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## EDITED BY

Yen-Chiang Chang,  
Dalian Maritime University, China

## REVIEWED BY

Nitin Agarwala,  
Centre for Joint Warfare Studies, India  
M. Jahanzeb Butt,  
Shandong University, China

## \*CORRESPONDENCE

Ruiqiang Liu  
✉ liuruiqiang@cupl.edu.cn

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# Revision of China's marine environmental protection law: history, background and improvement

Ruiqiang Liu\*

School of Law, China University of Political Science and Law, Beijing, China

The law on marine environmental protection is a branch of the law on environmental protection and is the basis for the conduct of marine environmental protection. Since its promulgation in 1982, China's Marine Environmental Protection Law has undergone two revisions and three amendments, forming a legal system based on the Constitution, with the Environmental Protection Law as the overarching principle, the Marine Environmental Protection Law as the core, and various laws on the protection of marine elements as the gripping force. The revision of the Marine Environmental Protection Law in 2023 was based on the 2018 supervision and inspection of the enforcement inspection team of the Standing Committee of the National People's Congress, the implementation of the construction of a strong maritime country, and the adaptation to the reform of the ocean governance system. Compared with the previous Marine Environmental Protection Law, the improvements of the newly revised law are mainly reflected in the following: optimizing the institutional mechanism, reflecting the Land and Sea Coordination, strengthening supervision and management, strengthening marine litter pollution prevention and control, enhancing the protection of marine biodiversity, strengthening the regulation of estuaries, and strict liability.

## KEYWORDS

marine environment protection, the Marine Environment Protection Law, law revision, legal review, background, improvement

## 1 Introduction

The seas play an important role in the world's economic activities as providers of food, transport and recreation for the global human community (Leous and Parry, 2005). The issue of marine ecosystem protection has been one of the topics of great concern to the international community. Coastal and marine ecosystems around the world have seriously deteriorated and are heavily polluted (Puthucherril, 2015). The escalating global environmental threats have led to increased environmental awareness around the world (McCreath, 2021). The seas are mobile, and marine pollution is transboundary, so states

should conduct their maritime activities in such a way as to safeguard the interests of all humanity and environmental security (Redgwell, 2015). China is a large maritime country, claiming a total area of about 3,000,000 square kilometers of sea under its jurisdiction, with more than 18,000 kilometers of mainland coastline and 14,000 kilometers of island coastline, and possessing most of the ecosystem types of the world's seas. With the rough and high-speed growth of the economy, China is facing various environmental problems, and the contradiction between the demand for sea use and the supply of limited marine resources is becoming more and more prominent (Jiang et al., 2020; Yue et al., 2023). In the course of China's development and use of the oceans, it has not fully understood the importance of protecting the marine environment, and its management efforts have been ineffective, resulting in the pollution and destruction of China's marine environment (Ma and Chen, 1986). Marine pollution comes mainly from dumping, ships and seabed activities (Fabra, 2021). More than 80% of the major pollutants in China's nearshore and offshore waters come from land-based sources (The Central People's Government, 2006). Although the relevant departments of the state have taken many measures to prevent and control pollution of the marine environment, the situation of the marine ecosystem in China is still unsatisfactory (Jiang and Li, 2021).

Compared to other Asian countries, China introduced modern legal concepts of environmental protection relatively late, although there are clear signs of a budding environmental consciousness in Chinese culture (Ross and Silk, 1987). In the last four decades, China has witnessed phenomenal economic growth, making it a world economic power. But environmental and social costs have not been sufficiently mitigated. China never paid much attention to pollution in the early days. It was not until 1972 that they attended the United Nations Conference on the Human Environment (Agarwala, 2022). It was not until 1982 that China enacted the *Marine Environmental Protection Law (MEPL)*. The *MEPL* is a branch of environmental protection law that regulates the legal norms governing the social relations that occur in human activities of utilizing and protecting the marine environment. It serves as the basis for the conduct of marine environmental protection. The *MEPL* was formulated on the basis of summarizing China's experience in the management of the marine environment, taking into account the successful experience of other countries and the relevant provisions of international maritime law (Ma and Chen, 1986). The *MEPL* has undergone two revisions and three amendments, but there have been no major changes in the basic concept, overall structure, institutional logic and adjustment mechanism of the law. It has only been revised to varying degrees to adapt to the international and domestic development of the marine environment at different times and to harmonize relevant legislation.

The relationship between global ocean governance and ocean policy is that each country's ocean policy is an element of ocean governance. Global ocean governance includes shipping safety and security, environmental protection, spatial planning, integrated ocean management, etc. In order to further promote the cause of marine environmental protection and enhance its capacity in global ocean governance, China should strengthen its domestic legislation

on marine environmental protection and adopt sustainable development initiatives, in addition to acceding to international conventions related to marine environmental protection (Butt and Zulfiqar, 2023). The enforcement inspection of marine environmental protection carried out by the Standing Committee of the National People's Congress (NPCSC) in 2018 pointed out that China's localized near-shore waters are seriously polluted, the situation of the marine ecosystem is grim, and the process of amending the *MEPL* should be initiated as soon as possible, since the issues accumulated and challenges faced by the *MEPL* over the years of its implementation can no longer be solved by minor amendments (Mei, 2023). The importance of legislators, the confusion of law enforcers, and the helplessness of law-abiding people (Deng, 2023, p. 1), coupled with the impetus of global ocean governance and international pressure, have combined to put the revision of the *MEPL* on the agenda. In 2023, the 6th session of the 14th NPCSC voted to adopt the revised *MEPL (MEPL2023)*, which was implemented on 1 January 2024. The main objective of this amendment is to implement the achievements of China's ecological civilization system reform and to establish a complete legal system for marine environmental protection, with the functions and effects of strengthening the Land and Sea Coordination (LSC), perfecting the governance system, implementing the legal responsibility and optimizing the connection of the system as the main objectives.

This paper first reviews the laws related to marine environmental protection in China and the previous revisions of the *MEPL* and then analyses the background to the revision of *MEPL2023*. Finally, it focuses on summarizing the improvements and highlights of *MEPL2023*, and briefly raises the unresolved issues in *MEPL2023*.

## 2 Legal review

China's legislative work on marine environmental protection started relatively late, and the *MEPL* was not enacted until 1982. As China's opening to the outside world continues, it has sacrificed the environment for rapid economic development, and marine environmental problems have become increasingly prominent. Legislation on marine environmental protection has been prioritized and made significant progress (Zhu, 2016, p. 15).

