation according to the local environment, socio-economics, and legal structures, while drawing valuable inputs from various international guidelines. In other words, national legislation is still the most direct legal instrument to designate and manage MPAs.

II. MARINE PROTECTED AREA LEGISLATION IN TAIWAN

Taiwan does not have a specific MPA law. MPAs are instead designated under existing terrestrial-based Protected Areas (PA) or fishery-related laws. PA laws include: the National Park Law, the Cultural Heritage Preservation Law, the Wildlife Conservation Law, the Fisheries Act, and the Act for the Development of Tourism. The following sections introduce national MPA laws in Taiwan and China, both of which are deeply influenced by their surrounding marine environment.

A. *The National Park Law*

The National Park Law was enacted in 1972 and amended in 2010.¹²¹ The National Park Law establishes national parks and, according to Article 1, preserves “the nation's unique natural scenery, wild fauna and flora and historic sites and [provides] public recreation and areas for scientific research.”¹²² A national park is defined in Article 8 of the National Park Law as: “An area demarcated by the competent authority in accordance with the Law to conserve the unique landscapes and ecological systems in

118. Craig, *supra* note 1, at 368–69; MARINE PARK AUTHORITY, *supra* note 72, at 11.

119. See WORLD COMMISSION ON PROTECTED AREAS, *supra* note 10.

120. *Id.* (showing key elements in the design and management of an MPA, such as the supporting legal framework, selection, planning and management of MPAs, and financial aspects are provided in the IUCN's publication on MPAs).

121. Guojia Gongyuan Fa (國家公園法) [National Park Act] (promulgated on June 2, 1972, amended Dec. 8, 2010), available at <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=D0070105> (Taiwan).

122. *Id.*

the country on a sustainable basis, as well as to preserve the biodiversity and cultural diversity thereof and provide resources for recreation and research activities of the public.”¹²³

According to Article 6, two of the three criteria for selecting national parks are: “1. [a]reas having unique landscapes, significant ecological systems, or habitats with 2. biodiversity that are representative of the natural heritage of the nation.”¹²⁴ The National Park Law includes both terrestrial and marine ecological systems. Article 4 establishes a National Planning Commission under the Ministry of Interior “to designate, alter or abolish areas for national parks” and to review national park management plans.¹²⁵ The Construction and Planning Bureau within the Ministry of Interior is the lead agency that handles all national park-related affairs.¹²⁶ Headquarters of individual national parks deal with the day-to-day park management.¹²⁷ According to Article 12, national parks contain multiple zones that are subject to different regulations.¹²⁸ There are five different zones: the existing use area, the recreation area, the cultural/historical area, the scenic area, and the ecological protected area.¹²⁹ Article 13 lists several activities that are prohibited within national parks.¹³⁰ Articles 14–20 prescribe different activities that may be undertaken subject to prior permission from the relevant government agencies.¹³¹ The ecological protected areas are most restricted.¹³²

There are currently eight national parks designated and managed by the Construction and Planning Bureau.¹³³ Three national parks cover both terrestrial and marine areas. One of the eight is exclusively an MPA. The Kenting National Park, established in 1984, is situated on the southern tip of Taiwan.¹³⁴ It covers both terrestrial and marine/coastal areas, mostly

123. *Id.* at art. 8.

124. *Id.* at art. 6.

125. *Id.* at art. 4.

126. NAT’L PARKS OF TAIWAN, http://np.cpami.gov.tw/english/index.php?option=com_content&view=frontpage&Itemid=88 (last visited Dec. 4, 2012).

127. *Id.*

128. Guojia Gongyuan Fa (國家公園法) [National Park Act] (promulgated on June 2, 1972, amended Dec. 8, 2010), art. 12, available at <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=D0070105> (Taiwan).

129. *Id.* at art. 13.

130. *Id.* at art. 14–20.

131. *Id.* at art. 18–20.

132. *About the Parks: National Parks of Taiwan: Dongsha*, NAT’L PARKS OF TAIWAN, (July 27, 2009) http://np.cpami.gov.tw/english/index.php?option=com_content&view=article&id=2392&Itemid=159.

133. *Id.*

134. KENTING NAT’L PARK, <http://www.ktnp.gov.tw/eng/index.aspx> (last updated June 3, 2011).

coral reef.¹³⁵ The total area of the park is 33,269 hectares, with a coastal area of 15,185 hectares.¹³⁶ The Taijiang National Park is situated in the southwest of Taiwan.¹³⁷ It is the newest national park, established in 2009.¹³⁸ It covers terrestrial and marine/coastal areas, but mostly wetlands.¹³⁹ The total area of the park is 39,310 hectares, with a marine and coastal area of 34,405 hectares.¹⁴⁰ The Dongsha Atoll National Park, established in 2007, is located in the South China Sea between Hong Kong, Taiwan, and Luzon Island.¹⁴¹ It is not only the largest national park in Taiwan, but also the first national MPA established under the National Park Law.¹⁴² The atoll is formed mainly by coral reef and the Dongsha Island is the only reef island above the sea surface in the Dongsha Atoll.¹⁴³ The Marine Protected Area Headquarters, established in 2007, is responsible for the management of this MPA.¹⁴⁴ The total area of this MPA is 353,658 hectares, with a marine area of 353,494 hectares.¹⁴⁵

The total marine area covered by these three national parks accounts for approximately 6.2% of Taiwan's territorial sea.¹⁴⁶ In comparison, the total terrestrial area covered by all national parks accounts for 8.64% of Taiwan's land area.¹⁴⁷ The National Park Law can be used to designate and manage MPAs based on a multi-use/zoning model. Article 13 proscribes "hunting animals or catching fish" in a national park.¹⁴⁸ Legal problems may arise in a multi-use MPA where a designated zone (for example, an "ecological protected area") prohibits fishing while other parts of the MPA do not have the same restriction. Such zoning may undermine Article 13. This is one complication of applying terrestrial-based MPA laws to marine areas.

135. *Id.*

136. *Id.*

137. *About Taijiang*, TAIJIANG NAT'L PARK (APR. 23, 2010), http://www.tjnp.gov.tw/english/index.php?option=com_content&view=article&id=128&Itemid=72.

138. *Id.*

139. *Id.*

140. *Id.*

141. *About Us: Words From Director*, MARINE NAT'L PARK HEADQUARTERS, http://marine.cpami.gov.tw/english/index.php?option=com_content&view=article&id=160&Itemid=70 (last updated Oct. 24, 2012).

142. *Id.*

143. *About the Parks*, *supra* note 132.

144. *Id.*

145. *Id.*

146. NATIONAL PARKS OF TAIWAN, *supra* note 126.

147. *Id.*

148. *Id.*

B. The Cultural Heritage Preservation Act

The Cultural Heritage Preservation Act was enacted in 1982, and was most recently amended in 2005.¹⁴⁹ Article 1 states that the purpose of the Act is to “preserve and enhance cultural heritage, enrich the spiritual life of the citizenry, and promote the multi-cultural environment.”¹⁵⁰ The “cultural heritage,” according to Article 3, refers to seven types of “designated or registered assets having historic, cultural, artistic and/or scientific value.”¹⁵¹ One such asset is the “Natural Landscape[],” which refers to “[n]atural areas, land formations, plants, or minerals, which are of value in preserving natural environments.”¹⁵² According to Article 76, “Natural Landscapes” can be categorized either as “Natural Reserves or Natural Commemoratives in accordance with their respective characteristics. Natural Commemoratives include plants and minerals which are valuable and rare.”¹⁵³ The competent authority to designate and manage “Natural Landscapes” is the Council of Agriculture (COA).¹⁵⁴ The Forestry Bureau is the lead agency to handle affairs related to the “Natural Landscapes.”¹⁵⁵ Article 83 stipulates that the rare plants and minerals in the designated “Natural Commemoratives” may not be “destroyed by picking or plucking, chopping or felling, or by any other means.”¹⁵⁶ Furthermore, “in order to maintain the natural status of Natural Reserves,” Article 84 provides that “[a]ny alteration or damage to the original natural status of Natural Reserves shall be prohibited.”¹⁵⁷ Article 84 also states that “no person shall enter the designated area except with permission granted by the competent authority.”¹⁵⁸

The “Natural Reserves” designated under the Cultural Heritage Preservation Act are not limited to terrestrial areas. They also cover marine and coastal areas. There are currently twenty “Natural Reserves” in Taiwan.

149. Wenhua Zichan Baocun Fa (文化資產保存法) [Cultural Heritage Preservation Act] (promulgated by the Ministry of Culture, May 26, 1982, effective May 26, 1982), available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=H0170001>.

150. *Id.* at art. 1.

151. *Id.* at art. 3.

152. *Id.*

153. *Id.* at art. 76.

154. *Id.* at art. 4.

155. FORESTRY BUREAU, <http://conservation.forest.gov.tw/mp.asp?mp=11> (last visited Dec. 4, 2012).

156. Wenhua Zichan Baocun Fa (文化資產保存法) [Cultural Heritage Preservation Act] (promulgated by the Ministry of Culture, May 26, 1982, effective May 26, 1982), art. 83, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=H0170001>.

