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China's marine environmental public interest litigation: current situation, challenges, and improvement approach – analysis based on 339 cases

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Marine pollution and ecological damage seriously undermine economic and social development and human life and health and threaten the sustainable development of human society. With the rapid development of industrialization and urbanization and the intense exploitation of marine space and marine natural resources, China's marine ecology is facing serious problems such as pollution of marine waters, the decline of marine plant and animal resources, and the impairment of the ecological function of coastal zones. China's marine environmental public interest litigation (MEPIL) has achieved remarkable results in protecting marine natural resources, safeguarding the marine ecosystem, and preventing marine pollution and ecological damage. The paper closely combines the judicial practice of Chinese MEPIL, exploring 339 legal cases brought by administrative organs, public prosecutors, and non-governmental organizations (NGOs) presented on the China Judgment Online from 2018 to 2023. It can be concluded that three modes of MEPIL, namely civil, administrative, and civil public interest litigation incidental to criminal proceedings, have been constructed. Attempts have been made to confirm the standing of the litigation, improve the pre-litigation procedure, and clarify the types of compensation. However, significant obstacles exist in China's MEPIL. Theoretical clarifications and practical distinctions with other types of proceedings should be made. The current standing should be improved regarding procuratorial organs, administrative authorities, and social organizations. Court jurisdiction systems need to be enhanced. Inconsistencies in the legal provisions on whether MEPIL cases must be under the exclusive jurisdiction of the maritime courts have impeded the efficiency of the handling of cases. The corresponding solutions to the aforementioned obstacles are also analyzed. Clarifying the MEPIL's nature and improving the relevant laws, and regulations, are essential measures. In addition, providing the explicit interpretation of the legal provisions, expanding the standing, and improving the jurisdictional and other legal system should be explored.

KEYWORDS

marine pollution, marine ecology and natural resources, public product, marine environmental public interest litigation, expansion of standing, jurisdictional system

1 Introduction

The protection of the marine environment, the preservation of marine biodiversity, and the sustainable exploitation of marine resources are both in the public interest for the survival and development of human society and a matter of inter-generational equity in terms of the rights of future generations, requiring the joint efforts of the international community (Wang and Chang, 2023). China's national Ocean strategy aims to "protect the marine ecosystem, resolutely safeguard the national rights and interests in the oceans and seas, and build a strong oceanic nation." The proportion of the marine economy in China's national economy has gradually accelerated. Moreover, according to the 2022 China's Marine Economy Statistical Bulletin, the gross marine product was 9,462.8 billion yuan, an increase of 1.9 percent over the previous year and 7.8 percent of the gross domestic product (GDP) (Ministry of Natural Resources of the P.R.C., 2022). However, with the enhancement of the intensity of marine exploitation and utilization, the negative impacts of human activities on the marine ecosystem have increased dramatically (Chen et al., 2017). The carrying capacity of the marine ecosystem has been declining, and the ecological environment has faced challenges. According to the data presented in the 2022 China Marine Environmental Status Bulletin, the marine ecosystem in China's waters is steadily improving (Ministry of Ecology and Environment of the P. R. C., 2022). However, there is still the sub-healthy state of typical marine ecosystems, marine water pollution, biodiversity decrease, and ecological service capacity decline.

Environmental public products refer to the public benefits that the environment carries due to its ecological service functions and ability to satisfy human society's multiple needs (Chu, 2018). The marine environment is a typical public product with obvious non-exclusivity and non-competitiveness, therefore involving the public interests of the unspecified majority. In other words, the benefits of the marine environment should fall into the category of public products. Marine environmental pollution and resource destruction are usually not directly targeted at the unspecified majority (Jiang et al., 2020) and have the characteristics of latency, accumulation, mobility, and complexity. Damage to the marine ecosystem includes negative impacts on the marine environment, such as the water column, the atmosphere, seabed sediments and seabed resources, and marine organisms, such as plants, animals, and micro-organisms, as well as the degradation of the functioning of marine ecosystems composed of the marine environment and marine organisms as a result of the pollution of the environment and the destruction of ecological elements (Ruys, 2021). There is a clear difference with the general environmental infringement. Due to limitations such as the limitation of standing, the cumulative and diffuse nature of environmental aggression, the failure of victims to sue, and the unavailability of preventive consultation, the traditional tort remedies system based on ordinary ownership rights is unable to protect environmental public products promptly. The concept of China's MEPIL remains highly debatable in China. Based on the general theory of the academic community, MEPIL is defined as litigation initiated by citizens, environmental and social

organizations, administrative authorities, and procuratorates (Yang, 2013) to safeguard the public interest in the marine environment (Gao and Gao, 2018). The parties authorized by law to bring civil, administrative, and criminal collateral civil actions before the courts against acts that are detrimental to or pose a substantial threat to the marine ecosystem under the jurisdiction of China or against the failure to carry out their obligations or the illegal performance of their duties by the administrative organs (Huang and Wang, 2020; Chu, 2023). The advantages of the MEPIL system lie in its ability to share the litigation costs reasonably, allocate the burden of proof, and extend the statute of limitations so that the public interest in the environment can be effectively safeguarded (Bayraktarov et al., 2016). Those parties authorized by Chinese law include administrative authorities, procuratorial organs, and social organizations (Wang, 2021). The individuals do not have standing in MEPIL in China (Jiang and Faure, 2022).

