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RECEIVED 10 March 2024

ACCEPTED 06 May 2024

PUBLISHED 16 May 2024

## CITATION

Huang L, Zhou R and Wang Q (2024)  
Toward better governance of the marine  
environment: an examination of the revision  
of China's marine environmental  
protection law in 2023.  
*Front. Mar. Sci.* 11:1398720.  
doi: 10.3389/fmars.2024.1398720

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# Toward better governance of the marine environment: an examination of the revision of China's marine environmental protection law in 2023

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The marine economy has become an increasingly important contributor to the global economy due to advancements in science and technology and humans' growing ability to manipulate nature. As a country with a vast marine territory, China has the important responsibility of utilizing marine resources rationally and promoting sustainable development of the marine economy. Since the introduction of the Marine Environmental Protection Law of the People's Republic of China (MEPL) in 1982, China has made significant progress in strengthening the legal framework for marine environmental protection. MEPL has undergone several revisions to improve its legal content under the guidance of national policies. On October 24, 2023, the Standing Committee of the National People's Congress revised and adopted MEPL again. This paper analyzes the changes in the contents of the new law and the legal background at home and abroad while integrating the domestic and international legal backgrounds. This paper provides an in-depth analysis of the changes made in the new law, summarizes the revision ideas, and examines the new law in the context of domestic and international laws. The aim is to provide a clear understanding of the spirit and purpose of the legislation.

## KEYWORDS

law of the people's republic of china on marine environmental protection, ocean power, marine environmental governance, ocean strategy, united nations convention on the law of the sea

## 1 Introduction

The current Law of the People's Republic of China on Marine Environmental Protection (hereinafter referred to as the Marine Environmental Protection Law) was adopted in 1982 and has been amended four times. Therefore, this paper focuses on analyzing the revision history, background, motivation, focus, and ideas of the Marine Environmental Protection Law. The aim is to provide a more in-depth understanding of the

system construction of the law, which is crucial for comprehending the state's key areas of regulation of marine environmental pollution. This analysis will also serve as a better guide for judicial practice and the effective implementation of the law, ultimately leading to better governance of the marine environment. The law will be more in-depth to analyze the system construction of the Marine Environmental Protection Law.

Give full play to the guiding role of marine ecological environment laws. The protection and governance of the marine ecological environment require a mature and complete legal system for protection (Gullett, 2023; Keyuan, 1999). The Marine Environment Protection Law is a legal guide for the country to carry out marine economic development, marine environmental protection, and marine resource utilization, which is in line with national policies and guidelines. This article offers a detailed explanation of the updated Marine Environmental Protection Law of 2023. It aims to provide insight into the main direction of national marine governance, clarify the responsible parties and their respective duties, assist relevant organizations and individuals in understanding their obligations, avoid potential legal risks, and serve as a guide for all parties involved.

There is a close relationship between domestic and international law regarding the realization of a community with a shared future for the ocean (Verlaan, 2007). The formulation of domestic law should be consistent with international law. Analyzing the background of international law in the revision of marine environmental law can help clarify the international development trend of relevant marine protection laws. It can also align domestic law with international law, safeguard China's marine rights and interests, reduce conflicts of international marine interests, achieve sustainable development of the marine environment, and promote the improvement of the domestic marine environmental protection legal system. Undertaking international responsibility for protecting the marine environment can help achieve a community with a shared future for the ocean (Matthews, 1992).

We are promoting the realization of the strategy of ocean power. China is in a period of transition from a large marine country to a strong marine country, and the revision of the Marine Environmental Protection Law is one of the results of implementing the strategic task of a strong marine country (Ma et al., 2024). This paper analyzes the motivation behind the revision of the Marine Environmental Protection Law in China. It aims to achieve the legislative purpose of protecting China's marine ecological environment and promoting the realization of the strategic task of a strong marine nation (Chen et al., 2023a).

## 2 Materials, methods, and analytical framework

The fundamental basis for investigating the governance of China's marine environment is the Marine Environment Protection Law of the People's Republic of China (referred to as the "Marine Environment Protection Law"). China's Marine Environmental Protection Law was first enacted in 1982 and has been amended five times, resulting in a more perfect regulation of China's marine environmental protection

law. The laws are available on the NPC website. In addition to the aforementioned legislation, this paper also conducted a comprehensive search of the relevant literature on the topic of "Marine Environmental Governance" from databases such as CNKI and Web of Science. This served as the basis for the literature review.

The primary methodologies employed in this thesis are those of legal dogmatic and social science law. The methodology of legal dogmatic encompasses the methodologies of legal hermeneutics and legal dogmatic. Its principal activities include the description of the extant effective law, the study of the legal concept system of the extant effective law, and the formulation of solutions to complex problems (normative practice). The method of social science law advocates the use of the method of social science to analyze legal problems. The method of social science law emphasizes the empirical study of law, that is, the grasp of social facts. However, people's judgments regarding legal questions and their view of legal phenomena often have an experiential foundation. Literature analysis cannot be separated from existing research results; it must be sorted to refine the theme of research and facilitate innovative development.

The theoretical analysis framework of this paper is based on a comparison of legal texts and related institutional analysis. This analysis will focus not only on the changes to China's Marine Environmental Protection Law over time and its impact on the governance of the marine environment but also on the relationship between China's Marine Environmental Protection Law and the rules of the relevant marine national conventions. This will reflect an assessment of China's compliance with the United Nations Convention on the Law of the Sea and other international conventions. Finally, the amendments to the Marine Environment Protection Law of the People's Republic of China will be examined in detail to assess their impact on the marine environment governance system. The Law of the Sea and other international conventions will be considered, and finally, the impact of the amendments to the Marine Environment Protection Law of the People's Republic of China on the marine environment governance system will be examined systematically. This will enable an objective reflection of China's marine environmental protection law, thereby promoting the role of China's marine environmental governance.

## 3 The process of change in China's marine environmental protection law

In the 70 years since the establishment of the People's Republic of China, the Marine Environmental Protection Law has gone through three stages: foundation, development, and improvement.