### 2.1 Laws enacted by China relating to marine environmental protection

Paragraph 1 of Article 26 of the *Constitution* states, "The state shall protect and improve living environments and the ecological environment, and prevent and control pollution and other public hazards." This provision is the constitutional basis for the generation of China's legal system for marine environmental protection and provides a constitutional basis for developing and improving the *MEPL*. In accordance with the *Constitution*, China enacted the *Environmental Protection Law (EPL)* in 1989, which is the basis for environmental protection laws, as well as important legislation for environmental protection in China (Li and Xv, 2006,

p. 78). It provides an important directional guideline and systematic safeguard for marine environmental protection.

Compared with the *Constitution* and the *EPL*, the *MEPL* has a more notable position in China's legal system for marine environmental protection. In 1974, China promulgated the *Interim Provisions on the Prevention of Pollution in Coastal Waters*, which was the first normative legal document on marine environmental protection in China and opened the prelude to the era of the rule of law for marine environmental protection in China (Li, 2019). On 23 August 1982, the 24th session of the 5th NPCSC passed the *MEPL*, which entered into force on 1 March 1983, focusing on the legal regime and penalties related to the pollution and damage to the marine environment caused by the five primary sources of pollution (coastal engineering, offshore petroleum exploration and development, land-based pollutants, ships, and dumping of waste). The promulgation of the *MEPL* demonstrates the unprecedented importance that the state attaches to the protection of the marine environment and establishes basic guidelines and policies for the protection and improvement of the marine environment, the maintenance of the ecological balance, the protection of marine resources, the prevention and control of pollution, the promotion of sustainable economic and social development, and the safeguarding of human health (Qv and Qv, 2014, p. 20). It is an epoch-making milestone for China's marine environmental protection, bringing China's marine environmental protection to the rule of law.

In the field of maritime legislation, a legal system has been formed based on the *MEPL*, supplemented by administrative regulations such as the *Regulation on the Prevention and Control of Vessel-induced Pollution to the Marine Environment* (Xing et al., 2022). With the development of the cause of marine environmental protection and the gradual improvement of the rule of law on marine environmental protection, China's marine environmental protection has formed a legal system based on the *Constitution*, with the *EPL* as the overarching principle, the *MEPL* as the core, and the various laws on the protection of marine elements (Ma and Dong, 2007). (see Table 1)

In the area of marine environmental protection, in addition to enacting laws, China has issued many policies and documents. The *Rio Declaration on Environment and Development* and *Agenda 21* put forward the concept of sustainable development. China fully endorses and accepts this innovative concept and has put forward relevant goals and requirements in *China Agenda 21* in 1994, *China Ocean Agenda 21* in 1996, and the *White Paper on the Development of China's Marine Programs* in 1998 (Zhang, 2020).

## 2.2 The *MEPL*: two revisions and three amendments

The 1999 and 2023 revisions to the *MEPL* were major, while two minor and one moderate amendment were made in 2013, 2016, and 2017 (see Table 2). The main reasons for the amendments can be discerned from each amendment's context, primary purpose, and revised content.

TABLE 1 Laws Related to Marine Environmental Protection in China.

Law Type	Law Name
Basic Law	Constitution (Amendment 2018)
Environmental Protection	Law on the Prevention and Control of Environment Pollution Caused by Solid Wastes (2020 Revision) Law on Environmental Impact Assessment (Amendment 2018) Water Pollution Prevention and Control Law (Amendment 2017) Environmental Protection Law (2014 Revision)
Sea-related	Marine Environmental Protection Law (2023 Revision) Maritime Traffic Safety Law (Amendment 2017) Law on the Exploration and Development of Resources in Deep Seabed Areas (2016) Law on the Administration of Sea Areas (2001)
Water-related	Law on Ports (Amendment 2018) Water Law (Amendment 2016) Law on Flood Control (Amendment 2016) Fisheries Law (Amendment 2013) Island Protection Law (2009) Renewable Energy Law (Amendment 2009)
Others	Criminal Law (Amendment 2023) Wild Animal Conservation Law (2022 Revision) Civil Code (2020) Land Administration Law (Amendment 2019) Circular Economy Promotion Law (Amendment 2018) Agriculture Law (Amendment 2012) Mineral Resources Law (Amendment 2009)

### 2.2.1 1999 Revision

The promulgation of the *MEPL* in 1982 marked the beginning of China's marine environmental work on the track of the rule of law, and its introduction had played a significant role in promoting the construction of the coastal economy and advancing the cause of marine environmental protection. However, with the deepening of China's opening to the outside world, the rapid development of the marine economy and the evolution of the practice of marine environmental protection, the unadaptability of the *MEPL* and the issues exposed during its implementation had become more and more apparent. The reasons for the *MEPL* was manifested in the following: (a) The original *MEPL* was formulated at the early stage of reform and opening up, and due to the limitations in the understanding at that time, there were quite a number of defects in the provisions of the law, such as focusing on the regulation of preventing the damage to the marine environment caused by pollution of a single pollution source from the structure and content, and failing to make clear and specific provisions on the protection of the marine environment in general and the protection of marine ecosystems in particular. (b) With the further establishment and improvement of China's legal system and environmental management, a number of relevant laws had made many new provisions for the protection of the environment, and in the administrative rules and regulations formulated by the State Council (SC) and its relevant departments, a number of new systems and measures relating to the protection of the environment had been added, which were also urgently needed for the protection of the marine environment, and which should

TABLE 2 Different versions of the *MEPL*.