157. *Id.* at art. 84.

158. *Id.*

Only three cover coastal areas and they protect mainly coral reef, mangrove, and special coastal areas.¹⁵⁹ Furthermore, although the Cultural Heritage Preservation Act does not exclude the possibility of designating MPAs as “Natural Reserves” or marine resources as “Natural Commemoratives”, the provisions of the Act seem insufficient. The Act lacks an adequate legal basis for MPA protection and management, especially multi-use management models. The main purpose of the Act is to preserve cultural heritage. Most of the protection measures are directed at imposing prohibitions or restrictions on activities that result in the destruction or changes to the protected areas. For example, “Natural Commemoratives”, including rare plants, cannot be destroyed.¹⁶⁰ Additionally, “Natural Reserves” shall not be damaged or destroyed. It seems that MPAs designated under the legal authority of the Cultural Heritage Preservation Act are similar to marine reserves where any type of activity is prohibited.

C. *The Wildlife Conservation Act*

The Wildlife Conservation Act (WCA) was enacted in 1989 with a major revision in 1994.¹⁶¹ The revision came after the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) condemned Taiwan for its inadequate protection of endangered species.¹⁶² Taiwan was threatened with trade sanctions.¹⁶³ The WCA was most recently amended in 2013.¹⁶⁴ The main purpose of the Act, according to Article 1, is to “conserve wildlife, protect species diversity and maintain the balance of natural ecosystems.”¹⁶⁵ To accomplish this goal, the Act aims to protect the habitats of endangered species by designating “Wildlife Refuges” and

159. *Nature Reserves, FORESTRY BUREAU*, <http://conservation.forest.gov.tw/lp.asp?ctNode=725&CtUnit=601&BaseDSD=7&mp=11> (last visited Dec. 4, 2012).

160. Wenhua Zichan Baocun Fa (文化資產保存法) [Cultural Heritage Preservation Act] (promulgated by the Ministry of Culture, May 26, 1982, effective May 26, 1982), art. 83, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=H0170001> (Taiwan).

161. Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July 8, 2009), available at http://eng.coa.gov.tw/content_view.php?catid=9005&hot_new=8870 (Taiwan).

162. Wen-chen Shih, *Taiwan's International Environmental Policy: Balancing Trade and the Environment*, in CONFRONTING ENVIRONMENTAL CHANGE IN EAST & SOUTHEAST ASIA: ECO-POLITICS, FOREIGN POLICY, AND SUSTAINABLE DEVELOPMENT 119, 122 (Paul Harris ed., 2005).

163. *Id.*; see Wen-Chen Shih, *Multilateralism and the Case of Taiwan in the Trade Environment Nexus*, 30 J. of World Trade 109 (1996).

164. Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July Jan. 23, 2013), available at <http://www.forest.gov.tw/ct.asp?xItem=22558&CtNode=1872&mp=3>. (Taiwan).

165. *Id.* at art. 1.

“Major Wildlife Habitats.”¹⁶⁶ The competent authority is the COA, with the Forestry Bureau acting as the lead agency.¹⁶⁷ Article 5 established the “Wildlife Conservation Advisory Committee,” to assist with wildlife conservation affairs.¹⁶⁸ The Committee is comprised of “[a]cademic experts, private conservation organization members, aborigines and other non-governmental representatives,” and various governmental agencies.¹⁶⁹

Major Wildlife Habitat is defined in the Enforcement Rules of the Wildlife Conservation Act (Enforcement Rules).¹⁷⁰ Article 5 of the Enforcement Rules defines a Major Wildlife Habitat as either “1. [w]ildlife habitats of [p]rotected [s]pecies; 2. [w]ildlife habitats of high species diversity and quantity; 3. [w]ildlife habitats with little human interference and difficult to recover once damaged; and 4. [o]ther wildlife habitats with special ecological characteristics.”¹⁷¹ Article 5 of the Enforcement Rules also classifies Major Wildlife Habitats. Major Wildlife Habitats are classified into ten categories including marine ecosystem.¹⁷² Therefore, the Wildlife Conservation Act may be used as a legal basis to designate MPAs. According to Article 8 of the Act, various activities in the Major Wildlife Habitat are either prohibited or required to obtain prior permission from the relevant agencies.¹⁷³ The COA determines the type and area of Major Wildlife Habitats as well as any changes in designation. According to Article 10, “[l]ocal authorities may establish Wildlife Refuges for major wildlife habitats with special conservation needs, as well as formulate and carry out conservation plans in those areas.”¹⁷⁴ Before a Wildlife Refuge can be established, modified, or cancelled, there must be an on-site public hearing about the plan and the opinions of local residents must be taken into consideration.¹⁷⁵ The plan to establish a Wildlife Refuge has to be submitted to the COA, approved by the Wildlife Conservation Advisory Committee, and publicly announced by the COA.¹⁷⁶ When needed, or in cases of

166. *Id.* at art. 10.

167. *Id.* at art. 2.

168. *Id.* art. 5.

169. *Id.*

170. Yesheng Dongwu Baoyu Fa Shixing Xize (野生動物保育法施行細則) [Enforcement Rules of the Wildlife Conservation Act] (promulgated March 31, 1990, amended August 8, 2005), available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=M0120002> (Taiwan).

171. *Id.* at art. 5.

172. *Id.*

173. Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July 8, 2009), art. 8, available at http://eng.coa.gov.tw/content_view.php?catid=9005&hot_new=8870 (Taiwan).

174. *Id.* at art. 10.

175. *Id.*

176. *Id.*

emergency, the COA may also designate or modify Wildlife Refuges after obtaining approval from the Wildlife Conservation Advisory Committee.¹⁷⁷

There are currently seventeen Wildlife Refuges¹⁷⁸ and thirty-four Major Wildlife Habitats.¹⁷⁹ Eight of the seventeen Wildlife Refuges cover marine and coastal areas. Their primary purpose is protecting endangered sea turtles, migratory birds, seabirds, and wetland birds.¹⁸⁰ Four of the thirty-four Major Wildlife Habitats cover marine areas, mostly in coastal areas.¹⁸¹ The marine area covered by Wildlife Refuges is less than two percent of the total Wildlife Refuges area while the percentage of Major Wildlife Habitats is even lower at 0.09%.¹⁸²

Although the WCA can be applied as a legal base to establish MPAs, some of the provisions of this Act seem inadequate to be used to manage MPAs. In addition to laying down specific protection measures for endangered species, the Act also contains provisions for habitat protection by restricting certain activities in Wildlife Refuges and Major Wildlife Habitats. These activities are mostly related to the use of land. For example, Article 8 states that “[a]ny construction and land use in Major Wildlife Habitats should be carried out in ways and areas which least affects the habitat, and the original ecological functions of the habitat should not be harmed.”¹⁸³ There are a few provisions that might apply to MPAs. For example, under Article 8 an individual must apply to the local authorities and get approval from the COA to engage in certain activities within the Major Wildlife Habitats.¹⁸⁴ These activities may include any fishery, forestry, mine exploration, and other similar land uses.¹⁸⁵ Article 10 also states that once a Wildlife Refuge is legally designated under the Act, the competent authorities may, in the conservation plan, announce several

177. *Id.*

178. *List of Protected Areas*, FORESTRY BUREAU, <http://conservation.forest.gov.tw/lp.asp?ctNode=724&CtUnit=436&BaseDSD=7&mp=11> (last updated Mar. 23, 2010).

179. *Id.*

180. *Wildlife Refuges*, FORESTRY BUREAU, <http://conservation.forest.gov.tw/lp.asp?ctNode=726&CtUnit=438&BaseDSD=7&mp=11> (last visited Dec. 4, 2012).

181. *Major Wildlife Habitats*, FORESTRY BUREAU, <http://conservation.forest.gov.tw/lp.asp?ctNode=727&CtUnit=603&BaseDSD=7&mp=11> (last visited Dec. 4, 2012).

182. *Id.*; *List of Protected Areas*, *supra* note 178.

183. Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July 8, 2009), art. 8, *available at* http://eng.coa.gov.tw/content_view.php?catid=9005&hot_new=8870 (Taiwan).

184. *Id.*

185. *Id.*

restrictive measures.¹⁸⁶ One such measure is “[p]ollution or destruction of the environment.”¹⁸⁷ This can be used in the context of an MPA to impose an obligation not to pollute or destruct the marine environment.