### 3.1 Foundation stage of China's marine environmental protection law

During the early days of the People's Republic of China, the Communist Party of China (CPC) was primarily focused on ensuring the survival of the nation. Its awareness of the governance and protection of the marine environment was relatively weak, and there was a lack of laws on marine environmental protection from the

perspective of preventing marine pollution. However, there are existing laws related to the development of the marine industry. The current maritime strategy of the country focuses on maintaining sovereignty and security, with three main aspects. First, the country is building a strong naval force. Second, it is guarding national sovereignty and territorial integrity. Third, it is advocating for maritime rights in nearby areas. Under the guidance of national strategy, China has successively formulated laws and regulations related to the ocean (He, 1986). See Table 1.

During the 1970s, two oil crises led to a significant increase in oil exploration. However, this also resulted in disastrous consequences for the ocean, including the formation of oil spills and the contamination of black sea stones. These are clear examples of the ecological damage caused to marine life. Preventing and controlling marine pollution is imperative. In this context, in 1974, China issued the Provisional Regulations of the People's Republic of China on the Prevention of Pollution in Coastal Waters, which first attached importance to the prevention and control of coastal marine pollution (MaChen, 1986). In addition, the promulgation of the Environmental Protection Law (Trial) has also made principled provisions for the protection of the marine

environment. These have laid a solid legal foundation for the later formulation of China's Marine Environmental Protection Law, marking the initial stage of the construction of the rule of law for marine environmental protection in China.

The preliminary development of an international legal system for marine protection is necessary. Before 1982, China made significant progress in the development of international marine fishery resources and trade. However, the international conventions related to the ocean that China joined mainly focused on maritime sovereignty and security issues, with few direct provisions for marine environmental protection (see Table 2).

In 1982, the adoption of the United Nations Convention on the Law of the Sea meant that there were finally clear international provisions for the protection of the marine environment and the prevention and control of marine pollution. The twelfth part of the Convention outlines the legal framework for marine environmental protection laws in various countries. It is divided into three parts, specifically addressing the protection and preservation of the marine environment.

Firstly, it sets out the general obligations of all countries to prevent marine pollution. The Convention on the Law of the Sea not only stipulates that all countries must protect the marine environment but also clarifies that all countries have the sovereign right to develop natural resources, achieving a balance between rights and obligations. Secondly, it emphasizes strengthening global and regional cooperation. When a country discovers pollution damage and related hazards, it should immediately notify the relevant country or organization. Encourage countries to extend a helping hand to developing countries, provide technical assistance, and enable them to enjoy preferential treatment from international organizations. Thirdly, establish implementation standards and safeguard measures to clarify the compensation responsibilities of each country arising from the implementation of these measures. Countries should take timely remedial measures for marine pollution damage and actively fulfill their remedial obligations (Kerr, 2022; Kim & Norodom, 2022).

The United Nations Convention on the Law of the Sea is committed to balancing the rights and obligations of all countries in the field of marine environmental protection. On the premise of respecting the sovereignty of all countries, it is required that all countries take all necessary measures to protect the marine environment and prevent marine pollution. With the introduction of the United Nations Convention on the Law of the Sea and the continuous development of China's marine resource development, the country is also paying more and more attention to the legislative work of marine environmental protection. The release of the United Nations Convention on the Law of the Sea provides a favorable opportunity for the formulation of China's Marine Environmental Protection Law and lays the foundation for international law.

### 3.2 The development stage of China's marine environmental protection law

The opening and signing of the United Nations Convention on the Law of the Sea in 1982 also promoted the preliminary

TABLE 1 Marine laws and regulations formulated by China between 1949 and 1982.

Set time	Legal and regulatory names	Existing validity	legislative purpose
1952	Interim Measures for the Administration of the Import and Export of Foreign Ships of the People's Republic of China	No	Promote the development of a foreign-related economy.
1954	Provisional Regulations of the People's Republic of China on the Administration of Seaports	No	Safeguarding the sovereignty of seaports
1956	Order on Prohibited Fishing Areas for Machine Wheel Towing Nets in the Bohai Sea, Yellow Sea, and East China Sea	Yes	Protecting aquatic resources and safeguarding people's interests
1958	Notice of the State Council on Establishing Marine Hydrometeorological Stations in Coastal Areas	Yes	Promoting economic and national defense construction
1958	Declaration of the Government of the People's Republic of China on the Territorial Sea	Yes	Safeguarding national sovereignty over territorial waters
1959	Rules for Investigation and Handling of Average Accidents	No	Resolving maritime accident liability disputes
1964	Management Rules for Non-Military Ships of Foreign Nationality Passing through the Qiongzhou Strait	Yes	Safeguarding national sovereignty
1979	Environmental Protection Law of the People's Republic of China (Trial)	No	Protecting the environment (including the marine environment)

TABLE 2 The relevant international maritime conventions that China joined between 1949 and 1982.

Joining time	Name of the Convention	Existing validity	Legislative purpose
1954	Agreement between the Government of the People's Republic of China and the Government of the Socialist Republic of Vietnam on Fisheries Cooperation in the Beibu Gulf	No	Promoting the development of marine fisheries
1955	Agreement on Fisheries in the Yellow Sea and East China Sea	No	
1958	Treaty of Commerce and Navigation between the People's Republic of China and the Union of Soviet Socialist Republics	Yes	Promote cooperation and development, friendly trade, and mutual benefit between both parties.
1959	Treaty of Commerce and Navigation between the People's Republic of China and the German Democratic Republic	Yes	
1961	Treaty of Commerce and Navigation between the People's Republic of China and the People's Republic of Albania	Yes	
1962	Treaty of Commerce and Navigation between the People's Republic of China and the Democratic Republic of Vietnam	Yes	
1962	Treaty of Commerce and Navigation between the People's Republic of China and the People's Democratic Republic of Korea	Yes	
1973	International Convention on Load Lines of Ships	Yes	Protecting life and property at sea

development of the legal system for marine environmental protection in China. Against the backdrop of reform and opening up, the rapid development of maritime commerce has also accelerated the legislative process for marine environmental protection. On August 23, 1982, China passed its first Marine Environmental Protection Law, which consists of eight chapters and forty-eight articles. This law established a legal framework for marine environmental protection in China and was promoted by various factors.