Version	Total Number of Chapters and Articles	Number of Revision	Revised Article
In 1982 (Formulation)	8 Chapters 48 Articles		
In 1999 (Revision)	10 Chapters 97 Articles	all articles	Articles 8, 17, 30, 31, 33, 34, 41, 42, 46, and 47 deleted. Other articles revised.
In 2013 (Amendment)	10 Chapters 98 Articles	3 articles	Articles 43, 54, and 80 revised.
In 2016 (Amendment)	10 Chapters 97 Articles	19 articles	Articles 3, 6, 7, 11, 12, 24, 32, 43, 44, 47, 48, 70, 73, 80, 83, 91, and 93 revised. Articles 12 and 78 deleted.
In 2017 (Amendment)	10 Chapters 97 Articles	2 articles	Articles 30 and 77 revised.
In 2023 (Revision)	9 Chapters 124 Articles	116 articles	Articles 27, 35, 41, 53, 65, 91, 95, and 96 retained. Other articles revised.

be recognized as such in the form of a law. (c) Since the implementation of the *MEPL*, China had successively ratified and acceded to several international conventions and protocols, especially after China ratified and acceded to the *United Nations Convention on the Law of the Sea* in 1996, and China's rights and obligations in international marine affairs had changed. (d) From the perspective of the overall state of China's marine environment, due to the large amount of urban sewage and industrial and agricultural wastewater discharged into the sea, the frequency of marine environmental disasters had continued to increase, together with other activities that seriously damage the marine environment, resulting in increasing pollution and damage to China's marine environment, the destruction of the primary conditions of marine resources, and the expansion of the polluted areas outwards, with the scope of the pollution expanding (Zhai, 2000).

In order to protect and improve the marine environment, maintain the ecological balance, conserve marine resources, and promote sustainable economic and social development, it was essential to amend the *MEPL*. The 1999 version of *MEPL* was a major revision, with all the articles were revised, and the total number of articles increased from 34 to 98. Supervision and management of the marine environment and protection of marine ecology, were added, and the original chapter on preventing pollution and damage to the marine environment from marine petroleum exploration and exploitation was expanded to preventing pollution and damage to the marine environment from marine engineering construction projects and almost all the articles of the entire law were amended.

### 2.2.2 2013 Amendment

In 2013, the SC decided to cancel and delegate a number of administrative approval projects and other matters. The reason for this minor revision of the *MEPL* was to implement the 2013 decision of the SC. Only Articles 43, 54, and 80 were amended, which mainly involved simplifying the procedures for reviewing and approving the environmental impact report and changing the competent authority's approval of the preparation of the oil spill contingency plan for the exploration and development of marine petroleum from approval to filing it with the maritime zones authority.

Article 43 stipulated that the environmental impact report may be approved by the administrative department for environmental protection only after being reviewed by the administrative department for marine affairs. Considering that the environmental impact report was carried out by the administrative department for environmental protection, changing the front-end examination of the administrative department for marine affairs to an internal consultation in the examination and approval process of the administrative department for environmental protection could also play the role of the administrative department for marine affairs, which was conducive to the convenience of the relative administrative management and improvement of the efficiency of the administrative examination and approval. The *MEPL* canceled the marine administrative department's front-end examination and approval procedure. At the same time, Article 80 on legal liability had been amended accordingly.

Article 54 stated, "For the exploration and development of offshore oil, and oil spill contingency plan must be prepared as legally required and submitted to the local sea area office of the state oceanic administrative department for recordation." In practice, the oil spill contingency plan mainly included three aspects: platform operation situation and environmental resource situation of the sea area, oil spill risk analysis, and oil spill contingency capacity. Considering that these contents had already been examined in another approval implemented by the environmental impact report and that emergency drills, exercises, and training should also be verified during the acceptance of the project, the same effect could be achieved by filing the plan and strengthening the responsibility of corporate environmental protection, the *MEPL* canceled the approval of the oil spill contingency plan and replaced it with the record management (The National People's Congress, 2013).

### 2.2.3 2016 Amendment

In 2012, the 18th CPC National Congress incorporated the construction of ecological civilization into the "five-in-one" overall layout of socialist modernization, emphasizing respect for nature, conformity to nature and protection of nature, and also pointing out the need to continue to simplify and decentralize government and improve administrative efficiency (Hu, 2012). The Chinese government had put forward new requirements for protecting the marine ecological environment, such as establishing a system of ecological protection red line, compensation for ecological protection, and main functional zones, which must be reflected in



the *MEPL* (The SOA, 2017a). The protection of the marine ecological environment was an important part of the construction of ecological civilization, and ruling the sea according to the law was the proper meaning of comprehensively implementing the rule of law. How to use the rule of law to change the mode of economic development, take care of the blue water and the blue sky, and build a beautiful ocean had become a concern of the public and an issue that China must solve. The reason for this amendment to the *MEPL* was to implement the requirements of the 18th CPC National Congress, to adapt to the new situation of building an ecological civilization, and to implement the new concept of ruling the sea in accordance with the law, to carry out the optimization of the administrative approval process, and to coordinate with the revised *EPL* in 2014.

The *Decision to Amend the MEPL* was adopted at the 24th session of the 12th NPCSC on 7 November 2016, amending 19 articles of the *MEPL*, focusing mainly on three aspects: (a) It implemented the new arrangements and requirements made by the CPC Central Committee and the SC on the promotion of ecological civilization and ecological civilization system reform. (b) It promoted the SC's reform on simplifying government, decentralization of power, a combination of management and optimization of services, cancellation of a portion of the administrative approval matters, and optimization of the administrative approval procedures. (c) It was in conjunction with the newly amended *EPL* in 2014, strengthening legal responsibilities and increasing the penalties for illegal acts (The SOA, 2017b, pp. 1-7).

#### 2.2.4 2017 Amendment

The 2017 version of the *MEPL* amended Articles 30 and 77. The reason for this amendment was to further optimize administrative approval process, primarily in relation to sea outfalls, simplifying the approval procedure for the establishment of sea outfalls to a record procedure and modifying the notification procedure and penalty provisions accordingly. Paragraph 1 of Article 30 was amended to read, "Any outlets for discharging pollutants into the sea shall be sited in accordance with marine functional zoning plans, marine dynamic conditions and relevant provisions, and shall, after scientific demonstration, be reported to the environmental protection administrative department of the people's government at or above the level of a districted city for recordation." Paragraph 2 was amended to read, "The environmental protection administrative department shall, within 15 working days after completing recordation, notify the information on the setup of the outlets for discharging pollutants into the sea to the oceanic, maritime and fishery administrative departments and environmental protection departments of armed forces." At the same time, Article 77 added the following: "where the oceanic, maritime or fishery administrative department or environmental protection department of armed forces finds that the setup of an outlet for discharging pollutants into the sea violates the provision of Paragraph 1 or 3 of Article 30 of this Law, it shall notify the environmental protection administrative department to punish the violator in accordance with the provisions of the preceding paragraph."