This paper first analyses the types of cases, geographical distribution, standing, distribution of causes of action, jurisdiction, claims, adjudication, and other elements in 339 cases of MEPIL. Based on the analysis, it is found that China's MEPIL has distinctive characteristics (Jia, 2022) and is designed to protect public interests such as marine ecology and biological resource diversity (Li, 2022), effectively enforces the law (Liu Z., 2020) and enhance sustainable development (Zhai, 2018). In addition, China's MEPIL faces obstacles such as a low record of lawsuits filed by administrative organs, inadequate legal basis for standing of social organizations, under-utilization of the ecological damage compensation (Xie and Xu, 2021), and the defects of the litigation jurisdiction system (Xie and Xu, 2022). At the same time, the research results will provide insights into the current conflict between the legal provisions, academic debates, and judicial practice. The establishment of the Basic Law of the Sea of China should be used as an essential opportunity to establish the exclusive jurisdiction of the maritime court gradually, clarify the standing of the administrative organs, procuratorial organs, and social organizations (Gao and Whittaker, 2019), reduces the conflict of laws, unify the judicial interpretation, and improve the judicial jurisdiction, establish the system of ecological compensation damage and specify the scope of damage compensation, etc.

2 Overview of the status of MEPIL in China

All cases were searched on the China Judgement Online, a professional judgment disclosure and retrieval system set up by the Supreme People's Court of PRC (SPC), to uniformly publish the effective judgment of the people's courts at all levels. To ensure the accuracy and comprehensiveness of the case searches, the terms "marine," "environment," "ecology," "damage," and "public interest litigation" were used as the keywords in the advanced search fields of the website. Moreover, the search scope was set to "full-text search," with no limitation on the type of case. The effective date of the Several Issues Concerning the Trial of Cases of Disputes over Compensation for Damages to Marine Natural Resources and the

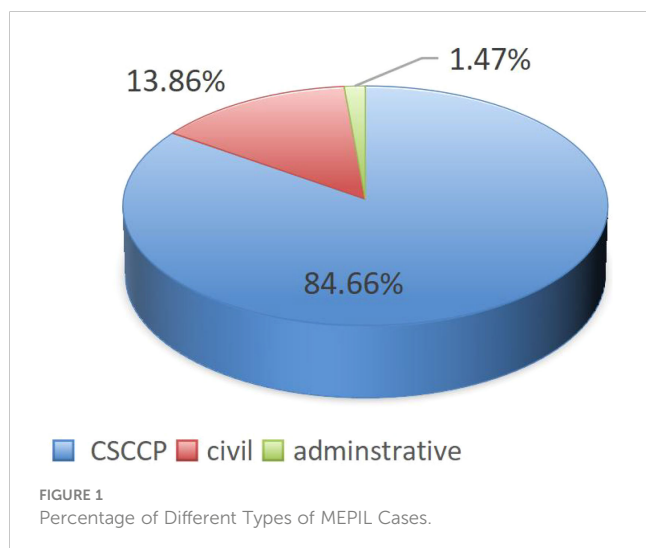
Ecological Environment promulgated by the SPC was 15 January 2018. Then the start time was set to 15 January 2018 and the deadline was 1 June 2023 (the search date), with 539 cases retrieved. Moreover, 339 valid cases of MEPIL were obtained after the exclusion of the cases of unlawful land encroachment, illegal hunting, etc. The types of cases, geographical distribution, the standing of litigation, distribution of jurisdiction, litigation claims, and decisions were analyzed comprehensively, using the above collection of judicial documents as samples.

2.1 Types of cases are predominantly by civil suit collateral to criminal proceedings

Through the above analysis, it can be found that in China's judicial practice, MEPIL cases include three main types. First is the civil public interest litigation involving the marine environment brought by the procuratorial organs and social organizations. The second is administrative cases filed by the procuratorial organs against the administrative organs concerned for failing to fulfill their administrative duties to preserve the natural resources of the sea and the ecological environment. The third is the case of Civil Suit Collateral to Criminal Proceedings (CSCCP). Of the 339 decisions, 287 (84.66 percent) were CSCCP cases, 47 (13.86 percent) were civil cases, and 5 (1.47 percent) were administrative cases (see Figure 1 below). From the perspective of safeguarding the public interest, CSCCP is essentially civil, in which the infringers of the public interest in the marine ecosystem and natural resources bear civil liability.

2.2 Geographically widespread and time-concentrated

The distribution of cases of MEPIL is not balanced according to the geographic location of the cases from the north to the south, with 11 cases in Liaoning, 2 cases in Tianjin, 10 cases in Hebei Province, 42 cases in Shandong Province, 37 cases in Jiangsu



Province, 10 cases in Shanghai, 76 cases in Zhejiang Province, 29 cases in Fujian Province, 51 cases in Guangdong Province, 46 cases in Guangxi Province, and 29 cases in Hainan Province. The number of cases in Zhejiang, Guangdong, Guangxi, and Shandong exceeded 40, demonstrating the concerns given to marine environmental protection. Overall, the economically developed coastal provinces in the southeast have seen more MEPIL cases.

The main reason is that the public, the Government, and the judiciary are aware of the critical role of MEPIL in protecting marine ecosystems and resources. Regarding time distribution, MEPIL cases are mainly distributed from 2018 to 2021, with a significant drop in 2022. The time of occurrence of cases is shown in Figure 2. Cases of civil litigation incidental to criminal proceedings were 78 cases in 2018, 41 in 2019, 100 cases in 2020, 54 cases in 2021, and only 13 cases in 2022 and 1 case in 2023. Civil cases were 16 in 2018, 5 in 2019, 11 in 2020, 10 in 2021, and 5 in 2022. One administrative case was brought to court in 2018, 4 in 2019, and zero in 2020 and 2022 (see Figure 2 below).