The legislative purpose of this law can be summarized as protecting the marine environment and preventing marine pollution. Based on this legislative purpose, the general provisions of this law mainly stipulate the obligations of various units and individuals in marine environmental protection. Starting from the perspectives of coastal engineering, offshore oil exploration and development, land-based pollutants, ships, and dumping of waste, detailed regulations are made on the problem of marine

environmental pollution damage, regulating the pollution behavior of each subject. Chapter 7 stipulates legal liability issues, mainly focusing on liability for damages. Chapter 8 Supplementary Provisions lists some legal concepts related to professional terminology. The promulgation of the Marine Environmental Protection Law is the first law in China related to marine environmental protection, which is of significant significance. Since then, China's marine environmental protection has entered an era with a legal basis (Keyuan, 1999).

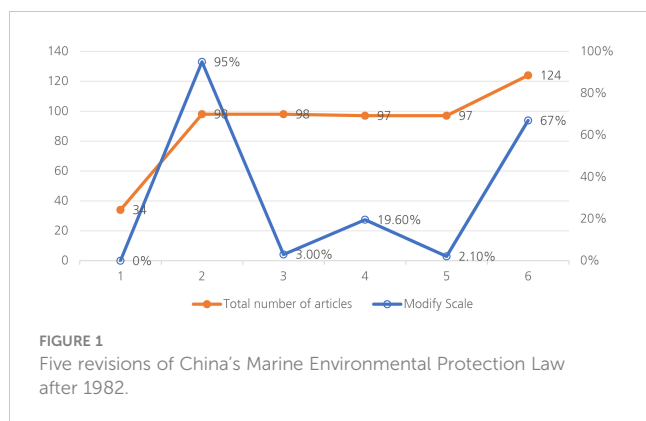
Afterward, the country also formulated or added other laws and regulations on marine environmental protection, but mainly supplemented the five major pollution sources in Marine Environment Protection. For instance, the Regulations on the Management of Environmental Protection for Marine Oil Exploration and Development, the Regulations on the Prevention of Ship Pollution in the Sea Area, and the revised Regulations on the Management of Marine Dumping were all in effect on December 29, 1983, and March 6, 1985, respectively. The Convention for the Prevention of Marine Pollution by Dumping of Waste and Other Substances was ratified on September 6, 1985. Additionally, the amendment to Annex I of the 1973 International Convention for the Prevention of Pollution from Ships and its 78th Protocol was announced on May 18, 1988. The Regulations on the Prevention of Ship Dismantling Pollution in the Environment were also announced on May 18, 1988, and automatically accepted on January 7, 1986. These laws expand the content of the Marine Environmental Protection Law and promote the improvement and development of the legal system for marine environmental protection.

### 3.3 The improvement stage of China's marine environmental protection law

Due to insufficient legislative experience and an incomplete understanding of marine environmental protection at the time, the provisions on the legal responsibility in the Marine Environmental Protection Law were not perfect. With the rapid development of the economy after the reform and opening up, the speed of marine resource development and utilization has been increasing, and more and more problems have emerged. The Marine Environmental Protection Law is difficult to adapt to social development and urgently needs to be revised and improved. Since 1982, the Marine Environmental Protection Law has undergone five revisions, as shown in Figure 1.

#### 3.3.1 First modification

On December 25, 1999, the 13th meeting of the 9th Standing Committee of the National People's Congress passed the amendment to the Marine Environment Protection Law, which was stipulated to come into effect on April 1, 2000. This revision is a large-scale one, and the Environment and Resources Committee of the 8th National People's Congress began working on it in 1995. After conducting thorough research and consulting with multiple experts and scholars, a revised draft of the Marine Environmental Protection Law was formulated. On June 22, 1999, the Vice Chairman of the Environment and Resources Committee of the National People's



Congress delivered a legislative statement during the 10th meeting of the Standing Committee of the National People's Congress. After four rounds of deliberation, it was passed at the 13th meeting. From the perspective of the content of the legal system, the newly revised Marine Environment Protection Law has expanded from the original eight chapters and forty-eight articles to ten chapters and ninety-eight articles, adding two new chapters: "Marine Environment Supervision and Management" and "Marine Ecological Protection." It has expanded one of the original five major pollution sources, "Marine Oil Exploration and Development," to "Marine Engineering Construction Projects," and the scope of the modifications almost covers all provisions.

### 3.3.2 Second modification

On December 28, 2013, the 6th meeting of the Standing Committee of the 12th National People's Congress decided on amending seven laws, including the Marine Environment Protection Law of the People's Republic of China. The revised provisions are Article 43, Article 50, and Article 80. This is only a small-scale modification. From the content perspective, this revision emphasizes the necessity of the Environmental Impact Assessment (EIA) report and the filing procedures for preparing an oil spill emergency plan. The purpose of this revision is to respond to the national policy of streamlining administration and delegating power and to implement the decision to cancel and delegate administrative approval projects.

### 3.3.3 Third modification

On November 7, 2016, the 24th meeting of the Standing Committee of the 12th National People's Congress decided on amending the Marine Environment Protection Law of the People's Republic of China, which consists of 19 items and is mainly divided into three aspects. The first is to increase the severity of penalties for illegal actions, such as adjusting the upper limit of fines and holding enterprise personnel accountable. The second is to establish a system that aligns with national policies, such as setting red lines for marine ecological protection and implementing a compensation system. There are three proposed methods for improving marine ecological protection. The second is to establish a system that aligns with national policies, such as setting red lines for marine ecological protection and implementing a compensation system. The third is

to streamline the administrative approval process. For instance, it is required that pertinent departments prepare and receive authorization for reports on the impact of marine environment, and facilities for environmental protection must undergo inspection. This revision is the result of implementing the national promotion of ecological civilization construction and ecological compensation system construction.

### 3.3.4 Fourth modification

On November 4, 2017, the 30th meeting of the 12th Standing Committee of the National People's Congress approved the draft amendment to the Marine Environment Protection Law, which only improved two provisions. The main modifications include the setting of discharge outlets into the sea and compensation issues.

### 3.3.5 Fifth revision

On October 24, 2023, the 6th meeting of the Standing Committee of the 14th National People's Congress voted to pass the newly revised Marine Environment Protection Law, which will come into effect on January 1, 2024. The newly revised Marine Environment Protection Law consists of nine chapters, and the changes in its provisions mainly focus on the following three aspects: One is to adhere to the coordinated regional linkage between land and sea. The second is to clarify the responsibilities of various regions and departments and achieve clear rights and responsibilities. For example, an assessment and evaluation system has been added, as well as a responsibility system for marine environmental protection goals. The third is to protect marine biodiversity. Regulate from the aspects of development, utilization, ecological restoration, etc.