## 3 Background to the revision of *MEPL2023*

### 3.1 The 2018 supervision and inspection of the enforcement inspection team of the NPCSC

The 13th NPCSC set up a law enforcement inspection group to implement the *MEPL* and conducted the supervision and inspection of the implementation of the *MEPL* in 2018. On 24 December 2018, at the 7th session of the 13th NPCSC, the law enforcement inspection group presented a Report on the *MEPL* implementation inspection (hereinafter referred to as *Report*) (The National People's Congress, 2018a). While affirming the achievements of China's marine environmental protection work over the years in accordance with the law, the *Report* pointed out that the pollution of China's nearshore local waters is relatively severe. The situation of the marine ecological environment is still grim, facing the following issues: prominent issues in the setting and management of outfalls into the sea, insufficient efforts to prevent and control land-based pollution, inadequate implementation of pollution prevention and control measures at sea, relative lagging in the protection and restoration of marine ecosystems, inadequate implementation of the system of supervision and management of the marine environment, scientific and technological support that needs to be strengthened, and imperfections in laws and regulations for the protection of marine ecosystems (The National People's Congress, 2018b). Several bays across the country are seriously polluted, the rate of natural shoreline retention on the mainland is low, and nearly half of the coastal zone is overloaded with resources and the environment. The issue of ecosystem destruction and degradation in some areas is relatively severe, especially the destruction of mangrove forests, coral reefs, coastal wetlands, and other critical habitats, which is particularly obvious, and ecological disasters are frequent and recurrent, mainly red tides and green tides. Environmental risks continue to increase, with incidents such as oil spills and leakage of hazardous chemicals (Sun, 2023).

The reasons for the imperfections in marine ecological environmental protection laws and regulations are manifold. Articles 3, 30, and 56 of the *MEPL* require the establishment of a system for controlling the total amount of pollution discharged into the sea from key areas, specific measures for offshore pollutant discharge outlets, and a catalog of ocean-dumped debris, which have not yet been issued. The *Administrative Regulations on the Prevention and Control of Pollution Damage to the Marine Environment by Land-sourced Pollutants* was formulated in 1990, making it difficult to adapt to the current management needs. Some provisions of local laws, regulations or normative documents of several provinces are inconsistent with the relevant provisions of higher laws, and there are issues such as illegal and irregular delegation of approval rights. There is a general call to amend the *MEPL* as soon as possible (The National People's Congress, 2018a). The *Report* addresses the issues in the laws and regulations on marine ecological environmental protection. It proposes that the strictest legal system protects the marine ecological environment.

The *MEPL* should be amended as soon as possible and should do an excellent job of linking up with the *Water Pollution Prevention and Control Law* and the *Law on the Prevention and Control of Environment Pollution Caused by Solid Wastes*; it should be refined and enriched to include legal systems for the joint prevention and control of critical areas; it should strengthen the prevention and control measures for land-based discharges, seawater aquaculture, and pollution control measures for ships; it should clarify the legal liability of the relevant departments; and it should increase the penalties for violations of laws and regulations (The National People's Congress, 2018a).

### 3.2 The need to build China into a strong maritime country

The oceans are the cradle of life, the treasure trove of resources, and the lifeblood of transport. Protecting the marine ecosystem must be the fundamental requirement and basic guarantee for constructing a strong maritime country and achieving harmonious coexistence between humans and the sea. Since the 18th CPC National Congress, China has accelerated the construction of the marine industry and increased its efforts to protect the marine environment and has made a series of major deployments to construction a strong maritime country. The report of the 18th CPC National Congress proposed that China should improve the capacity for marine development and the protection of marine ecosystems while developing the seas, and build China into a maritime power (Hu, 2012). The report of the 19th CPC National Congress explicitly proposed that China will promote the supporting role of marine science and technology in the development of marine resources and environmental protection, and build China into a strong maritime country (Xi, 2017). The report of the 20th CPC National Congress further emphasized that China will enhance its ability to safeguard maritime rights and interests, participate deeply in global maritime governance and build China into a strong maritime country (Xi, 2022). To accelerate the construction of a strong maritime country, it is necessary to deepen the theoretical study of marine legislation, improve the scientific nature of marine legislation, and improve the marine legal system from the top-level design level. It is necessary to speed up the revision of the *MEPL*, enhance the coordination and articulation between different marine legislation, strengthen the operability of the law, and bring the legal system closer to the requirements of the times and the objective needs of China's development of its marine cause, so as to provide a legal basis for safeguarding the country's maritime rights and interests (Zhang, 2023).

### 3.3 Adapting to the SC institutional reform in ocean governance

After the 2018 reform, the responsibilities of the State Oceanic Administration (SOA) were fulfilled by the newly formed Ministry of Ecology and Environment and Ministry of Natural Resources. The Ministry of Ecology and Environment, as the competent

authority for marine environmental management and protection, is responsible for national marine ecological environmental protection and supervision. The Ministry of Natural Resources is responsible for marine economy and planning, protection of maritime rights and interests, and development and utilization of islands (Zhang and Chang, 2022). There is still a certain degree of cross-over of responsibilities between the two ministries in actual work, such as the investigation and research of marine resources and the exploration and development process, which will involve marine ecological environmental protection work. At the same time, there are duplication issues between the two ministries in terms of the building of marine professional teams, the technical capacity for marine ecological environment observation and monitoring, and the construction, use, and management of marine survey equipment (Zhang, 2020).

In addition, in accordance with the *Deepen Reform of Party and State Institutions*, China has established a unified maritime law enforcement agency and retained specialized law enforcement departments to build a professional environmental management team (Xing et al., 2022). The structure of the Coast Guard has also changed, from being under the leadership of the SOA to the People's Armed Police Force of China (Liu and Hu, 2024). This reform has led to significant changes in the regulatory and enforcement regime for marine dumping, particularly the separation of licensing and enforcement powers. At the same time, in order to better coordinate national and local marine law enforcement, comprehensive marine law enforcement teams have been set up in coastal areas. The Ministry of Ecology and Environment has established three new ecological and environmental regulatory agencies for watershed marine areas (Miao and Liu, 2023). As a result of the institutional reform, the functions of the SOA have been reconsolidated, and it is unclear how the *Provisions for the Supervision and Administration of the Marine Red Line*, which were originally drafted by the SOA in 2018, will be implemented (Zou and Wang, 2019). Therefore, revising the *MEPL* will help to clarify further the responsibilities of various law enforcement departments and the supervision of marine red lines.