In marine environmental public interest litigation, there has been a rapid increase in the number of cases filed by the Procuratorate and in the number of cases accepted and adjudicated by the People's Courts from 2018 to 2021. This trend is closely related to the implementation of judicial regulations on public interest litigation and the continuous improvement of trial rules (Jiang, 2019). The Interpretation of the Supreme People's Court and the Supreme People's Procuratorate on Certain Issues Concerning the Application of Law to Procuratorial Public Interest Litigation (hereinafter referred to as the Judicial Interpretation of Procuratorial Public Interest Litigation) was promulgated in 2018, which, based on summarizing the procuratorial public interest litigation pilots, stipulates the status of procuratorates, the trial procedures, and the duties of trials.

The trial rules of procuratorial public interest litigation have been continuously improved, such as stipulating that the trial organization of public interest litigation is a seven-member collegiate court composed of people's jurors and judges. The technical experts played important roles in ascertaining the facts of damage, selecting remediation solutions, and inspecting the results of remediation. A system of environmental injunctions was implemented, whereby injunctions were issued to prohibit or restrict polluters from discharging before or in the course of litigation, preventing the expansion of the results of pollution damage (Liu Y., 2020). Another reason for the time-concentrated distribution is that from February 2019 to February 2020, the Supreme People's Procuratorate (SPP, thereafter) launched the Procuratorial Special Activity entitled "Protecting the Oceans". The special operation included five major areas, including the prevention and control of pollution from land-based sources, the conservation and restoration of marine ecology, and the supervision of the administrative management of the marine environment, to set up the framework for the prosecution to initiate MEPIL.

This operation contributed to marine sustainable development (Wang, 2021) even though it received criticism from academic researchers: 152 public interest litigation cases were filed, cleaning up more than 332,000 cubic meters of rubbish from beaches, removing 260 outfalls, repairing 25.3 kilometers of coastline and

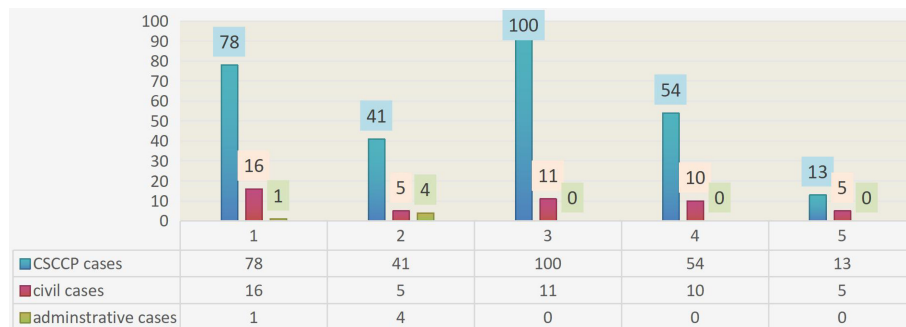


FIGURE 2
The Distribution of Cases of MEPIL.

168 kilometers of river channels, restocking more than 130 million tails of fish resources, and recovering compensation funds of 218 million yuan (The Supreme People's Prosecutor, 2019). After the special operation, the system of public interest litigation in the marine environment initiated by the procuratorial authorities was established to sustain the positive effects of the protection of the marine ecosystem.

2.3 Procurator-led in MEPIL

Procuratorial organs are the dominant force in filing MEPIL suits (Wang and Xia, 2023), with 287 CSCCP cases, 24 civil cases, and 5 administrative cases, accounting for 93.21 percent of the total 339 cases, demonstrating their active fulfillment of the statutory duties of the prosecution and important roles in the protection of the marine ecological environment and resources (Zhang et al., 2023). The scope of public interest litigation cases, the standing, the pre-litigation procedures, and the litigation requirements for civil and administrative public interest cases brought by procuratorial organs were clarified for the first time in 2015. Subsequently, A series of judicial interpretations on public interest litigation initiated by procuratorial organs have been promulgated and implemented, for instance, the Pilot Reform Programme for Public Interest Litigation by Procuratorial Organs, etc. Article 58 of the Civil Procedure Law of the P.R.C (the Civil Procedure Law, thereafter) and Article 25, paragraph 4 of the Administrative Procedure Law of the P.R.C (the Administrative Procedure Law, thereafter) stipulate the specific rules of environmental public interest litigation initiated by the procuratorial organs, as well as the rules of trial procedures.

The direct legal basis for prosecutors to initiate MEPIL is Several Issues Concerning the Handling of Cases of Public Interest Litigation on Marine Natural Resources and the Ecological Environment and Several Issues Concerning the Trial of Cases of Disputes over Compensation for Damages to Marine Natural Resources and the Ecological Environment of the P.R.C, which set out in detail the standing and the requirements for the prosecutors. Regarding behaviors that damage the marine ecological environment and infringe upon national interests and the public interests of society, procuratorial organs may carry out pre-litigation procedures and initiate public interest litigation for

the marine ecological environment by the law, if the administrative organ still fails to implement its duties by the law, or if the social organization fails to file a lawsuit (Wang and Chang, 2021).