The Fisheries Agency of the COA regulates fisheries. The Environmental Protection Administration regulates marine pollution. It may be difficult for the local authorities and the COA to apply these provisions without prior coordination with government agencies. Furthermore, the provisions of the Wildlife Conservation Act may categorize MPAs as marine reserves. This is because any activity that may “[d]isturb[], abuse, hunt[] or kill[]” wildlife in the Refuge is prohibited.¹⁸⁸ Establishing fisheries in the Major Wildlife Habitats requires application to and approval from the local authority and the COA.¹⁸⁹

Article 12 of the Enforcement Rules authorizes the local authorities to divide the Wildlife Refuge into three different zones: “Central Zones, Buffer Zones and Sustainable Utilization Zones. Conservation plans for Wildlife Refuges shall be drafted accordingly.”¹⁹⁰ Hunting or killing wildlife is only prohibited in the Central Zones.¹⁹¹ The Enforcement Rules do not exclude the possibility of managing MPAs designated as Wildlife Refuges on a multi-use basis. This appears to contradict the Act itself. The marine area designated under this Act is quite small and the problems caused by these conflicting rules have not caused too much trouble. It is possible that if a major Wildlife Refuge that covers a substantial marine area is designated in the future, then this legal problem might affect the management of the MPA.

D. Fisheries Act

The Fisheries Act was first enacted in 1929 and the most recent amendment came in 2008.¹⁹² As expressed in Article 1, the purposes of the Act are “to conserve and rationally utilize aquatic resources, to increase fisheries productivity, to promote sound fisheries development, to guide and

186. *Id.* at art. 10.

187. *Id.*

188. *Id.*

189. *Id.* at art. 8.

190. Yesheng Dongwu Baoyu Fa Shixing Xize (野生動物保育法施行細則) [Enforcement Rules of the Wildlife Conservation Act] (promulgated March 31, 1990, amended August 8, 2005), art. 12, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=M0120002> (Taiwan).

191. *Id.*

192. Fagui Mingcheng (法規名稱) [The Fisheries Act] (promulgated by The Nationalist Gov’t, Nov. 11, 1929, effective July 1, 1930), available at <http://www.fg.gov.tw/en/LegalsActs/content.aspx?id=1&chk=F8CA5D8C-49DB-46B5-9839-43D955E36275¶m=> (Taiwan).

assist the recreational fishery, to maintain order of the fisheries, and to improve the living of fishermen.”¹⁹³ The COA is the competent authority at the central level and the Fisheries Agency within the COA is the lead agency in charge of the relevant affairs.¹⁹⁴ Article 6 requires that any person intending to undertake fishing operations in “the public waters or non-public waters adjacent thereto needs to apply and obtain a fishing license from the competent authority.”¹⁹⁵ The Fisheries Act regulates several types of fishing operations including fishing rights,¹⁹⁶ directed fisheries,¹⁹⁷ and recreational fisheries.¹⁹⁸ One of the purposes of the Act is “to conserve aquatic resources.”¹⁹⁹ Article 44 authorizes the competent authority to promulgate regulations for the purpose of resource management. These include:

- (1) restriction or prohibition of the catching, harvesting, or processing of aquatic organisms;
- (2) restriction or prohibition of the sale or possession of aquatic organisms or the products made therefrom;
- (3) restriction or prohibition of the use of fishing gears and fishing methods; [and]
- (4) restriction or prohibition of fishing area and fishing period.²⁰⁰

Furthermore, Article 45 authorizes the competent authority to “designate the establishment of aquatic organism propagation and conservation zones.”²⁰¹ According to Article 45:

The establishment of the conservation zones shall be subject to the approval of the municipal competent authority. In the case of the county/city, the competent authority may submit a project concerning the conservation zones to the central competent authority for approval and promulgate the project after being approved. . . . The municipal/county/city competent authority with

193. *Id.* at art. 1.

194. *Id.*

195. *Id.* at art. 6.

196. *Id.* at art. 2.

197. *Id.* at art. 3.

198. Fagui Mingcheng (法規名稱) [The Fisheries Act] (promulgated by The Nationalist Gov’t, Nov. 11, 1929, effective July 1, 1930), art. 4, available at [http://www.fa.gov.tw/en/LegalsActs/content.aspx?id=1&chk=F8CA5D8C-49DB-46B5-9839-43D955E36275¶m=\(Taiwan\)](http://www.fa.gov.tw/en/LegalsActs/content.aspx?id=1&chk=F8CA5D8C-49DB-46B5-9839-43D955E36275¶m=(Taiwan)).

199. *Id.* at art. 9.

200. *Id.* at art. 44.

201. *Id.* at art. 45.

jurisdiction over the conservation zone shall be responsible for the management of the conservation zone. Where the jurisdiction over the waters on which the conservation zone established is extended over two or more provinces/municipalities/counties/cities or is not clear, the central competent authority shall appoint an agency to manage the conservation zones.²⁰²

There are currently twenty-six conservation zones designated under the Fisheries Act.²⁰³ The twenty-six zones comprise 6,190.58 hectares, covering only 0.095% of Taiwan's territorial sea.²⁰⁴ Other than the above-mentioned administrative rules, the Fisheries Act neither provides neither a definition nor management tools for aquatic conservation zones. Local authorities (municipal/county/city) usually manage the fisheries resources conservation zones. Most of the local authorities either prohibit catching certain species of fish in the designated zones or prescribe open season or zoning regulations. Using the Fisheries Act to designate MPAs is primarily aimed at fishery management and conservation. The Act provides flexibility to local authorities to make and implement a tailor-made management plan. However, MPAs might not be able to serve other purposes, like preventing marine pollution or conserving the wider marine biodiversity.

E. The Act for the Development of Tourism

The Act for the Development of Tourism was enacted in 1969, and was most recently amended in 2011.²⁰⁵ According to Article 1, the purpose of the Act is to “facilitate the development of [the] tourism industry, promote Chinese culture, achieve sustainable management of ecological and cultural characteristics unique to Taiwan, build international friendship, enhance the physical and mental health of citizens, and accelerate domestic economic growth.”²⁰⁶ The Ministry of Transportation and Communication (MOTC) is the competent authority and the Tourism Bureau within the MOTC is the lead agency responsible for the implementation of this Act.²⁰⁷ Given the purpose of the Act, Article 10 authorizes competent authorities, by seeking

202. *Id.*

203. *Conservation Zones*, FISHERIES AGENCY, <http://www.fa.gov.tw/en/ResourceConservation> (last updated Mar. 5, 2012).

204. *Id.*

205. *Fazhan Guanguang Tiaoli* (發展觀光條例) [Act for Development of Tourism] (published on July 30, 1969, amended April, 13, 2011) LAWS & REGS DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=K0110001> (Taiwan).

206. *Id.* at art. 1.

207. *Id.* at art. 3–4.

the collaboration of other related authorities, to “mark[] important tourism sites as designated scenic spots and determin[e] the borders of these areas.”²⁰⁸ Additionally, Article 33 of the Urban Planning Law provides that, subject to the geographical area, current use or military and security needs, agricultural zones or conservation zones can be reserved within the urban planning zone, and constructions within these zones can also be restricted.²⁰⁹ These two Acts provide the legal basis for the establishment of national scenic spots. Some of the national scenic spots cover coastal, marine, and offshore island areas, and can be categorized as MPAs. Article 14 of the Regulations Governing the Management of Designated Scenic Areas bans the “[c]atching of fish or shellfish and removing coral or algae . . . [and] [a]quatic farming” in designated areas without prior approval.²¹⁰ Each national scenic spot is managed by competent authorities.²¹¹ The administration is responsible for creating detailed management regulations.²¹²

There are currently thirteen designated national scenic spots.²¹³ Seven of them cover coastal, marine, or offshore island areas.²¹⁴ Some of the designated MPAs prescribe regulations to restrict or prohibit fishing and/or tourism activities that might destroy or modify the natural status within the spot.²¹⁵ Although the main purpose of designating scenic spots is to “achieve sustainable management of ecological characteristics unique to Taiwan,” nearly all of the scenic spots are actually managed with the goal of promoting tourism, rather than conservation of marine biodiversity.²¹⁶ Furthermore, most of the regulations contained in the Act for the

208. *Id.* at art. 10.

209. Dushi Ji Hua Fa (都市計畫法) [Urban Planning Act] (promulgated May 19, 1999) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/LawClass/LawAll.aspx?PCode=D0070001> (Taiwan).

210. Fengjing Teding Qu Guanli Guize (風景特定區管理規則) [Regulations Governing the Management of Designated Scenic Areas] (promulgated Dec. 1, 1979, amended Aug. 4, 2011) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=K0110007> (Taiwan).

211. *Id.* at art. 9.

212. *Id.* at art. 23.

213. *National Scenic Areas*, TAIWAN, <http://eng.taiwan.net.tw/m1.aspx?sNo=0002012> (last updated Apr. 11, 2011).

214. *Id.*

215. Fengjing Teding Qu Guanli Guize (風景特定區管理規則) [Regulations Governing the Management of Designated Scenic Areas] (promulgated Dec. 1, 1979, amended Aug. 4, 2011) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, art. 13–14, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=K0110007> (Taiwan).

216. Fazhan Guanguang Tiaoli (發展觀光條例) [Act for Development of Tourism] (published on July 30, 1969, amended April, 13, 2011) LAWS & REGS DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=K0110001> (Taiwan).