## 4 The international legal background of the revision of China's marine environmental protection law in 2023

The revision of the Marine Environment Protection Law in 2023 is not only influenced by the domestic legal environment and the development of the marine economy but also by the changes in the construction of the marine legal system internationally, which have significant guiding significance in domestic legislation. In recent years, international legal efforts have focused on global marine environmental protection, including biodiversity preservation, pollution prevention and control, and addressing global climate change. Legal activities related to marine environmental protection have been carried out globally in recent years.

### 4.1 United nations agreement on the protection of high seas biodiversity

On March 4, 2023, representatives of various countries drafted an agreement on the protection of biodiversity under the provisions of the United Nations Convention on the Law of the Sea. The draft

agreement focuses on addressing the current crises on Earth, such as climate change, biodiversity loss, and environmental pollution. The agreement focuses on the conservation of marine biodiversity and aims to maintain the integrity of marine ecosystems and achieve sustainable development goals. From a content perspective, the agreement establishes large-scale marine protected areas and imposes restrictions on fishing volume, shipping routes, and exploration activities, including deep-sea mining (Morgera et al., 2023).

## 4.2 Beijing convention on the judicial sale of ships

On September 5, 2023, the United Nations International Convention on the Judicial Sale of Ships was signed in Beijing. This convention is the first United Nations convention in the maritime industry named after a Chinese city, reflecting the high recognition of China's leading role in the formation of the convention by various countries. The convention aims to address the issue of cross-border recognition in the judicial sale of ships, ensuring that the ownership of the buyer in the judicial sale of ships is recognized in other contracting countries, and enhancing the stability of related rights. The signing of the convention is conducive to jointly promoting the development of international maritime legislation in a more open direction and making greater contributions to the construction of the global maritime rule of law (Chuah et al., 2023).

## 4.3 International convention on the control of harmful anti-fouling bottom systems on ships (AFS convention)

China joined the AFS Convention on March 3, 2011. From June 10 to June 17, 2021, the International Maritime Organization's Marine Environment Protection Committee held its 76th meeting and passed amendments to the AFS Convention, which came into effect on January 1, 2023. The law defines anti-fouling bottom systems as "coatings, paints, surface treatments, surfaces, or devices that control or prevent the attachment of harmful organisms." The convention requires all ships to prohibit the use of anti-fouling bottom systems containing cyberne. This is to prevent the leakage of non-compliant AFS substances and protect the marine environment (Cariou and Randrianarisoa, 2023).

## 4.4 Conference of the special parties to the three major conventions

On May 1, 2023, more than 2000 representatives from around the world participated in the Special Meetings of the Parties to the Stockholm Convention, Basel Convention, and the Rotterdam Convention in Geneva, Switzerland. The theme of this meeting is "Accelerating Action: The Goal of Harmless Management of

Chemicals and Waste." Include some new chemicals in the three conventions. It is particularly emphasized that the chemicals listed in Annex III of the Rotterdam Convention are mainly pesticides with long-term high risks to aquatic organisms, achieving protection for aquatic organisms (Gullett, 2023).

## 4.5 Convention on biological diversity

The 15th Conference of the Parties to the Convention on Biological Diversity (COP15) held its second phase in Montreal, Canada, from December 7th to 20th, 2022. The conference, led by China, adopted the long-awaited 'Kunming Montreal Global Biodiversity Framework.' Biodiversity loss is a significant global environmental issue. The adoption of this framework provides direction and clarity for global biodiversity conservation, including marine biodiversity conservation (Hao et al., 2023; Parks & Tsioumani, 2023).

## 4.6 Draft resolution on ending plastic pollution

On March 2, 2022, the Fifth United Nations Environment Assembly passed the draft resolution on ending plastic pollution. It is worth noting that this is only a legally binding draft, and all parties are still committed to continuing to promote it in 2024, making it a formally promulgated law. This legally binding resolution aims to promote global governance of plastic pollution. As the world's plastic production increases year by year, the harm of plastic pollution to the world is further expanding. One of the most effective measures to end plastic pollution is to introduce legally binding resolutions. This resolution also has an effect on plastic pollution in the ocean (Islam et al., 2023).

# 5 The intrinsic motivation behind the revision of China's marine environmental protection law in 2023

In recent years, China has prioritized the development of its marine economy, proposing strategies such as building a strong maritime power, coordinating land and sea, and managing the ocean to explore new economic growth points in the country.

## 5.1 The strategy of becoming a maritime power

In 2012, the 18th National Congress of the Communist Party of China set the strategic goal of building a maritime power, emphasizing the construction of a maritime power multiple times. General Secretary Xi Jinping also pointed out the important position of the marine economy in the national economy, stating

that “an economic powerhouse must be a maritime and shipping powerhouse.” (Kiyota, 2023). The revision of the 2017 Marine Environment Protection Law is one of the measures to implement this strategic goal. The 2022 report of the 20th National Congress of the Communist Party of China reiterated the importance of accelerating the construction of a maritime power. This suggests that China has not yet fully developed into a maritime power and needs to make new achievements in promoting its construction with new initiatives (Wang, 2024). In the last decade, marine technology has continuously innovated, and the marine economy has entered a phase of high-quality development. The construction of the marine rule of law also needs further improvement. Therefore, the revision of the Marine Environmental Protection Law was included in the legislative work plan for 2022.

## 5.2 Land-sea coordination strategy

The concept of land-sea coordination first appeared in the 12th Five-Year Plan, proposed in 2010. The 19th National Congress of the Communist Party of China’s report in 2017 reiterated the proposal to implement the strategy of regional coordinated development, adhere to land-sea coordination, and accelerate the construction of maritime power. At this point, the land-sea coordinated strategy has officially risen to a national-level strategy, highlighting the important position of the ocean in the socialist economic cause with Chinese characteristics. The land-sea coordinated strategy mainly targets the contradiction of imbalanced development between land and sea, breaks the traditional concept of valuing land over sea, and achieves complementary land-sea resources and ecological connectivity between land and sea. The land-sea strategy is hard to achieve through markets alone. It should be part of national macroeconomic regulation, urban and rural planning, industrial development planning, ecological protection planning, and more. Use legal, economic, cultural, and other policies to implement this strategy. The revision of the Marine Environmental Protection Law is one of the legal means to implement this strategy (Wang et al., 2023).