2.4 Diversity of administrative organs

The Marine Environment Protection Law and the second paragraph of Article 89 of the Civil Procedure Law stipulate that administrative organizations with the authority to supervise and manage marine resources and ecology provided by law may bring public interest actions before the courts. The administrative organs with powers of supervision and management of the oceans and seas include five main categories (see Table 1 below):

First, the Ecological and Environmental Protection Bureau, manages marine environmental protection and pollution prevention and control. Second, the Natural Resources and Planning Bureau, is mainly responsible for developing marine renewable energy, marine biology, and other industries, and managing marine resources, such as the development and use of islands. Third, the Marine Development Bureau, or Marine and Fisheries Development Bureau in some local administrative governments, is mainly responsible for administrative permission and supervision of the right to use the Maritime Space. Fourth, the Agriculture and Rural Affairs Bureau is in charge of the management of marine fishery resources. Fifth, the China Coast Guard and its branches have the right to initiate civil public interest litigation for ecological and environmental damages against infringers who damage the marine ecological environment, by the legal authorization in Article 5 of the Coast Guard Law of the P.R.C.

There were 15 cases brought by administrative organs as follows: eight cases brought by the local Ecological and Environmental Protection Bureau, or Natural Resources and Planning Bureau as the plaintiffs. Five cases were brought by the Marine Development Bureau or Agriculture and Rural Affairs Bureau. For example, the public interest litigation in the dispute over liability for damage caused by marine pollution was filed by the Bureau of Marine and Agricultural Affairs of the Administrative Committee of the Zhuhai Economic and Technological Development Zone—one case by the Xiamen Coast Guard, Fujian province.

TABLE 1 The Administrative Organs of Cases of MEPIL.

Administrative organs	Administrative Regulatory Authorities
Ecological and Environmental Protection Bureau	Marine environmental protection and pollution prevention
Natural Resources and Planning Bureau	Developing marine renewable energy, marine biology and other industries, and managing marine resources
Marine Development Bureau	Administrative permission and supervision of the right to use the Maritime Space, implementation of fisheries fishing licensing and fishing moratorium
Marine and Fisheries Development Bureau (or Marine and Fisheries Bureau)	Conservation and exploitation of fishery resources, aquatic resources, and aquatic wildlife; Fisheries fishing licensing system; aquaculture Licence for Watersheds and Mudflats
Agriculture and Rural Affairs Bureau	Protecting and utilizing fishery resources, maintaining the ecological environment of fishery waters and aquatic wildlife
China Coast Guard and its branches	Supervision and inspection of activities relating to the exploitation of marine resources, protection of the marine ecosystem, and production and operation of marine fisheries

In 2022, the first marine public interest litigation case brought by the Xiamen Coast Guard was heard in Xiamen Maritime Court. A dredging shipping belonging to some Anhui Wuhu company violated the scope of the dumping area delineated in the Marine Dumping Permit for waste, with an area of 115,275 square meters, which seriously endangered the ecological safety of the Xiamen Precious and Rare Marine Species National Nature Reserve. The nature reserve is a national habitat of animals such as the Chinese white dolphin and 12 other kinds of rare marine species. As the marine civil public interest litigation plaintiff, the Xiamen Coast Guard filed a lawsuit, requesting the defendant to compensate for the ecological environment remediation of more than 1.28 million yuan. Xiamen Maritime Court confirmed the standing of the Xiamen Coast Guard, and the offender shall be responsible for marine ecological environment damage compensation. The court prompted both parties to reach a mediation agreement, in which the defendant agreed to take responsibility for compensation of ecological damages and restorations of the National Nature Reserve (Xiamen Maritime Court, 2022).

Moreover, one case was brought by the joint efforts of the Jiaying Municipal Bureau of Natural Resources and Planning, Ecology and Environment Protection, and Agriculture and Rural Affairs. Multi-departmental public interest litigation can be initiated jointly when marine ecosystems and resources suffer damage due to waste dumping or oil spill accidents. For example, the plaintiff Jiaying City Natural Resources and Planning Bureau, Jiaying City Bureau of Ecology and Environment, Jiaying City Bureau of Agriculture and Rural Affairs (hereinafter referred to as the three plaintiffs) and the defendant of the dispute over the validity of the maritime claims, the Procuratorate of Jiaying City, Zhejiang Province, in support of the public interest litigation. The court found that the three departments enforced of powers and duties to supervise and manage the marine environment involved in the case.

The three plaintiffs had the right to bring MEPIL and claim compensation against the defendant for the damage to the marine ecosystem and fishery resources caused by the oil spill within the maritime area under their jurisdiction.

2.5 The standing of social organizations is controversial

A total of eight marine civil public interest litigation cases were initiated by social organizations, five cases were accepted, and three were ruled to dismiss due to the lack of standing. The main legal basis for determining the standing of social organizations is Article 58 of the Civil Procedure Law of the P. R. C. (amended in 2021, the Civil Procedure Law, thereafter) which stipulates that concerning pollution of the environment and other acts detrimental to the public interest, the relevant organizations prescribed by the law may bring an action in Court. According to Article 58 of the Environmental Protection Law of the P. R. C (EPL), relevant social organizations should meet two basic requirements before they can bring civil MEPIL, including registration at the municipal Civil Affairs Department or above and specialization in environmental protection activities for more than five consecutive years without any record of violation of the law.

For example, in the environmental public interest litigation between Jinhua Green Ecological Cultural Service Centre (plaintiff, appellee) and A Co., Ltd., (defendant, appellant), the appeal court, the High People's Court of Shandong Province (Shandong High People's Court, thereafter), adopted the above reason and ruled that the Jinhua Green Ecological Cultural Service Centre had the standing to bring the lawsuit. However, the trend towards denying social organizations standing to bring civil public interest litigation in the marine environment is strengthening. The ground for the decision to dismiss the standing was article 89, subsection 2, of the Marine Environmental Protection Law of the P.R.C (the Marine Environmental Protection Law, thereafter), which provides that, in the event of substantial damage to marine ecology, aquatic resources or marine protected areas, the administrative organs supervising and managing the marine environment shall, on behalf of the State, could claim damages from those responsible. In addition, some judges considered that the Marine Environment Protection Law was a specific law for the protection of the marine environment. The EPL, on the other hand, is a general law on environmental protection. According to the basic legal principle established in the Legislation Law of the PRC, specific laws take prevalence over general laws, and therefore the standing of maritime litigation about compensation claims is limited to the marine administrative departments.