Development of Tourism that deal with the management or protection of scenic spots apply only to areas on land. For example, “to maintain the aesthetic merits of . . . designated scenic spots,” Article 12 authorizes the competent authority to impose restrictive regulations on the “styles, structures, and colors of buildings in those areas, as well as the positioning of advertising fixtures and vendor stalls.”²¹⁷ Additionally, Article 17 states that to “preserv[e] the integrity of natural and cultural resources in designated scenic spots, no facility construction plan may be made without prior approval” from the governing administrative authority.²¹⁸ All these factors may affect the efficiency and effectiveness of using the Act for the Development of Tourism as the legal basis for designating and managing MPAs.

F. Summary

The Ministry of Interior, in accordance with the National Park Law, designated eight national parks.²¹⁹ In accordance with the Cultural Heritage Preservation Act and the Wildlife Conservation Act, the COA designated twenty Natural Reserves, seventeen Wildlife Refuges, and thirty-four Major Wildlife Habitats.²²⁰ The total area of the various protected areas is 1,152,103.77 hectares, 403,708.55 (roughly thirty-five percent) hectares of which are marine environments.²²¹ The National Park Law protects 403,105.04 hectares of sea area, more than any of the other laws. However, the National Park Law’s protection is largely limited to one place: the Dongsha Atoll National Park. The Dongsha Atoll National Park makes up 353,600 hectares of the 403,105.04 hectares covered by the National Park Law.²²² Further, the sea area protected by the Wildlife Refuges (295.88

217. *Id.* at art. 12.

218. *Id.* at art. 17.

219. Guojia Gongyuan Fa (國家公園法) [National Park Act] (promulgated on June 2, 1972, amended Dec. 8, 2010) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=D0070105> (Taiwan); *About the Parks*, *supra* note 132.

220. *List of Protected Areas*, *supra* note 178; Wenhua Zichan Baocun Fa (文化資產保存法) [Cultural Heritage Preservation Act] (promulgated by the Ministry of Culture, May 26, 1982, effective May 26, 1982) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, available at <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=H0170001>; Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July 8, 2009) LAWS & REGS. DATABASE OF THE REPUBLIC OF CHINA, available at http://eng.coa.gov.tw/content_view.php?catid=9005&hot_new=8870 (Taiwan).

221. *List of Protected Areas*, *supra* note 178.

222. Compare *id.* and *Background*, DONGSHA ATOLL NAT’L PARK, <http://dongsha.cpami.gov.tw/en/dongshaOrigin.aspx?forewordTypeID=103> (The Dongsha Atoll

hectares) overlaps with the sea area protected by the Major Wildlife Habitats.²²³ Thus, all the other conservation laws combined only protect some 307.62 hectares of sea area.²²⁴ While the total varies by definition, one definition of MPA would leave Taiwan with less than six percent of its territorial sea protected.²²⁵ According to the Policy Guideline for Sustainable Development, in Taiwan, all types of MPAs should account for at least twenty percent of Taiwan's territorial sea by 2020.²²⁶ Taiwan is currently far from reaching that goal. These statistics demonstrate that, prior to the designation of the Dongsha Atoll National Park in 2007, marine areas were rarely protected under the MPA systems in Taiwan. It also shows that the National Park Law is by far the most relevant law relating to MPAs in Taiwan. However, as previously mentioned, the terrestrial based National Park Law may create legal problems in the management of MPAs; especially for multi-use type MPAs. Only the National Park Law can provide an adequate legal basis for the designation and management of MPAs; all other laws used to create MPAs, such as the Cultural Heritage Preservation Act, the Wildlife Conservation Act, the Fisheries Act, and the Act for the Development of Tourism cannot. This illustrates that the government might need to consider whether there is a need to enact special legislation for MPAs, or whether to revise the National Park Law so as to reflect the special characteristics of MPAs.

III. MARINE PROTECTED AREA LEGISLATION IN CHINA²²⁷

The earliest MPA in China can be traced back to 1963.²²⁸ However, the establishment of MPAs in general is a modern trend. There was no relevant

National Park covers some 3,356 square km (or 353,600 hectares) and the National Park Law protects 403,105.04 hectares of sea area.)

223. *List of Protected Areas*, *supra* note 178.

224. *See id.* (combining the 11.74 hectares of sea area protected by the Nature Reserves Law with the 295.88 hectares protected by the Wildlife Refuges Law and Major Wildlife Habitats Law).

225. Shao, K. & Lai, K., *Status and Challenges of Taiwan's Marine Protected Area*, in 1 COMMENT. ON MARINE AFF. AND POL'Y 65 (2011), available at <http://www.taibif.org.tw/sites/default/files/%E5%8F%B0%E7%81%A3%E6%B5%B7%E6%B4%8B%E4%BF%9D%E8%AD%B7%E5%8D%80%E7%9A%84%E7%8F%BE%E6%B3%81%E8%88%87%E6%8C%91%E6%88%B0.pdf> (last visited Dec. 4, 2012); accord Kwang Tsao Shao & Keryea Soong, *Status of Marine Protected Areas in Taiwan*, in 2012 INTERNATIONAL CONFERENCE OF MARINE PROTECTED AREAS 24 (Nat'l Taiwan Ocean University 2012).

226. *National Council for Sustainable Development*, POLICY GUIDELINES FOR SUSTAINABLE DEVELOPMENT 32, <http://sta.epa.gov.tw/nsdn/index.asp> (last visited Dec. 4, 2012).

227. All the references used in this Section are Chinese periodicals translated by the author.

228. Qiu Jun & Li Ming Jie (丘君 李明杰), *Woguo Haiyang Ziran Baohu Qu Mianlin De Zhuyao Wenti Ji Duice* (我国海洋自然保护区面临的主要问题及对策) [*Major Problems Facing the*

legislation when five national MPAs were approved in 1990. These five national MPAs were designated under the 1982 Marine Environment Protection Law.²²⁹ When the Regulation on Nature Reserves came into force in December 1994, it laid down the necessary legal framework for the establishment and management of MPAs.²³⁰

There are two types of MPAs in China. One is the marine special protected areas, and the other is the marine nature reserves.²³¹ These MPAs were established by the Marine Environment Protection Law. The Regulations on Marine Nature Reserves was promulgated by the State Council. The Administrative Measures on Marine Nature Reserves was promulgated by the State Oceanic Administration (SOA), under the authorization of the Regulations on Nature Reserves. This section will briefly introduce these relevant laws and regulations.

A. *Marine Environment Protection Law*

The Marine Environment Protection Law was enacted by the National People's Congress in 1982 and amended in 1999.²³² According to Article 1, the purposes of the law are to "protect and improve the marine environment, conserve marine resources, prevent pollution damages, maintain ecological balance, safeguard human health and promote sustainable economic and social development."²³³ There are several competent authorities listed in Article 5 depending on the subject-matter covered under the Law.²³⁴ SOA is the lead agency responsible for the marine special protection areas and marine nature reserves. Article 21 states that "[t]he relevant departments of the State Council and the coastal people's governments at provincial level shall, in accordance with the need for marine ecosystem conservation, delimit and establish marine nature reserves." However, the national marine

Marine Nature Reserves in China and Some Solutions], 4 OCEAN DEV. & MGMT. 30 (2005) [hereinafter *Major Problems*].

229. Feng Cui & Bian Ye Liu (崔凤 刘变叶), *Guanyu Wanshan Woguo Haiyang Ziran Baohuqu Lifa de Gouxiang* (关于完善我国海洋自然保护区立法的构想) [*Some Thoughts on Improving Our Marine Nature Reserve Legislation*], 5 J. OCEAN UNIVERSITY OF CHINA (SOC. SCI. EDITION) 7 (2008).

230. *Id.*

231. Ping Du (杜萍), *Zhongguo Haiyang Baohu Qu Guihua Yuanze Tanta* (中国海洋保护区规划原则探讨) [*Discussion on the Planning Principles for China's Marine Protected Areas*], 26:11 MARINE DEV. & MGMT. 97, 99 (2009) [hereinafter *Planning Principles*].

232. *Zhonghua Renmin Gongheguo Haiyang Huanjing Baohu Fa* (中华人民共和国海洋环境保护法 (已被修订)) [*Marine Environmental Protection Law (revised)*] (promulgated by the Standing Comm. of the Nat'l People's Cong., Aug. 23, 1982, effective Mar. 1, 1983) (Lawinfochina) (China).

233. *Id.* at art. 1.

234. *Id.* at art. 5.

nature reserves can only be set up subject to the approval of the State Council.²³⁵ Article 22 requires one of the five following preconditions to be met before establishing a marine nature reserve:

- (1) being a typical marine physiographic area as well as a representative natural ecosystem area, or an area where the natural ecosystem has been damaged to some extent, but may be recovered through efforts of conservation;
- (2) being an area with higher marine biodiversity, or an area where rare and dying out marine species are naturally and densely scattered;
- (3) being a sea area, seashore, island, coastal wetland, estuary, bay or the like with special conservation;
- (4) being an area where marine natural remains of great scientific and cultural values are located; or
- (5) any other area calling for special conservation.²³⁶

Article 23 provides that marine protected areas may be established in “any area having special geographic conditions, ecosystem, living or non-living resources and where the marine development and exploitation have special needs, so that a special management may be ensured by adopting effective ecosystem conservation measures and scientific development modes.”²³⁷

In addition to the provisions under the Act, the SOA submitted the Work Program for the Management of Marine Special Protection Areas (1992 Work Program) to the State Council, which was approved in October 1992.²³⁸ The 1992 Work Program further specifies the criteria for the selection of a marine special protection area.²³⁹ It states the selection shall be based on the characteristics of the area and the “social and economic development” of the surrounding area.²⁴⁰ Additional factors such as resource status, utilization within the area, the management plan, relevant

235. *Id.* (“The establishment of marine nature reserves at state level shall be subject to approval by the State Council.”).