## 5.3 Strategy for managing the ocean

“Jinglv” means “managing the world with a slight touch of the world.” “Managing the ocean” generally refers to the comprehensive management of ocean interests and security by a country through political, economic, technological, military, and other means to achieve the goal of utilizing ocean resources, developing ocean interests, and defending ocean sovereignty (Long et al., 2023). Since the 21st century, there has been continuous exploration and development in the fields of marine economics and marine technology innovation. The proposed strategy for managing the ocean is conducive to promoting the integration of China’s marine resources and energy development system with the world. The revision of the Marine Environmental Protection Law further promotes the implementation of the strategy of managing the ocean.

## 6 Basic ideas for the revision of the marine environment protection law in 2023

The 2023 revision of China’s Marine Environmental Protection Law aims to transform international conventions that China has joined into domestic law and actively assume international legal obligations. It also seeks to strengthen coordination between domestic marine environmental laws and regulations and improve the top-level design of marine environmental protection systems. Additionally, it aims to elevate the policies of the party and the state to the legal level and effectively implement the party and the state’s marine economic development policies.

### 6.1 Translation of international convention requirements

The relationship between international law and domestic law is a fundamental theoretical issue in the field of law, and there are two theories in academia: monism and dualism. Monism refers to the priority of domestic law or the priority of international law, while dualism holds that international law and domestic law have a parallel or opposing relationship, meaning that if international law wants to apply within a country, it needs to be transformed into domestic law. Most people in academia support the binary theory. Therefore, to better link domestic marine environmental protection law and international maritime law, the new law turns international conventions into domestic law. This allows them to regulate legal relationships and acts (Boviatsis & Vlachos, 2022).

The new law strengthens the prevention and control of marine garbage pollution and extensively supplements and modifies Chapter 7, which focuses on pollution prevention and control from ships and related operational activities. The new law incorporates relevant provisions from the 2004 International Convention on the Control and Management of Ships’ Ballast Water and Sediments (referred to as the Ballast Water Convention). The new law contains provisions for regulating ship ballast water pipes. It aims to ensure consistency between ballast water treatment standards and international convention treatment standards, as well as comply with international ballast water replacement requirements and implement ballast water management measures (Wright, 2021).

The new law transformed certain provisions of the 2009 Hong Kong Convention on International Safety and Environmentally Sound Dismantling of Ships (referred to as the Convention). Article 87 of the new law corresponds to the Convention on Ship Dismantling, which requires that measures taken by units engaged in ship dismantling be safe and environmentally friendly to prevent marine pollution (Tolian et al., 2020).

### 6.2 Connecting domestic legal systems

China has more than ten maritime laws, more than 20 maritime administrative regulations, as well as more than 30 regulatory

documents of the State Council and local maritime laws and regulations. These laws and regulations involve different maritime fields, such as fisheries, mineral resources, ports, surveying and mapping, ship pollution, ocean dumping, and so on. To avoid conflicts between different laws, the formulation and modification of each law should refer to and absorb specific provisions of other relevant laws. The new law pays special attention to linking individual clauses with relevant maritime clauses to reduce differing legal outcomes caused by the same legal act. This aims to protect the marine environment (Montazeritabar & Ye, 2024).

The first paragraph of Article 84 of the new law stipulates the responsibilities and obligations of the consignor of goods and clarifies the subject of performance obligations. This is in line with similar provisions in China's Maritime Traffic Safety Law and Maritime Law. In addition, the new law stipulates the legal consequences of shippers violating relevant obligations and specifies that shippers can be fined up to 2,000 yuan. Article 85: Clearly define the responsible parties for the overall planning and construction of facilities for the reception and transportation of pollutants from ships. This is the second time that the responsibilities of coastal local governments have been clarified through legislation, following the Water Pollution Prevention and Control Law and the Yangtze River Protection Law.

The revision of the law not only emphasizes existing provisions but also includes corresponding supplements. For instance, Article 64 of the Air Pollution Prevention and Control Law proposes designating ship air pollutant emission control zones in coastal waters. The new law aims to add control zones for ship pollutants, remove the word 'atmosphere,' and increase control zone requirements.

### 6.3 Implementing national policy guidance

The strategic principles of the party and the state are the important experience of the CPC in governing the country. The legislature should take the national strategic principles as guidance, adhere to the problem orientation, and reflect the development requirements of the party and the state promptly. In addition, the new law incorporates China's concepts and achievements in protecting biodiversity into specific legal provisions. Under the guidance of these national policies, the old laws have gradually developed and improved, keeping pace with the times and becoming a good law to effectively solve national development problems, protect the interests of the people, and protect the marine environment.

## 7 The main content of the revision of China's marine environmental protection law in 2023

The revised Marine Environmental Protection Law adheres to land-sea coordination and regional linkage, comprehensively strengthens the prevention and control of marine environmental pollution, improves marine ecological protection, strengthens marine

environmental supervision and management, promotes the extraterritorial application of marine environmental protection laws, and has many institutional innovations and practical measures.

### 7.1 Establishing a marine environment supervision and management system

#### 7.1.1 Consolidate government responsibilities

The new law outlines the specific regulations for the responsibilities of both central and local governments. The fourth article clarifies the scope of responsibilities for the relevant competent departments of the state. Compared to the old version, the content has been further expanded and improved. Specifically, it includes departments such as the State Council's ecological environment, natural resources, transportation, fisheries, development and reform, water administration, housing and urban-rural construction, forestry and grassland, maritime police agencies, and military ecological environment departments, which have the characteristics of broad fields and scope. In addition, Articles 5 to 8 stipulate the responsibilities of local people's governments at or above the county level along the coast and require all regions to implement a marine environmental protection target responsibility system and an assessment and evaluation system, truly taking responsibility for the marine environment within their management areas (Guo, 2020).