From the perspective of the interpretation of the legal system, how to interpret the provisions of Article 89 is considerable controversy in both academic and judicial circles. In judicial practice, uncertainty about the standing of social organizations has reduced litigation efficiency, thus seriously hampering marine ecological environmental protection (Huang and Wang, 2020). For example, in 2018, the Friends of Nature Environmental Research Institute in Chaoyang District, Beijing, filed a civil MEPIL case in

Qingdao Maritime Court because the defendants had engaged in illegal fishing during the closed season, damaging the marine ecological environment. The Qingdao Maritime Court dismissed the case, the appeal was denied by the Shandong High People's Court, and the retrial was rejected in 2020 for the same reasons mentioned above.

2.6 Inconsistency of legal provisions of the jurisdiction

The lack of uniformity in the legal provisions on jurisdiction has undermined judicial efficiency. By the provisions of the Maritime Procedure Law of the P.R.C. (Maritime Procedure Law, thereafter), cases of damage resulting from marine pollution caused by ship discharges, manufacturing at sea, and vessel operations are under the exclusive jurisdiction of the maritime courts. However, judicial practice is not consistent regarding the jurisdiction of cases relating to the marine environment and ecological system.

2.6.1 Jurisdiction over civil public interest litigation

There are two types of courts with jurisdiction over civil public interest litigation for the marine environment. Civil MEPIL cases brought by procuratorial and administrative organs, including disputes related to the protection of the marine environment and in navigable waters through the sea, are under the exclusive jurisdiction of the maritime courts. Environmental and ecological pollution occurs on both land and sea, and the jurisdiction of public interest litigation is differentiated according to the place of occurrence. The maritime portion is under the jurisdiction of the maritime courts, while the portion that is not maritime, such as land and mudflats, is under the jurisdiction of the local courts. In some cases, the provincial high people's court may designate centralized jurisdiction (Lv and Zhang, 2017). Disputes have arisen mainly because that Maritime Courts usually do not accept lawsuits brought by social organizations because they are denied having standing.

Consequently, the conflict of jurisdiction under the law leads to an illogical situation in which social organizations have no standing if the pollution harms the marine ecosystem, whereas standing is available if the pollution harms both the marine ecosystem and the terrestrial environment (Chu and Zhao, 2023). For example, the China Biodiversity Conservation and Green Development Foundation (the Green Development Foundation, thereafter) sued the local government of Liushui Town, Fujian Province, and B Company of Pingtan County, in an environmental public interest litigation for ecological damage. The SPC held that the project in question was on mudflats and that mudflats are part of the land. About the environmental civil public interest litigation brought by social organizations against mudflat environmental pollution and ecological damage based on the provisions of Article 58 of the

Environmental Protection Law, Article 55 of the Civil Procedure Law, and other laws and judicial Interpretations, the SPC was finally ruled that the Green Development had standing to file the public interest litigation.

2.6.2 Jurisdiction of CSCCP cases

Only two CSCCP cases were heard in maritime courts, while the rest were mainly under the jurisdiction of the local primary courts. For example, in 2021, the Ningbo Maritime Court heard the first CSCCP case involving a national marine special protection area in Zhejiang Province. The two defendants had already been sentenced to prison for the illegal fishing of aquatic products respectively. After the criminal trial, the Zhoushan Municipal Procuratorate filed a separate civil MEPIL to the Ningbo Maritime Court. The main reasons for this are: first, according to article 104 of the Criminal Procedure Law of the PRC, incidental civil litigation should be tried together with criminal cases. Secondly, apart from the Ningbo Maritime Court, which had obtained authorization to hear criminal cases from the SPC, the other maritime courts are unable to hear criminal cases directly and are therefore unable to hear criminal incidental civil litigation together. However, Article 5 of the Judicial Interpretation of Procuratorial Public Interest Litigation and Article 6 of the Judicial interpretation of Environmental Civil Public Interest Litigation stipulate that civil public interest litigation cases of the first instance shall be under the jurisdiction of the Intermediate People's Court. The non-uniformity of the rules applicable to the jurisdiction of CSCCP cases has led to a litigation model that divides civil and criminal trials, the complexity of the litigation procedures, and the waste of litigation resources. The collection and the determination of the evidence in the civil case may be inconsistent with the consequences of the criminal case, and so on. The criminal part needs to be transferred from the police organ to the local prosecutor's office for prosecution and trial in the local court, while the civil part is heard in the maritime court, where the filing of the civil suit, court investigations, and questioning of evidence are needed to be re-examined again.

Therefore, some scholars believe that the current separation of civil and criminal trials in maritime cases in China is a severe waste of judicial resources (Cao X. G., 2017). Moreover, some researchers proposed that the maritime court should be authorized to have the right to adjudicate criminal cases and incidentally to adjudicate civil cases simultaneously, which can save litigation expenses, reduce the number of litigation links, improve the quality of handling cases, effectively combat criminal crimes related to the sea, and improve the maintenance of the marine ecological environment (Wu and Liu, 2019).