236. *Id.* at art. 22.

237. *Id.* at art. 23.

238. *Guanyu Zhuanfa Guowuyuan Dui “Haiyang Tebie Baohu Qu Guanli Gongzuo Fang An” Pifu Tongzhi De Han* (关于转发国务院对《海洋特别保护区管理工作方案》批复通知的函) [Letter Forwarded: The State Council Approved a Notice of “Special Marine Protected Areas Management Program”], CHINA.FINDLAW.CN, <http://china.findlaw.cn/fagui/jj/25/117310.html> (last visited Dec. 4, 2012) [hereinafter *Special Marine Protected Areas Management Program*].

239. *Id.*

240. *Id.*

policies and regulations, public awareness education, and the financial situation of a marine special protection area shall be considered and coordinated with various development, planning, and the national economic and social development programs in the area.²⁴¹ Under the 1992 Work Program, marine special protection areas can be categorized into national and local areas.

The 1992 Work Program also established procedural requirements such as how to designate marine special protection areas.²⁴² The designation of a marine special protection area, whether national or local, is initiated by the agency responsible for marine affairs in the relevant local authorities. A national marine special protection area needs to be approved by the local authority before submission to the SOA.²⁴³ Final approval is required from the relevant department within the State Council. A local marine special protection area only needs to be approved by the local authority and the SOA.²⁴⁴

The 1992 Work Program also created multi-level, multi-agency management plans for Marine Special Protection Areas. Under the Program, managing agencies include relevant departments within the State Council, the SOA, and the marine administration office within the local government.²⁴⁵

It is important to note that the 1992 Work Program specifically stated that marine special protection areas are different from marine nature reserves.²⁴⁶ The purpose of a marine nature reserve is to protect certain resources or to maintain the natural status of certain types of ecological systems.²⁴⁷ The Marine Special Protection Area is designed to adopt comprehensive protection measures for all resources on a scientific basis and to coordinate resource utilization.²⁴⁸ In other words, a Marine Special Protection Area seeks to balance conservation and utilization of marine resources.

The Implementation Program for Marine Special Protection Areas Work posted at the China Oceanic Information Network affirms the 1992 Work Program's distinction between the two types of MPAs.²⁴⁹ Marine

241. *Id.*

242. *Id.*

243. *Id.*

244. *Id.*

245. *Id.*

246. *Id.*

247. *Id.*

248. *Id.*

249. *Haiyang Tebie Baohu Qu Gongzuo Shishi Fang An (Taolun Gao)* (海洋特别保护区工作实施方案(讨论稿)), [Marine Special Implementation of the Program of Work on Protected Areas

Special Protection Areas focus on comprehensive development involving multiple dimensions, including socio-economic, natural resources, and ecosystems.²⁵⁰ Marine Special Protection Areas can be divided into the following three zones according to resource characteristics and the level of development: (1) marine comprehensive utilization special protection zone; (2) marine special use zone; and (3) marine development reserve zone.²⁵¹ In contrast, a marine nature reserve seeks to conserve the natural status of marine resources or ecosystems. The creation of marine nature reserves does not consider resource extraction or social development.²⁵² Marine nature reserves can only be included as part of a marine special protection area.²⁵³ A marine special protection area is similar to the type of multi-use, zoning-based MPA, while a marine nature reserve is better understood as a conservation area.²⁵⁴ However, as seen from the following section introducing the regulation on nature reserves, marine nature reserves are also managed by the zoning system—where different areas are delimited. The zoning system blurs the distinction between Marine Special Protection Area from marine nature reserves, which undermines efficient management.

While the Marine Environment Protection Law can be used as a legal basis for designating Marine Special Protection Areas and marine nature reserves, it is mostly used to designate and manage the Marine Special Protection Areas.²⁵⁵ The system of marine nature reserves seem to be regulated under the relevant PA regulations, which will be introduced in the next section. The Law does not define Marine Special Protection Area, and

(Draft)], ZHONGGUO HAIYANG XINXIWANG (中国海洋信息网) [CHINA OCEANIC INFORMATION NETWORK], http://www.coi.gov.cn/kepu/baohuqu/fagui/201107/t20110727_16957.html (last updated Jan. 8, 2008) [hereinafter *Marine Special Implementation Program*].

250. *Id.*

251. Tsai Yanhong, et al. (蔡燕红), *Haiyang Tebie Baohu Qu de Jianshe Yu Guanli Wenti Tanta* (海洋特别保护区的建设与管理问题探讨) [*Construction and Management of Special Marine Protected Areas*] HAIYANG GUANLI (海洋管理) 3 OCEAN DEV. AND MGMT. 55–56 (2005).

252. *Marine Special Implementation Program*, *supra* note 249.

253. *Id.*

254. Gao Wei (高威), *Haiyang Tebie Baohuqu Falu Zhidu Wenei Chutan* (海洋特别保护区法律制度问题初探) [*Preliminary Analysis on the Legal System of the Marine Special Protection Areas*] OCEAN DEV. AND MGMT. 58, 62 (2005) (According to Article 6 of the Marine Environment Protection Law, the relevant authorities at the national and local level draft the “national marine functional zonation scheme and submit it to the State Council for approval.” This zoning scheme was approved by the State Council in 2003. Article 7 of the Act requires the State to draw up, in accordance with the marine functional zoning scheme, a national marine environment protection plan and regional marine environment protection plans in key sea areas. The management of the marine special protection areas also following the national marine functional zoning scheme).

255. None of the literature on marine nature reserves refer to the Marine Environment Protection Law as the legal base for designating marine nature reserves. All of them cite the PA-relevant regulations as the legal base for the designation and management of marine nature reserves. See the next section for more discussion.

it does not contain detailed criteria for selecting Marine Special Protection Areas. The 1992 Work Program provides more detailed criteria, as well as the categorization, selection and approval procedures, and the responsible management agencies.²⁵⁶ Since the Marine Special Protection Areas are a type of multi-use MPA, it might be better to provide more detailed management guidelines. In particular, the zoning mechanism should be incorporated in the relevant laws and regulations. As suggested by one scholar, there might be a need to establish a Regulation on the Management of Marine Special Protection Areas.²⁵⁷ Furthermore, the 1992 Work Program left management responsibility to many different national and local agencies. Better coordination of these as well as other agencies, including the tourism development agencies and the transportation agencies, is necessary to successfully manage Marine Special Protection Areas.

B. The Regulation on Nature Reserves and the Administrative Measures on Marine Nature Reserves

The SOA promulgated a Work Plan on the Establishment of Marine Nature Reserves in 1988.²⁵⁸ According to the Work Plan, the State Council approved seven marine nature reserves in 1990 and 1992; however, the formal legal framework for setting up MPAs in China is the Regulation on Nature Reserves and the Administrative Measures on Marine Nature Reserves.²⁵⁹ The Regulation on Nature Reserves was promulgated by the China State Council in 1994.²⁶⁰ Under the authorization of this regulation, the SOA adopted the Administrative Measures on Marine Nature Reserves in 1995.²⁶¹

256. *Special Marine Protected Areas Management Program*, *supra* note 238.

257. Tsai, et al., *supra* note 251.

258. F. Cui & B.Y. Liu, *supra* note 229, at 7.

259. Zhong Hua Ren Min Gong He Guo Zi Ran Bao Hu Qu Tiao Li (中华人民共和国自然保护区条例) [Nature Reserve Regulations of the People's Republic of China] (promulgated by the State Council, Sept. 2, 1994, effective Dec. 1, 1994), *available at* http://www.gov.cn/flfg/2005-09/27/content_70636.htm (China); Haiyang Ziran Baohu Qu Guanli Banfa (海洋自然保护区管理办法) [Administration Measures on Marine Nature Reserves] (released by the State Oceanic Administration on May 29, 1995), *available at* <http://biodiv.coi.gov.cn/fg/hy/02.htm> (China).

260. Zhong Hua Ren Min Gong He Guo Zi Ran Bao Hu Qu Tiao Li (中华人民共和国自然保护区条例) [Nature Reserve Regulations of the People's Republic of China] (promulgated by the State Council, Sept. 2, 1994, effective Dec. 1, 1994), *available at* http://www.gov.cn/flfg/2005-09/27/content_70636.htm (China).