#### 7.1.2 Improve government regulatory capacity

The new law emphasizes the government's obligation to disclose information, use the power of the public to supervise the government's administrative actions and promote internal self-improvement through external supervision. Furthermore, it involves utilizing the environmental impact assessment system to oversee national spatial planning and related plans for potential risks of polluting the marine environment. It also entails enhancing the approval process of the State Council to monitor the national marine ecological environment protection plan. Additionally, the use of ecological environment zoning control planning and an ecological environment access list system is necessary to supervise and manage the ecological environment and resource utilization of the sea area. The use of mechanisms for assessing marine environmental quality has improved the planning, monitoring, early warning, investigation, environmental impact assessment, emergency response, and other systems related to local marine environmental standards. This has enhanced the regulatory capacity of relevant departments of the State Council and local government departments to some extent (Cariou and Randrianarisoa, 2023b).

### 7.2 Implementing the strategy of land-sea coordination and regional coordination

#### 7.2.1 Promote the integration of coastal engineering and marine engineering

The new law combines the 'Prevention and Control of Pollution Damage to the Marine Environment by Coastal Engineering Construction Projects' chapter and the 'Prevention and Control



of Pollution Damage to the Marine Environment by Marine Engineering Construction Projects' chapter from the old law. This unifies the marine environmental protection requirements of coastal engineering and marine engineering construction projects. The distinction between coastal pollution and marine engineering pollution is no longer made (Bai et al., 2024).

This change means unifying the bottom line of pollution prevention and control in engineering projects along the coast, replacing post-punishment with early prevention, and using legal means to intervene in the control of marine pollution earlier. "Coast ocean" is no longer a relative concept in marine environmental protection law. The new law adopts a unified legal standard to regulate pollution in construction projects, which is helpful for the application and implementation of the new law, helps to avoid conflicts between legal rules of different construction projects, reduces repetitive work of local government departments, and implements the land-sea coordination strategy (Li, 2023).

### 7.2.2 Clarify the regional cooperation mechanism

Article 6 of the General Provisions of the New Law stipulates that "local governments at or above the county level along the coast may establish a regional cooperation mechanism for marine environmental protection and organize and coordinate their management of environmental protection work in the sea areas." The new law also stipulated that relevant governments should negotiate and resolve cross-regional marine environmental protection work. This is different from the old law. However, the new law did not explicitly propose the establishment of a regional cooperation mechanism. This change is an important manifestation of legislators highlighting the implementation of regional linkage strategies. In addition, Article 12 also clearly states that the state implements a marine environment supervision and management system that integrates land and sea resources and regional linkage. The reason why regional cooperation mechanisms are integrated into the legal system is that they are conducive to better solving the problem of different standards for cross-regional marine environmental protection, breaking the boundaries between administrative regions, integrating coastal regional resources, promoting integrated development of coastal regions, and accelerating the goal of building a maritime power (Xing et al., 2022).

### 7.2.3 Implement the requirements for river-sea linkage

The issue of marine environmental protection is closely related to the prevention and control of pollution in terrestrial rivers. According to the requirements of river-sea linkage and following relevant laws and administrative regulations on water pollution prevention and control, strengthen the management of rivers entering the sea. Develop and implement plans for ecological restoration and other protection measures in estuaries to prevent marine pollution from the source. The integration of rivers and seas requires strengthening the management of rivers entering the sea and strengthening the comprehensive monitoring of water, sand, salt, tidal flats, etc., to prevent seawater backflow and invasion.

Article 50 of the new law stipulates that provincial governments in river basins that enter the sea must formulate and implement plans to control total nitrogen and phosphorus emissions. Land-sea coordination is more about the coordination of land-river ecology and marine environment, and river-sea linkage is an important measure to achieve the land-sea coordination strategy (Qu et al., 2023).

## 7.3 Strengthening the protection of marine biodiversity

### 7.3.1 Reasonably utilize marine resources

The ocean is the source of life, and ocean resources provide many services for human life, such as oxygen sources in the air, climate regulation, food and medicine, and so on. China is one of the countries with the richest marine biodiversity in the world. Protecting marine biodiversity cannot rely solely on people's moral behavior but also effective legal regulation. The new law mandates that the development and utilization of marine and coastal resources must prioritize the protection of marine ecosystems, biological genetic resources, and other related factors. The law emphasizes that protection and development are not mutually exclusive. The utilization of marine resources should be kept within reasonable limits, and excessive development is prohibited. Article 35 of the new law, central and provincial governments are required to establish mechanisms for compensating for ecological damage caused by resource development (Dong et al., 2024).

### 7.3.2 Establish a sound marine biodiversity protection system

The marine biodiversity conservation system is not composed of a single protection measure but is composed of four aspects: investigation, monitoring, evaluation, and protection. Firstly, experts, scholars, and other professionals within the administrative region shall conduct a biodiversity survey of the jurisdictional waters to gain a preliminary understanding of the basic situation of biodiversity in the waters. Subsequently, monitor the biodiversity situation, regularly understand the changes in the number of biological species in the sea area, and evaluate the overall richness of biodiversity in the sea area. By integrating the above steps, develop a biodiversity conservation plan for this region. In addition, the new law also stipulates the maintenance and restoration of marine ecological corridors to prevent damage to biodiversity (Xing et al., 2022).

### 7.3.3 Restoration of marine biodiversity

The preservation of marine biodiversity cannot depend solely on protective measures. Active measures must also be taken to restore the biodiversity of marine organisms that have already been damaged. The state encourages the adoption of measures such as releasing artificial fish reefs, seagrass beds, and corals, according to local conditions to artificially restore marine biodiversity and improve marine ecology. At the same time, it is emphasized that the restoration of the marine ecology should focus on restoring

biodiversity and the basic functions of ecosystems, with natural restoration as the main focus. In addition, the new law stipulates that a cautious attitude should be taken and scientific argumentation should be conducted when introducing foreign animal and plant species. The law comprehensively outlines restoration methods and priorities for marine biodiversity, including natural and artificial restoration, as well as introducing foreign organisms and improving local ecology (Dube, 2024).