2.6.3 Jurisdictional disputes of administrative cases

There are disputes about whether these first-instance cases are handled by the maritime court or by the primary people's court where the administrative organ, the defendant, is located. By articles

14 and 18 of the Administrative Procedure Law, the primary People's Court at the location of the administrative organ that initially conducted the administrative act has jurisdiction over administrative cases of the first instance. Article 5, paragraph 2, of the Judicial Interpretation of Procuratorial Public Interest Litigation, makes the same stipulation.

However, article 81 of Provisions on the Scope of Cases Accepted by the Maritime Courts stipulates that disputes resulting from administrative activities involving the development and utilization of navigable waters to the sea, fisheries, and the protection of the environment and ecological resources, by maritime administrative organs, are to be under the jurisdiction of the maritime courts. Article 2 of the Provisions of the SPC on Jurisdictional Issues in Maritime Litigation (Provisions on Jurisdictional Issues in Maritime Litigation, thereafter) also clearly stipulates that first-instance maritime administrative cases are to be heard by the Maritime Court and that appeals are heard by Provincial High Court (Article 2 of the Provisions on Jurisdictional Issues in Maritime Litigation). The jurisdiction of the first instance directly determines the different courts of appeal. The parties should appeal to the High Court if they fall within the jurisdiction of the Maritime Court, and to the Intermediate People's Court if they are failed in the Primary Court.

Of the five administrative MEPIL cases, only one was heard in the Maritime Court, while the remaining four were in the primary courts. A jurisdictional dispute arose before the Maritime Court in the marine public interest litigation case brought by the People's Procuratorate of Wenchang City, Hainan Province (plaintiff in the first and appellee in the second). The defendant in the first instance (appellant in the second) was the Bureau of Agriculture and Rural Affairs of Wenchang City, Hainan Province, assuming responsibility for protecting and supervising marine fishery resources from the former Bureau of Ocean and Fisheries. The Bureau of Agriculture and Rural Affairs of Wenchang City failed to investigate the large quantity of illegal "fixed nets" in the maritime areas under its jurisdiction and dismantle them within a certain period. The People's Procuratorate of Wenchang City filed a MEPIL suit before the Haikou Maritime Court, requesting confirmation that the administrative organ violated the law and should fulfill its legal duties within six months. The defendant raised a jurisdictional challenge, arguing that the case should be under the jurisdiction of the People's Court of Wenchang City, the primary court where the defendant is located. The Haikou Maritime Court, by the Provisions on the Scope of Cases Accepted by the Maritime Courts, held that the case was a maritime-related administrative public interest litigation case. It also held that the second paragraph of Article 5 of the Judicial Interpretation of Procuratorial Public Interest Litigation was the general provision on the jurisdiction, whereas Article 2 of the Provisions on Jurisdictional Issues in Maritime Litigation was the provision on the specialized jurisdiction of administrative maritime cases, which should be applied. Therefore the case was under the jurisdiction of the Haikou Maritime Court. The jurisdictional challenge filed by the defendant was rejected by the court. Then the defendant appealed to the High People's Court of Hainan Province, but the appeal request was rejected again.

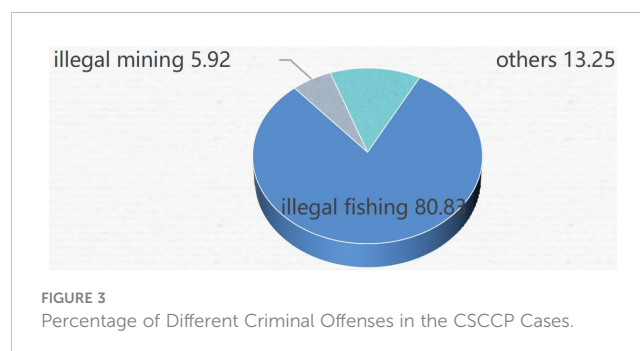
2.7 Diversification of grounds, claims and settlement of cases

As shown in the Figure 3, the criminal charges in the CSCCP were the offenses of illegal fishing of aquatic products in 232 cases, accounting for 80.83 percent. Other offenses include pollution of the environment (mainly dumping toxic and harmful substances), endangering endangered and precious wildlife (marine rare and endangered wildlife), and illegal mining (mainly illegal mining of sea sand). The total number of illegal mining offenses was 17, accounting for a relatively 5.92 percent. The civil claims in the CSCCP were generally to undertake ecological compensation, marine ecological environment or fishery resources restoration costs, assessment fees, appraisal expenses for environmental pollution, or public apologies in the mass media.

The types of civil public interest litigation show diversity, mainly covering a variety of fields such as marine pollution prevention and control, resource protection, ecological protection, etc., and marine environmental pollution liability dispute cases account for about half of the entire MEPIL. Others include environmental pollution liability disputes, maritime commercial disputes, disputes over liability for pollution damage at sea and through sea waters, disputes over liability for pollution damage to the marine environment, and tort liability disputes.

The MEPIL claims were mainly to undertake ecological environment restoration costs, judicial appraisal fees or ecological environment restoration appraisal fees, and public apologies in the media, with a few cases including expert appraisal fees and lawyers' fees. Regarding the results of judgments, mediation was applied to 12 cases, accounting for about half of the cases. The Bureau of Ecological Resources and Environment brought two cases to confirm that claims were upheld. Twenty-four cases brought by the Procuratorate, with claims for payment of environmental pollution and ecological restoration costs, were all supported.