261. Haiyang Ziran Baohu Qu Guanli Banfa (海洋自然保护区管理办法) [Administration Measures on Marine Nature Reserves] (released by the State Oceanic Administration on May 29, 1995), *available at* <http://biodiv.coi.gov.cn/fg/hy/02.htm> (China).

The purpose of the Regulation on Nature Reserves is to “strengthen the establishment and management of nature reserves and to protect the natural environment and resources.”²⁶² Article 2 defines a nature reserve as:

areas on land, inland water bodies, or marine districts, which represent various types of natural ecological systems, or with a natural concentrated distribution of rare and endangered wild animal or plant species, or where natural traces of other protected objects being of special significance are situated, and so delimited out for special protection and management according to relevant laws.²⁶³

According to Article 8, the management of nature reserves is two-tiered: integrated management and separate departmental management.²⁶⁴ The competent department of the environmental protection administration under the State Council “is responsible for the integrated management of the national nature reserves.”²⁶⁵ Additionally, the departments of forestry, agriculture, geology and mineral resources, water conservancy, and marine affairs are responsible for relevant nature reserves under their jurisdiction.²⁶⁶ Article 10 provides the criteria for selecting nature reserves.²⁶⁷ Article 11 provides that nature reserves can either be at the national or local level.²⁶⁸ Article 12 provides the procedures for establishing a national or local nature reserve.²⁶⁹ Paragraph 4 of Article 12 specifically states that the State Council must approve the establishment of marine nature reserves.²⁷⁰ Article 18 provides a zoning system for the management of the nature reserves by permitting the nature reserves to be divided into three zones: the core area, the buffer zone, and the experimental zone.²⁷¹ The Regulation on Nature Reserves also establishes the proper management system for the nature reserves.²⁷² Additionally, it authorizes competent

262. Zhong Hua Ren Min Gong He Guo Zi Ran Bao Hu Qu Tiao Li (中华人民共和国自然保护区条例) [Nature Reserve Regulations of the People’s Republic of China] (promulgated by the State Council, Sept. 2, 1994, effective Dec. 1, 1994), available at http://www.gov.cn/flfg/2005-09/27/content_70636.htm (China).

263. *Id.* at art. 2.

264. *Id.* at art. 8.

265. *Id.*

266. *Id.*

267. *Id.* at art. 10.

268. *Id.* at art. 11.

269. *Id.* at art. 12.

270. *Id.*

271. *Id.* at art. 18.

272. *Id.* at art. 22.

authorities to promulgate technical regulations and standards for the management of nature reserves.²⁷³

The Regulation on Nature Reserves is a comprehensive regulation on all types of nature reserves in China. After obtaining the approval from the National Science Committee, the SOA—the competent authority for marine nature reserves—promulgated the Administrative Measures on Marine Nature Reserves in 1995.²⁷⁴ The Administrative Measures provide more specific rules on the establishment and management of marine nature reserves. The purpose of the Administrative Measures is to strengthen the establishment and management of marine nature reserves under the authorization of the Regulation on Nature Reserves.²⁷⁵ Article 2 defines that a marine nature reserve is: “for the purpose of marine environment and resources protection, areas on coastal watershed, estuary, island, wetland or marine district that include the protected objects and so delimited out for special protection and administration according to relevant laws.”²⁷⁶ The selection, designation, and management of marine nature reserves are based on central planning and multi-level management.²⁷⁷ According to Article 5, the SOA is responsible for researching and establishing national rules for marine nature reserves, the review of management plans for national marine nature reserves, approval of technical rules on the overall construction of national marine nature reserves, and the overall management of all the marine nature reserves.²⁷⁸ The provisional or city governments that have marine nature reserves are responsible for creating more detailed rules and selecting and managing the reserves.²⁷⁹ Article 6 lists several criteria for the selection of marine nature reserves.²⁸⁰ Marine nature reserves are designated at the national or local level, subject to different criteria and different procedures.²⁸¹

The management of marine nature reserves is based on the zoning system. Article 13 provides that marine nature reserves can be divided into three zones: the core area zone, the buffer zone, and the experimental zone.²⁸² This is the same system for the nature reserves, as the Regulation

273. *Id.* at art.18.

274. Haiyang Ziran Baohu Qu Guanli Banfa (海洋自然保护区管理办法) [Administration Measures on Marine Nature Reserves] (released by the State Oceanic Administration on May 29, 1995), available at <http://biodiv.coi.gov.cn/fg/hy/02.htm> (China).

275. *Id.* at art. 1.

276. *Id.* at art. 2.

277. *Id.* at art. 4.

278. *Id.* at art. 5.

279. *Id.*

280. *Id.* at art. 6.

281. *Id.* at art. 6.

282. *Id.* at art. 13.

on Nature Reserves provided the necessary legal basis.²⁸³ Based on the subject of their protection, the Administrative Measures provide that marine reserves can also be divided into “absolute” and “relative” protection periods.²⁸⁴ Any activity that might damage the protected subject is strictly prohibited during the “absolute protection period,” except for scientific, educational or experimental activities that have been approved by the management authorities.²⁸⁵ The “[r]elative protection period” is time that is not within the “absolute protection period.” Activities that do not take or damage the subject of protection are permitted within the marine nature reserves.²⁸⁶ The Administrative Measures also establish the responsibilities for the management authorities and detail the rules regarding activities that can or cannot be undertaken within the marine nature reserves.²⁸⁷

It appears that the legal regime for marine nature reserves is quite comprehensive. However, scholars have observed some inadequacies in this legal regime. First and most important, the Regulation on Nature Reserves was not promulgated by the National People’s Congress, which diminishes its legal authority.²⁸⁸ Some have suggested that the National People’s Congress should enact a Nature Reserves Law, and the proposal was discussed in 2001 and 2006.²⁸⁹ Nevertheless, this legislative proposal has not been passed. Second, certain provisions in the regulations are insufficient for the management of marine nature reserves. For example, they delegate too much management authority to the local governments. Local governments tend to emphasize what benefits the locals can gain from the nature reserves, rather than what is the best for protecting the marine environment. Furthermore, funding is primarily provided by the local governments, which lack funds for marine environmental affairs.²⁹⁰ In addition, there are no provisions pertaining to public participation in the establishment and management of marine nature reserves.²⁹¹ All these insufficiencies hinder protection of MPAs.

283. Zhong Hua Ren Min Gong He Guo Zi Ran Bao Hu Qu Tiao Li (中华人民共和国自然保护区条例) [Nature Reserve Regulations of the People’s Republic of China] (promulgated by the State Council, Sept. 2, 1994, effective Dec. 1, 1994) art. 18, available at http://www.gov.cn/flfg/2005-09/27/content_70636.htm (China).

284. Haiyang Ziran Baohu Qu Guanli Banfa (海洋自然保护区管理办法) [Administration Measures on Marine Nature Reserves] (released by the State Oceanic Administration on May 29, 1995) art. 13, available at <http://biodiv.coi.gov.cn/fg/hy/02.htm> (China).

285. *Id.*

286. *Id.*

287. *Id.* at art. 15.

288. F. Cui & B.Y. Liu, *supra* note 229, at 8.

289. *Id.* at 9.

290. *Id.* at 8–9.

291. *Id.* at 15.

C. Additional Regulations

Several other regulations set up MPAs. For example, the Regulation on the Breeding and Protection of Aquatic Resources, promulgated by the State Council in 1979, provides specific rules that protect aquatic resources from fishing.²⁹² In addition, the Agricultural Department promulgated the Administrative Measures on Aquatic Animal and Plants Nature Reserves in 1997 under the authorization of the Wild Animal Protection Law, Fisheries Law, and Regulation on Nature Reserves.²⁹³ The Administrative Measures provide similar rules to the Administrative Measures on Marine Nature Reserves.

The Fisheries Act,²⁹⁴ adopted by the National People's Congress in 1986 and amended in 2000 and 2004, authorizes the establishment of Protected Areas for Aquatic Species and Resources.²⁹⁵ According to Article 29, the purpose of Protected Areas is to preserve the aquatic species, the resources, and the surrounding environment.²⁹⁶ Such areas should be set up in the major breeding spots for those aquatic species because such areas have higher economic and genetic value.²⁹⁷ It further provides that taking marine species or fishing is prohibited in the Protected Area unless the Fisheries Department of the State Council grants approval.²⁹⁸

292. Shuichan Ziyuan Fanzhi Baohu Tiaoli (水产资源繁殖保护条例) [The Aquatic Resources Reproductive Protection Ordinance] (promulgated by the State Council, Feb. 10, 1979, effective Feb. 2, 1979), available at http://china.findlaw.cn/fagui/p_1/291210.html (China).

293. Zhonghua Renmin Gongheguo Shui Shengdong Zhiwu Ziran Baohu Qu Guanli Banfa (中华人民共和国水生动植物自然保护区管理办法) [Admin. Measures on Aquatic Animals and Plants Nature Reserve] (promulgated by the Ministry of Agric. Oct. 17, 1997, effective Oct. 17, 1997), available at http://china.findlaw.cn/fagui/p_1/287366.html (China).