## 7.4 Strengthen the supervision of discharge outlets into the sea

### 7.4.1 Strengthen the quality control of the marine environment

The supervision of marine quality at discharge outlets into the sea is a crucial step in the overall protection of the marine environment. Article 19 of the new law stipulates that the state shall promote comprehensive management of marine areas, strictly manage marine pollution discharge permits, and improve the quality of the marine environment in key areas by raising the standards of marine pollution discharge permits. The new law stipulates in detail that all engineering units that need to discharge wastewater and sewage as well as other units and producers that treat sewage, should obtain a pollution discharge permit under the law. That is, obtaining a pollution discharge permit is necessary for discharging sewage into the sea. In addition, all enterprises and institutions should strictly follow the types, concentrations, emissions, and destinations of pollutants recorded on the pollution discharge permit. They should prohibit the implementation of improper measures, such as tampering or forging monitoring data, to evade supervision (Valentim et al., 2024).

### 7.4.2 Establish a full-chain governance system

The new law optimizes the setting of discharge outlets into the sea, requiring responsible parties to strengthen monitoring and carry out automatic monitoring under legal provisions. This reduces government monitoring costs. For instance, factory farming units should self-monitor aquaculture wastewater. The new law stipulates that the selection of the location of the discharge outlet into the sea should comply with the requirements of the national spatial control, scientifically demonstrate, and report to the relevant environmental regulatory department for record. At the same time, the ecological environment regulatory department should timely synchronize the setting of discharge outlets into the sea with departments such as fisheries and natural resources, as well as maritime police agencies and maritime management agencies. The people's governments at or above the county level along the coast shall conduct political and daily supervision and management of various types of discharge outlets into the sea within their administrative regions and establish and improve a complete chain governance system for nearshore water bodies, discharge outlets into the sea, discharge pipelines, and pollution sources (Karantoni et al., 2023).

### 7.4.3 Develop management measures for discharge outlets into the sea

The above introduction mainly focuses on the procedural and principled regulations for the management of discharge outlets into the sea. In addition, the new law also stipulates specific measures for the establishment and management of discharge outlets into the sea. The competent ecological and environmental department of the State Council formulates these measures. Article 47 of the new law stipulates that it is prohibited to set up industrial wastewater or urban sewage discharge outlets in areas that require special protection, such as natural reserves, bathhouses, and ecological protection red lines. Areas with favorable conditions should implement offshore discharge. The new law requires the construction of an information platform for discharge outlets into the sea, achieving information sharing and openness, and facilitating public supervision. At this point, the new law combines the principle rules and specific rules for the management of discharge outlets into the sea, strengthening the supervision of discharge outlets into the sea (Du et al., 2022).

## 7.5 Strengthen the prevention and control of marine garbage pollution

### 7.5.1 Prevent solid waste from entering the ocean

The land-sea junction is usually the source of marine debris pollution, so the new law has made clear provisions for the treatment of solid waste. Unlike the old law, Article 56 of the new law adds a prohibition on the disposal, stacking, and treatment of solid waste on beaches, requiring effective measures to be taken to prevent solid waste from entering the ocean. The transfer of hazardous waste through China's domestic waters and territorial waters is strictly prohibited, and potential marine debris pollution hazards are eliminated. The new law changes the original "beach" to "coastal land area," expands the prohibited scope of solid waste disposal, uses more accurate legal concepts to improve relevant legal rules, and reduces the occurrence of disputes in the legal application (Qiu et al., 2024).

In addition, special circumstances not specified in the new law may arise in judicial practice. To better apply the law and achieve the authority of the law, except for those otherwise provided by laws and administrative regulations. This has been added after Article 56. This change addresses the potential practical issues.

### 7.5.2 Formulate government pollution prevention and control measures

Governments at all levels play an important role in preventing and controlling marine environmental pollution. Article 57 of the new law requires local governments at or above the county level in coastal areas to prevent and control garbage pollution. It establishes a monitoring and cleaning system for marine garbage, coordinates the treatment of land garbage, constructs facilities for receiving, transporting, and processing marine garbage, and clarifies the marine garbage control areas of various departments, streets, and units. Furthermore, the law mandates the creation of a system to

monitor, salvage, transport, and dispose of marine debris to comprehensively address the problem of marine debris pollution and encourage public participation in governance. Under the premise of clarifying the division of responsibilities, relevant departments of the State Council strengthen the supervision of the prevention and control of marine garbage pollution (Solihuddin et al., 2024).

### 7.5.3 Strengthen the prevention and control of pollution from ship waste and other sources

Ships are important tools for human activities at sea, and ship debris is an important component of marine debris. Preventing and controlling marine garbage pollution cannot ignore ship pollution. Therefore, the prevention and control of marine garbage pollution cannot ignore the pollution caused by ships. Article 80 of the new law states that ships' structures and anti-pollution equipment must comply with national standards and undergo inspection and qualification. Additionally, ships must possess certificates for the prevention and control of marine environmental pollution and monitor relevant pollution measures. When delivering goods that pose a risk of pollution, it is important to inform the recipient of the necessary protective measures to reduce the likelihood of pollution incidents occurring (Chen et al., 2023).

Article 85 of the new law adds the responsibilities that the government should fulfill for ship pollutants. The government should coordinate the planning and construction of disposal facilities for ship pollutants and establish a multi-departmental joint supervision system. Standardize the recycling and disposal of domestic sewage and fishery waste, and construct pollution prevention and control equipment. Promote the construction of marine pollution prevention and control through the government's public power (Guo et al., 2024).

## 8 Conclusion and policy recommendations

China's marine environment protection law was adopted in 1982 and revised in 1999. It was amended three times in 2013, 2016, and 2017. The law has played an important role in marine environmental protection since its implementation. The overall marine ecological environment has improved, the ecosystem service function of some marine areas has improved significantly, and awareness of marine ecological environment protection has increased significantly. However, problems such as pollution and ecological degradation of the marine environment are still prominent in China, the improvement of water quality in the coastal waters is not yet firm, and the trend of marine ecological degradation has not been fundamentally curbed. Marine ecological disasters occur frequently, causing an increase in species and regional spread. Environmental risks, such as oil spills and dangerous chemical spills, continue to increase. At the same time, there are some problems in the work of marine ecological environment protection, such as the lack of marine pollution prevention and control, the relatively backward work of marine ecological protection and restoration, and the imperfect supervision

and management system of the marine environment. Revising the 2023 Marine Environmental Protection Law is an inevitable step to promote good governance of the marine environment.