All five administrative public interest litigation cases were initiated by procuratorial authorities, with the claim being to confirm that the relevant administrative authorities had failed to fulfill their statutory duties and to require them to do so within a specified period. Four administrative judgments were rendered, all in favor of the prosecution, and one case was withdrawn. The administrative authorities being sued include the Bureau of Agriculture and Rural Development as the defendant in 1 case for failing to supervise and ban illegal fishing equipment effectively. The Bureau of Ocean Developments was the defendant in two cases, the



Maritime Bureau in one case and the Bureau of Ocean and Fisheries in one case, for not fulfilling its statutory duties relating to the prevention of marine environment pollution, the protection of marine fishery resources, marine ecology, and other resources. Of the 339 MEPIL cases, 17 were settled by mediation, 22 by adjudication, and the rest by verdict. Public interest litigation initiated by procuratorial authorities had a higher probability of winning in litigation, except for withdrawn cases.

3 Obstacles faced by China's MEPIL

In conclusion, as the marine environment public interest litigation has not formed a complete institutional system, the lack of uniformity of legal provisions and the failure to fully reflect the nature of public interest and other problems are apparent. Many aspects, such as the arrangement of the standing and the order of the parties, jurisdiction and claims, reconciliation, conciliation and withdrawal, and the system of ecological damages, still need to be developed. The relationship between ecological damages litigation and MEPIL is still controversial. Taking into account the actual situation of the judicial practice of public litigation in the marine environment in China, the Basic Law of the Oceans to be enacted in the future should contain systematic provisions on the system of public interest litigation in the marine environment, including clearly defining the standing and order of precedence in MEPIL, procedural requirements, jurisdiction, application of legislation, and the methods of adjudication of the cases, and so on.

Many problems have arisen in marine environmental public interest litigation, such as different theoretical interpretations of relevant legal provisions, conflicts in the application of law in judicial practice, disputes over the standing of MEPIL, and jurisdictional disputes. The fundamental reason lies in the controversy over the nature of the National Claims for Marine Ecological Damage Suits (NCMED), the function and positioning of marine environmental public interest litigation are not explicit, and the system of co-management of marine ecological damage is not well-developed.

3.1 Conflicts between the NCMED and the MEPIL

There are many theoretical disputes and inconsistent judicial practices regarding this provision. Article 89, paragraph 2 of the Marine Environmental Protection Law provides that departments exercising supervisory and management powers over marine environmental resources by the law shall bring actions to claim compensation on behalf of the State for damage to marine natural resources and ecosystems. In the case of serious damage to the marine environment, the administrative authorities are empowered by law to repair the damage to ecological resources through this legal procedure. Especially where the means of enforcing marine environmental resources, such as administrative penalties and administrative enforcement, are still unable to provide adequate relief, the National Claims for Marine Ecological Damage suits

created by the Marine Environment Protection Law for cases of serious damage to the marine environment is intended to provide a complementary function to the damage to ecological resources, with priority to be given to the exercise of the administrative authorities.

Some scholars believe that the article authorizes the maritime administration to exercise that right to bring the compensation claim. By analyzing the content and function of the litigation, the nature of the National Claims for Marine Ecological Damage belongs to the Eco-damage lawsuit (Deng, 2013; Gong, 2019). Some scholars emphasize that the Article should not be used as the legal basis for China's marine environmental public interest litigation (Sun and Jin, 2017). However, many scholars also believe that the National Claims for Marine Ecological Damage Suits belongs to the category of public interest litigation (Zhu, 2015).

It should be emphasized that there are essential differences between the nature of NCMED and MEPIL. In the first instance, the former is in the nature of private-interest litigation for the relief of damage to national natural resources. The latter is a public interest litigation, which aims to remedy environmental public interest litigation in the public interest of society. The theoretical basis for the NCMED, such as the theory of national ownership of natural resources (Wang and Wu, 2021) and the theory of environmental protection supervision power, is defective (Jin and Xu, 2022). Therefore, this paper considers that the NCMED is based on the theory of public trust in natural resources (Brewer and Libecap, 2010), in the case of marine natural resources and the ecological environment suffering from pollution and damage, the marine administrative organs obtain the right to file a lawsuit for compensation for damage to the marine ecology and environment as a plaintiff, and on behalf of the Nation to pursue the legal responsibility of the tortfeasor (Wang X. G., 2018). The NCMED applies to cases where damage to marine aquatic resources or sea areas has caused significant loss to the country, and the object of relief is the national ownership of marine natural resources, while at the same time achieving relief for marine ecological damage. For example, the implementation of illegal reclamation activities destroyed state-owned marine area protection facilities such as island dykes. According to the MEA, the scope of application of national claims for marine ecological damage includes all maritime areas under national jurisdiction, and at the same time, according to the provisions of international treaties, it can also be applied to acts of pollution of the marine environment outside of the national jurisdiction. Funds for NCMED should be paid into the national treasury (Xie, 2021).

Secondly, the purpose of the MEPIL is to remedy the marine environment public interest and the damage caused by the destruction of marine ecology and marine protected areas. Administrative organs as a representative of the public interest, are one of the entities that have the standing. The MEPIL compensation belongs to the compensation fund dedicated to the restoration and protection of the marine ecological environment. Although the marine administrative organs on behalf of the state to exercise on the national marine environmental damage to the infringement of liability for damages lawsuit, cultivated the professional and technical personnel, and has accumulated

abundant professional advantages in the marine damage identification and restoration, and legal experience. But it does not mean that it can deny the standing of the procuratorial agencies and the environmental organs except for the marine ecological damage involving national sovereignty. The MEPIL is capable of achieving legal supervision of administrative behavior. The MEPIL has the preventive function of preventing the occurrence and achieves supplementary relief for marine ecological damage. These unique functions cannot be replaced by national claims for marine ecological damage.