294. Zhonghua Renmin Gongheguo Yuye Fa (中华人民共和国渔业法) [Fisheries Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., July 1, 1986, effective July 1, 1986, amended Aug. 24, 2004) (Lawinfochina) (China).

295. Yanyan Yang (杨燕燕), *Haiyang Baohu Qu De Guoji Shijian Ji Qi Lifa Yaodian* (海洋保护区的国际实践及其立法要点) [*International Implementation on Marine Protected Areas and its Legislative Elements*] 7:3 HUBEI JINGJI XUEYUAN XUEBAO 97-98 (湖北经济学院学报) 7:3 Hubei University Journal of Econ. 97-98 (2010).

296. Zhonghua Renmin Gongheguo Yuye Fa (中华人民共和国渔业法) [Fisheries Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., July 1, 1986, effective July 1, 1986, amended Aug. 24, 2004) art. 29 (Lawinfochina) (China).

297. *Id.*

298. *Id.*

D. Summary

As of 2010, there were 201 MPAs in China, a thirty percent increase from 2005.²⁹⁹ As of 2011, there were sixteen national marine special protection areas and eleven national marine nature reserves managed by the SOA.³⁰⁰ According to the Guidelines on the Rules of China's Nature Reserves Development: 1996–2010, approved by the State Council in 1997, the total number of national marine nature reserves should be between eighty-five and ninety-five, covering 450–480 million hectares.³⁰¹ Thus, national marine nature reserves should be 900 million hectares and account for three percent of the total territorial sea.³⁰² In 2000, national marine nature reserves accounted for less than two percent of the territorial sea.³⁰³ By 2006, only 1.2 percent of China's territorial sea was covered by an MPA.³⁰⁴

Regulations have played an important role in China's MPA development. Historically, the Government established MPAs while creating other regulations. And the Government passed a substantial number of MPAs from 1982 to 1992 and from 1996 to 2000.³⁰⁵ This illustrates the importance of law in China's MPA system. However, the legal regime still faces major challenges that slow the creation of new MPAs.

One challenge is the amount of regulatory overlap. For instance, as discussed above, the regulations identify two types of MPAs: marine special protection areas and marine nature reserves. The Marine Environment Protection Law seems to provide the legal basis for these two types of MPAs. The legal basis can be found in Articles 21 and 22 for the marine

299. “Shiyiwu” Woguo Haiyang Huanjing Jiben Zhuangkuang (“十一五”我国海洋环境基本状况) [“Eleventh Five” Basic Situation of China's Marine Environment], Guojia haiyang ju (国家海洋局) [STATE OCEANIC ADMINISTRATION PEOPLE'S REPUBLIC OF CHINA], <http://www.soa.gov.cn/soa/hygbml/hjgb/ten/webinfo/1305507673406019.htm> (last updated May 16, 2011).

300. Zhuanjia Du 2010 Nian Zhongguo Haiyang huanjing zhuangkuang Gongbao (专家解读 2010 年中国海洋环境状况公报) [Expert Interpretation of the China National Offshore 2010 State of the Environment], ZHONGHUA RENMIN GONGHEGUO GUOTU ZIYUAN BU (中华人民共和国国土资源部) [MINISTRY OF LAND AND RESOURCES OF THE PEOPLE'S REPUBLIC OF CHINA] (June 7, 2011) http://news.mlr.gov.cn/xwdt/hyxxw/201106/t20110607_875554.htm.

301. Zhong Guo Zi Ran Bao Hu Qu Fa Zhan Guil Hua Gang Yao (中国自然保护区发展规划纲要) [China Nature Reserve Development Plan (1996-2010)] (promulgated by Ministry of Env'tl. Prot., Nov. 24, 1997), available at http://sts.mep.gov.cn/zrbhq/fzgy/199711/t19971124_61198.htm (China).

302. *Id.*

303. *Id.* at 4.9.9.

304. *Planning Principles*, *supra* note 231, at 99.

305. Qiu Jun & Li Ming Je, *supra* note 228, at 30.

nature reserves and Article 23 for the marine special protection areas.³⁰⁶ These two MPAs are designed to do different things; however, the PA-related legal regime for marine nature reserves does not reflect the differences identified in the 1992 Work Program, particularly with regard to management. There is also overlap in how the marine nature reserves and marine special protection areas are established. Marine nature reserves are established and managed through the Regulation on Nature Reserves and the Administrative Measures on Marine Nature Reserves. The legislative purpose, competent authorities, and management systems established by the Regulation on Nature Reserves is nearly the same as that created by the Administrative Measures on Marine Nature Reserves. Oversight of marine special protection areas and marine nature reserves, as well as the relationship between the two, needs to be clarified so that the creation of new MPAs can be streamlined.

IV. COMPARISON

Part IV first presents a brief overview of the scope and targets for MPAs in Taiwan and China. A comparative analysis of the two countries' MPA legislation will follow.

Less than six percent of Taiwan's waters are protected under its existing MPA laws. In 2009, Taiwan's National Council for Sustainable Development set a goal of having twenty percent of its waters covered by MPA laws by 2020.³⁰⁷ In 2006, MPAs covered 1.2 percent of China's seas.³⁰⁸ In 1997, China's State Council set a three percent MPA target for 2010.³⁰⁹ According to the Aichi Biodiversity Targets adopted at the CBD COP 10, at least seventeen percent of terrestrial and inland water and ten percent of coastal and marine areas should be conserved through "protected areas and other effective area-based conservation measures."³¹⁰ This target imposes no obligation on its parties. However, it is a very instructive target

306. Zhonghua Renmin Gongheguo Haiyang Huanjing Baohu Fa (中华人民共和国海洋环境保护法 (已被修订)) [Marine Environmental Protection Law (revised)] (promulgated by the Standing Comm. of the Nat'l People's Cong., Aug. 23, 1982, effective Mar. 1, 1983) art. 21–23 (Lawinfochina) (China).

307. Shao, *supra* note 225.

308. *Report on the State of the Environment in China*, STATE ENVIRONMENTAL PROTECTION ADMINISTRATION, http://english.mep.gov.cn/standards_reports/soe/SOE2006/200711/t20071105_112566.htm (last visited Dec. 4, 2012).

309. *Planning Principles*, *supra* note 231, at 99.

310. *Decisions Adopted by the Conference of the Parties to the Convention on Biological Diversity at its Tenth Meeting*, CONVENTION ON BIOLOGICAL DIVERSITY, <http://www.cbd.int/doc/decisions/cop-10/full/cop-10-dec-en.pdf> (last visited Dec. 4, 2012).

for all participating countries. Taiwan adopted more ambitious targets as a non-party to the CBD. China, a party to the CBD, has adopted more conservative targets. China's current MPA coverage is moderate compared to Taiwan. This does not necessarily suggest that Taiwan's MPA coverage is broader and its targets more ambitious for marine biodiversity conservation. As mentioned in Part II, most of the areas protected under the MPA system are within one marine national park—the Dongsha Atoll National Park. Other types of MPAs in Taiwan account for only 0.08%. Further, it is far from certain this target will be achieved by 2020.

Part I concludes that international treaties and soft law instruments pose no international obligation to their parties to use MPAs as a management tool. Because China is a party to the international treaties discussed in Part I, certain provisions within these instruments suggest that an international obligation applies only to Chinese MPAs. Because Taiwan is not a party to the treaties, its MPA laws are unaffected. Under international treaties or non-binding instruments, Taiwan can voluntarily adopt or implement guidelines. Because Taiwan is not a party, it is more difficult for these international instruments and their implementing institutions to monitor or gather relevant data on MPAs in Taiwan. In addition, Taiwan does not bear an international obligation to use MPAs as a management tool should some of these international legal instruments impose such an obligation. In this regard, national MPA legislation in China might be subject to greater international scrutiny. Nonetheless, MPA legislation in China remains similar to Taiwan's. Currently, none of the relevant international treaties impose obligations or provide detailed rules on the designation and management of MPAs. As a result, comparing these two nations' MPA laws cannot be conducted from the perspective of international rules and guidelines.

Table 1 lists major MPA legislation in Taiwan and China as discussed in Part III & IV.