## 4 Improvements of *MEPL2023*

### 4.1 Optimizing institutional mechanisms

The establishment of a modernized marine environmental management system must begin with a clear definition of the relationship between the main subjects of marine environmental management (Chen et al., 2021). *MEPL2023* not only provides legal safeguards for China's management system and mechanism for marine ecological environmental protection, which has undergone significant changes, but also adheres to an issue-oriented approach, focusing on the main contradictions, special issues, and outstanding features of marine environmental protection, and establishes and improves the relevant system to improve the quality of the marine environment (Miao and Liu, 2023). According to the *Deepen Reform of Party and State Institutions*, *MEPL2023* specifies the

division of responsibilities among the competent departments of the SC in charge of ecological and environmental, natural resources, transport, fishery, as well as the departments of development and reform, forestry and grasslands, housing and urban-rural development, water administration. It specifies the marine environmental protection duties of the coast guard agency in accordance with China's Coast Guard Law.<sup>1</sup> (see Table 3)

*MEPL2023* stipulates that coastal governments are responsible for the quality of the marine environment in the areas under their jurisdiction, and emphasizes that the state has implemented a target responsibility system for the protection of the marine environment, as well as an assessment and evaluation system.<sup>2</sup> It specifies that coastal governments may establish regional cooperation mechanisms for marine environmental protection, and that cross-regional marine environmental protection work shall be determined by higher-level governments. The Ministry of Ecology and Environment shall be responsible for the coordination of major trans-departmental marine environmental protection work. Where coordination fails, the above work shall be determined by the SC.<sup>3</sup> The Ministry of Ecology and Environment, in conjunction with relevant units, shall formulate a national plan for the protection of marine ecological environment;<sup>4</sup> in conjunction with the relevant departments, delineate the national environmental governance priority sea areas and their control areas, and formulate an action plan for comprehensive governance;<sup>5</sup> in conjunction with the natural resources department of the SC, prepare a national ocean dumping area plan, request comments from the transport, fishery, other departments of the SC and coast guard agencies<sup>6</sup>.

## 4.2 Reflecting LSC

The land and the sea are two ecosystems that influence and constrain each other. Marine environmental issues manifest in the sea and have their roots on land. Land-based activities are the main cause of marine pollution, including intensive human settlement of coastal areas (Fabra, 2021). There has long been a relatively serious disconnect and lack of coordination between China's land-based ecological environmental protection and its marine ecological protection, which has led to a certain extent to several contradictions in the overall ecological environmental protection and effects of ecological environmental protection, and the deterioration of the marine ecological environment (Li, 2021).

*China Ocean Agenda 21* proposed integrating land development planning for coastal land areas and marine areas

based on the strategy of integrating land and sea (Gu et al., 2023). The concept of LSC was introduced at the beginning of the century; LSC centers on the relationship between land and sea (Yuan and Chang, 2021; Yue et al., 2023). The essence of LSC lies in "transforming the land and the sea, as well as the various elements within the land and the sea, from disorder to order, from dysfunction to harmony, and in the articulation and benign interaction of all aspects" (Li et al., 2016). LSC governance is one of the prominent features of the regional structure of modern marine environmental governance in China (Chen et al., 2021). Article 60 of the *Yangtze River Protection Law* and Article 8 of the *Coast Guard Law* contain requirements for LSC.

*MEPL2023* has added provisions on the principles of marine environment protection, including the principle of LSC.<sup>7</sup> Compared with the previous *MEPL*, the principle of LSC is a new element, which strengthens the position of *MEPL2023* as the basic law for marine environmental protection to integrate land and sea environmental protection. *MEPL2023* no longer distinguishes between the two but rather unifies the supervision and management of the marine environment under the competent ecological and environmental authorities, an adjustment that aligns with the spirit of the SC institutional reform and the requirement of LSC.<sup>8</sup> China is implementing an LSC system for the supervision and management of the marine environment and its articulation and coordination.<sup>9</sup> These are not covered in the previous *MEPL*, and this new provision indicates the direction of the system for the supervision and management of the marine environment (Li and Cheng, 2023). *MEPL2023* puts forward the requirements for the coordination and unity of the land and sea planning system,<sup>10</sup> stipulates the requirements for the protection of marine biodiversity in the development and utilization of marine and coastal zone resources,<sup>11</sup> of which the provisions on coastal zones were not deployed in the previous *MEPL*, which also reflects the importance attached by *MEPL2023* to the ecological protection of the transitional space between the land and the sea.

## 4.3 Strengthening supervision and management

With the rapid population growth in China's coastal areas, the marine environment is facing serious challenges and problems, and an effective marine management system must be established in order to coordinate the protection and development of marine resources and to achieve the harmonious development of mankind and the seas (Teng et al., 2021). Compared with the

1 Article 4 of *MEPL2023*.

2 Article 5 of *MEPL2023*.

3 Article 6 of *MEPL2023*.

4 Article 14 of *MEPL2023*.

5 Article 20 of *MEPL2023*.

6 Article 73 of *MEPL2023*.

7 Article 3 of *MEPL2023*.

8 Article 4 of *MEPL2023*.

9 Article 12 of *MEPL2023*.

10 Articles 13, 14, and 15 of *MEPL2023*.

11 Article 36 of *MEPL2023*.

TABLE 3 Responsibilities for marine environmental protection by department.