It is necessary to study further how to transform the written law into law in action and how to improve the implementation mechanism of the 2023 revised Marine Environmental Protection Law. The following are several aspects of improving China's Marine Environmental Protection Law implementation mechanism recommendations:

First, the coordination of ocean management within the department needs to be strengthened. Although the 2023 version of Article 4 of the Marine Environment Protection Act has improved the responsibilities of marine administrations, the multi-agency management model remains unchanged. For instance, ten departments under the State Council, including the Department of Ecology and Environment and the Department of Natural Resources, are involved. Although the revised marine environment protection law has clarified the responsibilities of the various competent departments, it is suggested that the State Council establish a Marine Ecological Environment Coordination Committee. This committee would be responsible for coordinating the functions and responsibilities of the various departments to effectively and urgently deal with marine ecological incidents.

Second, the responsibilities of local governments for marine environmental management need to be further clarified. According to Articles 5 and 6 of the newly amended Marine Environment Protection Law, local governments at or above the county level in the People's Republic of China are responsible for maintaining the quality of the marine environment in the areas under their management. The state has implemented a responsibility system and an assessment and evaluation system for achieving marine environmental protection objectives. This includes the assessment and evaluation of the achievement of these objectives. Secondly, local governments in the People's Republic of China at or above the county level may establish a regional cooperation mechanism for marine environmental protection. They are responsible for organizing and coordinating environmental protection efforts in the areas under their management. Cross-regional marine environmental protection issues in the People's Republic of China will be resolved through consultation by the relevant local coastal government or coordination with the superior government. The competent Department of Ecology and Environment under the State Council will coordinate major inter-departmental marine environmental protection work. If coordination fails, the State Council will make a decision. This provision also suffers from poor operability. The first responsibility is to outline the marine environmental governance duties of local governments in China at or above the county level. The second responsibility is to establish a regional coordination mechanism for marine environmental protection at the national level. For instance, provincial-level governments in China have established regional coordination mechanisms for marine environmental protection in their designated areas, and the State Council has established regional coordination mechanisms for marine environmental protection in its designated areas.

Third, joint law enforcement agencies should be established to supervise and administer the marine environment. The newly

revised Marine Environment Protection Law only provides for sharing law enforcement information on marine environment supervision and management in Article 25. The subjects related to the supervision and management provided in Article 29 can carry out joint law enforcement. The Standing Committee of the National People's Congress inspection report on the enforcement of the marine environment protection law highlights the urgent need for China to establish a joint enforcement mechanism for the marine environment. However, the law on the joint enforcement mechanism for the marine environment is unclear. The Shenzhen Maritime Police Station, in conjunction with the Shenzhen Qianhai Procuratorate, the Municipal Marine Integrated Law Enforcement Detachment, the Municipal Public Security Bureau, the Municipal Maritime Affairs Bureau, and various street offices, launched the 'Qinggang Qingwan' joint law enforcement operation (Nguyen, 2023). This operation aims to build a marine security barrier through sea-land joint defense and control, providing an excellent exploratory experience in some places. To improve coordination and linkage functions, it is suggested that a joint law enforcement agency be established for the supervision and administration of the marine environment in provinces and cities of the People's Republic of China, involving the law enforcement bodies of the State Council, Provincial Government, and district-based municipal government.

Fourth, the clarification of supervision and management responsibilities among the main bodies of marine environmental governance is crucial. A perfect supervision mechanism is necessary to ensure effective implementation of the law. The term 'supervision' appears 59 times in the legal provisions of the newly revised Marine Environment Protection Law. It refers to the supervision duties of the Marine Environmental Management departments at the same level and the oversight and management responsibilities of the Government of the People's Republic of China and their departments. The Marine Environment Protection Act, as a national law, is not yet suitable for making detailed and operable provisions at all levels. Therefore, the provinces with legislative power and the Municipal People's Congress or Government of the People's Republic of China with district-based powers should issue regulations or rules for implementation. It is important to clarify the supervision and management responsibilities of various governance bodies to improve the operability of the law.

Fifth, the detailed legal liability of the establishment. Chapter 8 of the recently amended Marine Environmental Protection Law includes a special section on legal liability. This section outlines the legal responsibility of the various parties involved in marine environmental protection, including administrative, civil, and criminal liability. The provisions in this section provide more detail than those in the previous law on marine environmental protection. However, there is still room for improvement, particularly in the imposition of fines. The penalties range from 20,000 to 200,000 yuan for administrative and civil liability, and from 200,000 to 1 million yuan for criminal liability. The discretion of the law enforcement body concerned is too great, and it is possible to distinguish between different situations, refine the administrative penalty's fine, and increase law enforcement's fairness. The primary law enforcement information system should not appear to have multiple heads or be repetitive. It is

recommended that the legal responsibility of provincial and district-based municipal legislatures for marine environmental protection laws be further specified, targeted, and timely.

Sixth, push forward the standardization of law enforcement by the People's Congress. The inspection of law enforcement by the People's Congress is a means to effectively promote the implementation of the legal system and a way to supervise the law enforcement subject to enforce the law according to the law. Since the enactment of China's Marine Environmental Protection Law in 1982, the Standing Committee of the National People's Congress has conducted two inspections, in 1998 and 2018. However, these inspections are insufficient to ensure effective implementation of the law. The organs of the People's Congress cannot effectively supervise their supervisory power. It is recommended that the Standing Committee of the National People's Congress conduct marine environmental enforcement inspections every five years and that the provincial People's Congress conduct marine environmental enforcement inspections every two years.

This study has some limitations, including the absence of a comparison with overseas legal systems for marine environmental protection and the lack of empirical evidence regarding the effects of amending the provisions of the Marine Environmental Protection Law. The latter will be the focus of our next topic.

## Author contributions

LH: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Writing – original draft. RZ: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Software, Supervision, Writing – original draft. QW: Conceptualization, Funding acquisition, Project administration, Resources, Software, Supervision, Visualization, Writing – review & editing.

## Funding

The author(s) declare financial support was received for the research, authorship, and/or publication of this article. This work was supported by the Youth Fund for Humanities and Social Sciences Research of the Ministry of Education(23YJC820013).

## Acknowledgments

The paper was written thanks to focused discussions on this topic among team members at the Weihai Legislative Research Center of Shandong University.

## Conflict of interest

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