Table 1: MPA legislation in Taiwan and China

Legislation/Regulations	Year	Types of MPAs	Lead Agencies
Taiwan			
National Park Law	Enacted 1972; last amended: 2010	National Parks	Construction and Planning Bureau, Ministry of Interior
Cultural Heritage Preservation Act	Enacted 1982, last amended: 2005	Natural Reserves, Natural Commemoratives	Forestry Bureau, Council of Agricultural
Wildlife Conservation Act	Enacted 1989, last amended: 2009	Wildlife Refugees, Major Wildlife Habitat	Forestry Bureau, Council of Agricultural
Fisheries Act	Enacted 1929, last amended: 2008	Aquatic Conservation Zones	Fisheries Agency, Council of Agricultural
Act for the Development of Tourism	Enacted 1969, last amended: 2011	National Scenic Spots	Tourism Bureau, Ministry of Transportation and Communication
China			
Marine Environment Protection Law	Enacted 1982, last amended: 1999	Marine Nature Reserves, Marine Special Protection Areas	State Oceanic Administration
Regulation on Nature Reserves, Administrative Measures on Marine Nature Reserves	Enacted 1994	(Marine) Nature Reserves	State Oceanic Administration
Administrative Measures on Marine Nature Reserves	Enacted 1995	(Marine) Nature Reserves	State Oceanic Administration
Fisheries Law	Enacted 1986, last amended: 2004	Protected Area for Aquatic Species & Resources	Fisheries Department of the State Council
Regulation on the Breeding and Protection of Aquatic Resources	Enacted 1979		
Administrative Measures on Aquatic Animal and Plants Nature Reserves	Enacted 1997	Nature Reserves	

National MPA legislation remains the most direct legal instrument for designating and managing national MPAs. Three legislative approaches have been used to create nationally controlled MPAs: (1) extending terrestrial park legislation to cover marine areas; (2) extending fisheries laws to include habitat protection; and (3) creating new governing agencies to oversee MPAs.³¹¹ The first two approaches can be observed in both Taiwan's and China's MPA laws. Nearly all laws authorizing MPA

311. Boersma & Parrish, *supra* note 11, at 289.

establishment in Taiwan reflect the first two legislative approaches; for example, using terrestrial-park based legislation or fisheries legislation. As for the third approach, only China has adopted a dedicated MPA regulation: the Administrative Measures on Marine Nature Reserve. Nevertheless, this Administrative Measures was adopted under the authorization of the Regulation on Nature Reserves, which is more akin to terrestrial-park based legislation. China does, however, have the Marine Environment Protection Law that authorizes the establishment of marine nature reserves and marine special protection areas.³¹²

Strictly speaking, China has not created new agencies or laws to oversee MPAs. It has, however, contemplated separating marine from terrestrial-based protected area legislation by, for example, promulgating either specialized administrative measures³¹³ or marine protection legislation.³¹⁴ In comparison, Taiwan has not adopted such an approach to MPA legislation. All national legislation authorizing the establishment of MPAs in Taiwan are terrestrial-park or fisheries-based laws.³¹⁵ Taiwan's Marine National Park Headquarters was established under the National Park Law.³¹⁶ This headquarters was designed to manage the largest marine national park—Dongsha Atoll.³¹⁷ In terms of marine protection legislation, Taiwan only has the Marine Pollution Control Act, which focuses on marine pollution rather than marine biodiversity protection. From this perspective, China seems to have adopted a more specialized legal and marine biodiversity MPA framework.

Another point of comparison is the timing of legislation adoption. In Taiwan, most of the legislation relating to MPA establishment has preceded similar legislation in China. The most important relevant legislation includes the National Park Law, the Wildlife Conservation Act, and the Cultural Heritage Preservation Act. These were adopted in the 1970s and

312. Zhonghua Renmin Gongheguo Haiyang Huanjing Baohu Fa (中华人民共和国海洋环境保护法 (已被修订)) [Marine Environmental Protection Law (revised)] (promulgated by the Standing Comm. of the Nat'l People's Cong., Aug. 23, 1982, effective Mar. 1, 1983) (Lawinfochina) (China).

313. Haiyang Ziran Baohu Qu Guanli Banfa (海洋自然保护区管理办法) [Administration Measures on Marine Nature Reserves] (released by the State Oceanic Administration on May 29, 1995), available at <http://biodiv.coi.gov.cn/fg/hy/02.htm> (China).

314. Zhonghua Renmin Gongheguo Haiyang Huanjing Baohu Fa (中华人民共和国海洋环境保护法 (已被修订)) [Marine Environmental Protection Law (revised)] (promulgated by the Standing Comm. of the Nat'l People's Cong., Aug. 23, 1982, effective Mar. 1, 1983) (Lawinfochina) (China).

315. See *supra* Part II.

316. Introduction, NATIONAL PARKS OF TAIWAN, http://marine.cpami.gov.tw/english/index.php?option=com_content&view=article&id=159&Itemid=69 (last visited Dec. 4, 2012).

317. *Id.*

1980s in Taiwan.³¹⁸ In comparison, most of the relevant laws in China were adopted in the 1980s and 1990s. These regulations and guidelines include the Administrative Measure on Marine Nature Reserves and the Work Program for the Management of Marine Special Protection Areas, adopted in 1995 and 1992, respectively. Generally, natural reserve legislation in Taiwan has been adopted and implemented earlier than those in China. This might be explained by the fact that environmental awareness arose earlier in Taiwan—in the 1970s and 1980s—when severe environmental problems emerged after a period of rapid industrialization and economic development. This point of comparison might also explain why China can adopt a more specialized legal framework for MPAs. As mentioned in the introduction, MPAs are relatively recent developments compared to the terrestrial protected area system. When MPA regulation has been considered at a later stage, it might coincide with the contemporary management concept. As a result, legislators and other relevant authorities may feel the need to enact and adopt more specialized rules on the establishment and management of MPAs.

A third point of comparison concerns the adequacy of the national legislation relating to the establishment and management of MPAs. As mentioned previously, both Taiwan and China have extended terrestrial park legislation or fisheries laws to cover marine areas. Laws established specifically for land areas do not usually address the particular characteristics of marine and coastal environments, or the peculiarities of their use. This is the case for both the national laws in Taiwan and China. For example, Taiwan's National Park Law, as indicated in Part II, may create legal problems in the management of MPAs. Furthermore, provisions within the Cultural Heritage Preservation Act and the Wildlife Conservation Act seem to hamper MPA management on a multi-use basis. MPAs designated under these two acts are more akin to marine reserves. The Fisheries Act can also provide a legal basis for establishing MPAs, known as Aquatic Conservation Zones.³¹⁹ However, no definitions or criteria for

318. Guojia Gongyuan Fa (國家公園法) [National Park Act] (promulgated on June 2, 1972, amended Dec. 8, 2010) *available at* <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=D0070105> (Taiwan); Yesheng Dongwu Baoyu Fa (野生動物保育法) [Wildlife Conservation Act] (promulgated June 23, 1989, amended July 8, 2009), *available at* http://eng.coa.gov.tw/content_view.php?catid=9005&hot_new=8870 (Taiwan); Wenhua Zichan Baocun Fa (文化資產保存法) [Cultural Heritage Preservation Act] (promulgated by the Ministry of Culture, May 26, 1982, effective May 26, 1982), *available at* <http://law.moj.gov.tw/eng/LawClass/LawAll.aspx?PCode=H0170001> (Taiwan).

319. Fagui mingcheng (法規名稱) [The Fisheries Act] (promulgated by The Nationalist Gov't, Nov. 11, 1929, effective July 1, 1930), *available at* <http://www.fg.gov.tw/en/LegalsActs/content.aspx?id=1&chk=F8CA5D8C-49DB-46B5-9839-43D955E36275¶m=> (Taiwan).

the selection of zones are provided. These demonstrate that terrestrial or fishery based national legislation in Taiwan cannot provide a comprehensive legal framework for MPAs. Unclear jurisdictional and management authority complicates the regulation of MPAs. Varying legislation results in different lead agencies both within the central government and between the central and local governments. Similar legal inadequacies can also be found in China's national legislation, even though China has adopted specialized regulation for MPAs. For example, the difference between marine special protected areas and marine nature reserves is not clearly defined in the relevant regulations or guidelines. The 1992 Work Program for the Management of Marine Special Protection Areas, approved by the State Council and the Administrative Measures on Marine Nature Reserves, provides conflicting definitions and management tools for marine nature reserves. In addition, the Administrative Measures on Marine Nature Reserves was not promulgated by China's National People's Congress, thus diminishing legal authority. Different lead agencies at the national and local levels make it hard to manage MPAs.

While legislation designating and managing MPAs in Taiwan and China are in many ways dissimilar, they share more similarities than differences. While Taiwan was the first to enact relevant legislation, China's MPA regulations are more specialized. Both countries have extended terrestrial- or fisheries-based laws that cover marine areas. Such an approach has created difficulties in the selection and management of MPAs, rendering national MPA legislation in both countries inadequate. Governments have ample space to design their own national MPA laws according to their local environment, socio-economic situation, and legal structure. They can also draw valuable input from guidelines adopted by international instruments on MPAs. Taiwan and China may consider using such guidelines in revising their respective legal frameworks so that MPAs can more effectively protect the marine environment.

CONCLUSION

This article sets out to conduct a comparative study on Taiwan and China's national legislation for MPAs from the perspective of relevant international rules and regulations. This paper concludes that international treaties and soft law instruments have not imposed an international obligation on parties to use MPAs as management tools and that national legislation remains a more direct way to establish MPAs. This paper

introduced the respective national laws used as a legal basis for establishing and managing MPAs in Taiwan and China and compared these two sets of national legislation. It is noted that, despite some differences, both sets of national laws exhibit many similarities. Both countries have extended terrestrial and fishery legislation to cover marine areas, resulting in an inadequate legal framework for establishing and managing MPAs. Relevant international rules and guidelines might prove to be useful references in this regard.