Department	Responsibility
Ministry of Ecology and Environment	It is responsible for the supervision and administration of the national marine environment, for the environmental protection in relation to nationwide prevention and control of marine environmental pollution damage caused by land-based pollutants, coastal and marine construction projects, and wastes dumped into the sea, and for guidance on, coordination of, and supervision of national marine ecological protection and repair.
Ministry of Natural Resources	It is responsible for the supervision and administration of marine protection, development, and utilization and for the repair of national marine ecology, coastlines, and islands.
Ministry of Transport	It is responsible for the supervision and administration of the pollution to the marine environment caused by nonmilitary vessels inside the harbor waters under its jurisdiction and that caused by non-fishing vessels and non-military vessels outside the harbor waters under its jurisdiction and organizing, coordinating, and directing contingency response to major marine oil spills. It is specifically responsible for the supervision and administration of the marine environmental pollution caused by vessels in the above waters and for investigating and handling pollution accidents. In the event of a pollution accident caused by a foreign vessel navigating, berthing or operating in the sea under the jurisdiction of China, inspection and treatment shall be conducted on board the vessel in question.
Ministry of Water Resources	It is responsible for investigating and dealing with major water-related offenses, coordinating and arbitrating cross-provincial water disputes, and guiding water supervision and water administrative law enforcement. Guiding the management, protection and comprehensive utilization of water conservancy facilities, waters and their shorelines.
Ministry of Agriculture and Rural Affairs	It is responsible for the supervision and control over the marine environment pollution caused by non-military vessels inside the fishing port waters and that caused by fishing vessels outside the fishing port waters. It is also responsible for the protection of the ecological environment in the fishing zones, and shall investigate and handle the fishery pollution accidents other than those specified in the preceding paragraph.
National Development and Reform Commission	Promoting the implementation of sustainable development strategies, promoting the construction and reform of ecological civilization, and coordinating the protection and restoration of the ecological environment and the conservation and comprehensive use of energy and resources.
The Coast Guard agency	It shall conduct the supervisory inspection of marine construction projects, pollution damage caused to the marine environment by wastes dumped into the sea, and the protection and utilization of the seaward side of the coastline of nature reserves, and other activities within the scope of its duties, investigating and punishing violations, and participating in the contingency response to and investigation and handling of marine environmental pollution accidents in accordance with the prescribed authority.
People's Liberation Army	It is responsible for the supervision and control over the marine pollution caused by military vessels and for the investigation and handling of the pollution accidents caused by military vessels.

previous *MEPL*, *MEPL2023* presses down on departmental and local responsibilities, clarifies the labor, and strengthens the duties of relevant departments.<sup>12</sup> Relevant national and local units should enhance the monitoring and sharing of information on the management of the marine environment in accordance with applicable regulations.<sup>13</sup> Coastal governments are responsible for the quality of the marine environment in the areas under their jurisdiction. China should implement an assessment and evaluation system and a target responsibility system for marine environmental protection to enhance the level of supervision and management of the marine environment. The duties of local governments include the protection and rational use of sea areas, the supervision and management of human-related marine activities, and the assessment of the effectiveness of protection; according to the national marine ecological environmental protection planning, they organize the marine environmental protection work in the sea area under their jurisdiction; and governments will not approve additional environmental impact reports for construction projects in sea areas where the targets for marine environmental protection have

not been met, and will interview the main person in charge of the sea areas and require them to carry out timely rectification.<sup>14</sup>

*MEPL2023* values the guiding role of marine ecological environmental protection planning and strengthens the articulation and coordination of supervision and management systems. Governments should improve their capacity for the supervision and management of the marine environment through the adoption of high-technology measures.<sup>15</sup> *MEPL2023* strengthens the supervision during and after the incident and adds provisions such as the installation and use of online monitoring equipment for ocean dumping, as well as strengthens the reporting system for dumping operations so as to improve the effectiveness of supervision.<sup>16</sup> For the public, access to information on the marine environment is not yet sufficiently smooth and convenient (Zou and Wang, 2019). *MEPL2023* increases the system of the zone-based ecological and environmental management and control, comprehensive treatment of key sea areas, interview and correction, information sharing, credit evaluation, sequestration, or impoundment. At the same time, *MEPL2023* improves the systems of planning, standards,

<sup>12</sup> Article 23 of *MEPL2023*.

<sup>13</sup> Article 25 of *MEPL2023*.

<sup>14</sup> Articles 5, 13, 14, and 18 of *MEPL2023*.

<sup>15</sup> Article 12 of *MEPL2023*.

<sup>16</sup> Articles 75 and 76 of *MEPL2023*.



monitoring, early warning, investigation, environmental impact assessment, and contingency response ([The Central People's Government, 2023](#)).

#### 4.4 Strengthening marine litter pollution prevention and control

Marine ecosystems determine the maintenance and development of the entire Earth's life system. Human activities and climate change are the main causes of the deterioration of the global marine environment ([Wang, 2021](#)). "Pollution of the marine environment" means the discharge of substances into the sea by human beings, resulting in hazards to marine life and resources, which in turn pose a threat to human health.<sup>17</sup> Marine litter is one of the marine pollution issues that people feel most directly and reflect most strongly ([Sheavly and Register, 2007](#)). The prevention and control of marine litter pollution is an issue of widespread concern to the international community. China's marine environment is seriously polluted, and as far as marine plastics are concerned, China, as the world's largest producer and consumer of plastics, is one of the largest contributors to marine plastic pollution worldwide ([Fürst and Feng, 2022](#)). This does not match China's status as an active participant in global ocean governance.

Compared with the previous *MEPL*, *MEPL2023* provides that coastal governments are responsible for the prevention and control of marine litter pollution in the sea areas under their jurisdiction, establish a system for monitoring and cleaning up marine litter, coordinate the planning and construction of land-based facilities for receiving, transferring, and treating marine litter, specify the areas for management and control of marine litter by relevant departments, townships, towns, sub-districts, enterprises, and public organizations, among others, establish and organize the implementation of a system for monitoring, intercepting, collecting, removing, transporting, and treating marine litter.<sup>18</sup> These provisions reflect a systematic approach to governance, with multiple links and initiatives to curb the amount of marine debris entering the sea, and the interception, collection and removal of debris that has already entered the sea and its disposal on land, forming a closed loop for the integrated management of marine debris on land and at sea.

The regulation of marine waste dumping is significant for the coordination of high-quality development protection and marine ecological environmental of the oceans. *MEPL2023* addresses the outstanding issues in the regulation of marine waste dumping, combines domestic practical experience with international compliance achievements, improves the approval and management system, optimizes the access and layout of construction projects, strengthens the regulation of marine sand mining, optimizes the approval level of marine waste dumping permits, and improves the monitoring and reporting of dumping

operations, and strengthens source management of waste.<sup>19</sup> *MEPL2023* explicitly prohibits discarding, placing, and treating solid wastes on a beach, and effective measures shall be taken to prevent the solid wastes from entering the sea.<sup>20</sup> An important requirement for the protection of ecological civilization is to raise people's awareness of marine protection ([Jiang et al., 2020](#)). *MEPL2023* requires effective measures to encourage and support public participation in activities related to the prevention and control of marine litter pollution.<sup>21</sup> *MEPL2023* makes provisions for strengthening the prevention and control of vessel pollution. It adds provisions on the control of vessel ballast water and sediment discharge, pollution prevention and control of vessel dismantling, green low-carbon smart shipping, and control areas for the discharge of pollutants from vessels. It also requires that monitoring and surveillance to be carried out according to the relevant regulations when carrying out activities involving the discharge of vessel pollutants, ballast water and sediment, and operations, and that a multi-departmental regulatory system for the reception, transfer, treatment, and disposal of ship vessels be established.<sup>22</sup> *MEPL2023* attaches importance to preventing and controlling marine sand mining. Mining of sea sand within the strictly protected shoreline is prohibited, and the development and utilization of sea sand resources in other areas in accordance with the law shall take strict measures to protect the marine environment. Carrying sea sand resources shall hold a legal source certificate, and those who violate the law shall be ordered to make corrections and be fined.<sup>23</sup>

#### 4.5 Enhancing the protection of marine biodiversity

Marine biodiversity is an important foundation for human survival and sustainable development, with functions of resource supply, climate regulation, and cultural services ([Li and Pang, 2024](#)). Humans are having an increasing impact on the abundance and diversity of marine life, and inappropriate human uses of the seas are leading to the extinction or near-extinction of an increasing number of species ([Lotze, 2021](#)). Overloading of marine life will alter ecosystems, reduce biodiversity and lead to continued deterioration or even collapse of ecosystems ([Crain et al., 2009](#)). As people's understanding of the harmonious coexistence of mankind and the seas gradually increases, the protection of biodiversity is also receiving more and more attention from the theoretical and practical sectors ([Selig et al., 2014](#)).

Marine biodiversity plays a vital role in maintaining healthy marine ecosystems. Although the *National Biodiversity Strategy and*

<sup>17</sup> Article 1(4) of the *United Nations Convention on the Law of the Sea*.

<sup>18</sup> Article 57 of *MEPL2023*.

<sup>19</sup> Chapter VI of *MEPL2023*.

<sup>20</sup> Article 56 of *MEPL2023*.

<sup>21</sup> Article 57 of *MEPL2023*.

<sup>22</sup> Chapter VII of *MEPL2023*.

<sup>23</sup> Articles 64 and 97 of *MEPL2023*.

*Action Plan 2011–2030* contains relevant policy measures on marine biodiversity and provides a general framework for marine biodiversity conservation, China still lacks comprehensive marine biodiversity law (Wang and Zou, 2020). China is one of the wealthiest countries in terms of biodiversity globally and one of the countries where biodiversity is most seriously threatened (Zhang et al., 2022). However, the previous *MEPL* did not have provisions on marine biodiversity protection. Therefore, *MEPL2023* stipulates that “the state strengthens the protection of marine biodiversity, improves the survey, monitoring, assessment, and protection system for marine biodiversity, maintains and repairs important marine ecological corridors, and prevents damage to marine biodiversity. When marine and coastal zone resources are developed and utilized, important marine ecosystems, biological species, and biological genetic resources shall be effectively protected to maintain marine biodiversity. Any introduction of marine animal or plant species shall be subject to scientific assessment so as to avoid damages to marine ecosystems”.<sup>24</sup> In addition, *MEPL2023* also provides for the restoration of marine biodiversity and the repair and improvement of marine ecology, and makes it clear that marine ecological repair shall focus on improving habitats and restoring biodiversity and basic ecosystem functions, be based on natural restoration supplemented with artificial repair, and give priority to repairing representative marine ecosystems.<sup>25</sup>

#### 4.6 Strengthening the regulation of estuaries

Marine ecological environment protection should not only focus on the sea but also on the land facing the sea, and estuaries as the link between the sea and the land is bound to become a key factor in the management of marine ecology. The LSC governance pattern must focus on solving the issue of land-based pollution caused by estuaries (Wang and Pei, 2023). The *Report* pointed out that the estuaries set up irregularities, lax supervision, and other issues are more prominent, requiring the development of estuaries filing and management methods, the revision of the *MEPL*, the standardization of estuaries setup, the strengthening of supervision, a comprehensive traceability investigation of estuaries to be carried out, and the found of a file to strengthen the direct discharge of sea pollution sources, clean up and other work (The National People’s Congress, 2018a). As far as China’s Bohai Sea estuaries are concerned, they are characterized by their large number and wide distribution, the seasonal and intermittent nature of sewage discharge, and the generally weak construction of coastal drainage infrastructure (Xv and Yan, 2023).

In response to the current problems of estuaries and requirements for the *Report*, *MEPL2023* requires compiling data on monitoring, survey, and surveillance of estuaries entering the

sea.<sup>26</sup> The relevant departments should determine indicators for strictly controlling the ecological flow of rivers entering the sea and actively take protective measures for the ecological restoration of estuaries.<sup>27</sup> The relevant departments shall coordinate the prevention and control of the pollution of the rivers, so as to ensure that the water quality of river estuaries complies with requirements related to environmental quality of estuaries, strengthen the management and control of total nitrogen and total phosphorus discharge into the sea, and formulate and organize the implementation of a control plan.<sup>28</sup> The entity responsible for an outfall shall strengthen the monitoring of the outfall and conduct surveillance and automated monitoring in accordance with applicable provisions. Coastal local governments shall arrange for relevant departments to investigate, improve, and daily supervise and administer various outfalls within their respective administrative regions, and establish and improve a governance system for nearshore water bodies, marine outfalls, sewers, and pollution sources. The Ministry of Ecology and Environment are responsible for formulating specific measures for the establishment and management of marine outfalls, developing technical specifications for marine outfalls, and organizing the building of a unified information platform for marine outfalls.<sup>29</sup> Legal liabilities will be added for illegal acts such as establishing a marine outfall without recordation and failing to conduct surveillance and automated monitoring in accordance with applicable provisions.<sup>30</sup> In addition, where pollutants are discharged into the sea through an open ditch (gutter), the open ditch (gutter) are subject to water environmental quality management according to relevant local and national provisions and standards.<sup>31</sup> It is prohibited to build industrial outfalls and urban sewage treatment plant’s outfalls in natural reserves, important fishery waters, bathing beaches, ecological protection red line areas, and other specially protected areas.<sup>32</sup>

#### 4.7 Strict liability

The previous *MEPL* imposed lighter penalties for marine environmental pollution offences and failed to combat marine violations effectively (Zhang and Chang, 2022). Marine environmental protection should adhere to the principles of sustainable development, prevention as the mainstay, integration of

<sup>24</sup> Article 36 of *MEPL2023*.

<sup>25</sup> Article 42 of *MEPL2023*.

<sup>26</sup> Article 24 of *MEPL2023*.

<sup>27</sup> Article 40 of *MEPL2023*.

<sup>28</sup> Article 50 of *MEPL2023*.

<sup>29</sup> Article 47 of *MEPL2023*.

<sup>30</sup> Article 99 of *MEPL2023*.

<sup>31</sup> Article 49 of *MEPL2023*.

<sup>32</sup> Article 48 of *MEPL2023*.

prevention and treatment, and polluter pays (Dzidzornu, 1998). In formulating laws on environmental protection, it is necessary to clarify the liability and compensation for pollution damage and to increase penalties (Joyner, 1996). *MEPL2023*, in response to the current situation of marine environmental pollution and ecological damage, has increased the number of penalties, increased the severity of penalties, and enriched the ways of counting penalties and the means of imposing them in terms of legal liability, thus preventing or reducing marine environmental pollution and ecological damage and enhancing the deterrent effect of the implementation of the law.

In response to the frequent occurrence of illegal dumping activities at sea and the light penalties for such offenses, *MEPL2023* increases the amount of penalties<sup>33</sup>, increases the manner of imposing fines, stipulates fines per area according to the characteristics of damaging marine ecosystems or nature reserves,<sup>34</sup> and increases fines per occasion for individual who discards, places, and treats municipal solid waste on a beach without authorization<sup>35</sup>. *MEPL2023* increases penalties for offenses related to aquaculture and waste dumping activities at sea,<sup>36</sup> adds penalties for offenses of failing to conduct surveillance and automated monitoring in accordance with applicable provisions, conducting production and construction activities violating the ecological and environmental access list, failing to keep a list of harmful materials on board the vessel, to continuously update it when building, operating, and repairing the vessel, or make it available to an entity engaged in vessel dismantling before the vessel is dismantled.<sup>37</sup> A new system of joint and several liability has been added. If the entity that receives permission for the dumping of wastes violates the provisions, it should bear joint and several liability with the agent that causes environmental pollution and ecological damage.<sup>38</sup> *MEPL2023* establishes a marine environmental target responsibility system and assessment and evaluation system.<sup>39</sup> *MEPL2023* introduces the penalty of “restriction”.<sup>40</sup> As a preventive administrative penalty, “restriction” is incorporated into the law, which is more in line with the needs of the governance of the risk society and the information society, and it can help to effectively prevent the pollution of the marine environment based on the protection of the rights of the relative to be restricted. It is important to effectively prevent marine environmental pollution and ecological damage (Miao and Liu, 2023).

From the above, it can be seen that *MEPL2023* has overcome many issues of the previous *MEPL* and has made great improvements, but it is not perfect, and there are still

some unresolved issues. For example, ocean governance and marine environmental protection require multichannel and multidisciplinary international cooperation (Grip, 2017), and *MEPL2023* does not have sufficient clarity on international cooperation on marine environment protection. In addition, there is a lack of smooth connection with other laws on marine environmental protection. Although *MEPL2023* has provisions for marine ecosystem compensation, its provisions are more general and principled (Wang, 2023). Ecological changes caused by land reclamation and water bodies, although an essential element of marine pollution, are not specified in *MEPL2023*. Marine protected areas (MPAs) are important measures for protecting the marine environment (Boonzaier and Pauly, 2016). The establishment of MPAs is currently a widespread practice in the international community (Guzmán et al., 2023). MPAs have the function of protecting, restoring and maintaining ecosystem resilience, fish stocks, habitat structure and biodiversity diversity (Gjerde, 2007). In contrast, *MEPL2023* has minimal provisions for MPAs.

## 5 Conclusion

China is a large maritime country with vast seas, long coastlines, numerous islands, abundant resources and diverse ecosystems. It possesses most of the ecosystem types of the world's seas. Marine environmental protection is an integral part of the construction of an ecological civilization and a beautiful China. China's marine environmental protection has formed a legal system with the *MEPL* as the core, along with various marine protection laws and regulations. Although China's marine environmental protection laws are constantly increasing and improving, the level of marine environmental governance has not been significantly improved, and some aspects are even deteriorating. It seems to be a huge and perfect legal system, but there are still many issues. Since its promulgation in 1982, the *MEPL* has undergone two revisions and three amendments. Amending the *MEPL* is of great significance for protecting and improving the marine environment, enabling the people to enjoy better the blue sea, blue sky, and clean beaches, safeguarding ecological security and public health, safeguarding the country's rights and interests in the seas, building a strong maritime country, promoting sustainable economic and social development, and realizing the harmonious coexistence between human and nature.

The 2018 supervision and inspection of the enforcement inspection team of the NPCSC, the implementation of building a strong maritime country, and the adaptation to the reform of the ocean governance system have jointly promoted *MEPL2023*. *MEPL2023* focuses on the outstanding issues of marine ecological environmental protection, summarizes the practical experience of marine ecological environmental protection, and has many institutional innovations and pragmatic and practical initiatives. Compared with the previous *MEPL*, the improvements of *MEPL2023* are mainly reflected in the following: optimizing the institutional mechanism, reflecting LSC, strengthening supervision and management, strengthening marine litter pollution prevention and control, enhancing the protection of marine biodiversity, strengthening the regulation of estuaries, and strict liability. However, no law is permanent and perfect, and *MEPL2023*

<sup>33</sup> Articles 93 and 103 of *MEPL2023*.

<sup>34</sup> Article 96 of *MEPL2023*.

<sup>35</sup> Article 93 of *MEPL2023*.

<sup>36</sup> Articles 98 and 106 of *MEPL2023*.

<sup>37</sup> Articles 99, 102, and 110 of *MEPL2023*.

<sup>38</sup> Article 78 of *MEPL2023*.

<sup>39</sup> Article 18 of *MEPL2023*.

<sup>40</sup> Articles 106 and 107 of *MEPL2023*.

still has some unresolved issues that need to be further improved at a later stage.

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## Conflict of interest

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