Therefore, in terms of the legal function, structure, and relief results, the MEPIL could not substitute for the National Claims for Marine Ecological Damage Suits. The order of two kinds of litigation should be determined with full consideration of the cost and convenience of lawsuits in judicial practice (Qin and Wu, 2020).

3.2 Theoretical controversies and practical dilemmas over the standing

Some scholars conclude Article 89 of the Marine Environmental Protection Law is an authorization provision and does not exclude the standing of the environmental and social organizations in marine environmental public interest litigation (Duan, 2016). Some scholars also believe that this type of litigation has the composite nature of tort litigation and public interest litigation and suggest that Article can be the legal basis for filing two types of lawsuits, namely, lawsuits for property damage to national resources and lawsuits for the environmental public interest (Li, 2023). However, some researchers still believe that considering the sensitivity of marine issues, the actual capacity of maritime governance, and other factors, this provision excludes the procuratorial organs and other environmental, and social organizations from bringing MEPIL (Yang, 2021).

It's important to provide an explicit interpretation of the provision of Article 89 of the Marine Environment Protection Act (Han, 2018). Under the Marine Environment Protection Act, ecological damage to the marine environment is recoverable only if certain conditions are satisfied. According to Article 247 of the Civil Code of the People's Republic of China, maritime areas are owned by the State. If the natural resources and ecological environment within the maritime areas under the jurisdiction of China are polluted or damaged, resulting in damage to the interests of the State, the departments that have the authority to supervise and manage the area shall, on behalf of the State, recover the responsibility from the infringers. It is only when the damage to the marine ecosystem causes serious losses to the state that the relevant authorities are entitled to claim compensation from the polluter. According to Article 1 and Article 2 of the Measures for Claiming State Losses from Marine Ecological Damage, which were formulated and promulgated by the former State Oceanic Administration (SOA), the competent department of marine administration may claim compensation from the responsible parties for the serious losses caused to the State as a result of the construction projects of coastal engineering, the activities of

reclamation, and other activities of sea use, the activities of exploitation of sea islands, and the discharging of pollutants, or radioactive, poisonous and harmful substances, among other activities. The scope of national loss for marine ecological damage includes the cost of disposal measures, abatement of secondary pollution damage, losses during the period of restoration to the original state, professional consultancy fees, and other reasonable costs, which should exceed 300,000 yuan in total.

The provision does not specify the relief for all types and degrees of marine environmental damage, nor does it specify how to file civil public interest litigation for marine ecological damage and environmental pollution incidents other than those stipulated in the provision. There may be other forms of relief in the future. The mainstream view is that the provisions of this Article are authorized norms, rather than exclusive ones. Therefore, this Article 89 does not mean that it is the comprehensive exclusion of other subjects' right to bring MEPIL. At the same time, the provisions of the ecological damage claims as a means of administrative enforcement of the extension of the marine sector should sue but refuse to do, other entities in the case of clearly authorized to supplement. However, the prerequisite should be to ensure that the maritime sector is the first instance (Zhang J. F., 2019).

The MEPIL is part of the legal system of environmental public interest litigation, and the provisions of the Civil Procedure Law and the Environmental Protection Law as well as the relevant judicial interpretations should also be applied. Therefore, the Marine Environmental Protection Law should be amended to be consistent with the regulations of the Environmental Protection Law and the Civil Procedure Law and to include provisions on the standing of the marine environmental public interest litigation, to make it uncontroversial that marine environmental administrative organs, procuratorial organs, and qualified environmental social organizations are authorized to bring marine environmental public interest litigation. In the long run, China should improve the MEIPL system, articulate environmental administrative penalties, coercion, and other administrative regulatory measures for the marine environment and ecology, and rationalize the types and procedures, to achieve the comprehensive objectives including the prevention of marine pollution, conservation of the marine ecological system, public participation in the protection of the marine environment, etc. (Xie and Yu, 2022).

4 The improvement approach

4.1 Marine administrative organs are the first sequence

The MEPIL regime should be positioned as a complementary function to the maritime administrative regulation. The MEPIL is inferior to marine administrative enforcement in specialization, efficiency, and Litigation burden. The Marine Environmental Protection Law should clarify that the marine administrative authorities are to be identified in the first sequence to initiate the civil MEPIL (Cao X. Y., 2017). Qualified environmental organizations shall be in the second sequence to bring MEPIL.

The procuratorial organ shall be in the third sequence in civil MEPIL. (Sun and Zhang, 2020). If the administrative authorities refuse to bring the civil MEPIL cases, the procuratorial organs shall issue the procuratorial recommendation to urge them to initiate the legal proceedings. The public notices are also issued Supervising qualified social organizations to bring civil MEPIL cases. If the marine administrative authorities fail to respond to the procuratorial recommendation after the deadline while no social organs informing the prosecuting authorities within the required time, the procuratorial authorities may directly initiate the civil MEPIL (Wang W. H., 2018).

Firstly, in terms of the legitimacy of representing the public interests in the marine environment, the marine administrative authorities are the supervisory and management organs of marine natural resources, the representative of the State's ownership, and have the primary responsibility for the protection of the public interest in the marine environment. The marine administrative authorities are elected by the legislature (Hu, 2016). The administrative powers and duties of the marine regulatory authority are stipulated by law and strictly constrained, the administrative act has the initiative and is mandatory and the expenses are guaranteed by the state (Zhang, 2021). Therefore, the fact that marine authorities are legal representatives of the public interest determines that organs can directly initiate civil litigation against acts that infringe on the rights and interests of the public or the national environmental resources. Based on administrative action to resolve disputes over the marine environment, MEPIL is a means that can strengthen the ability to claim compensation for marine ecological damage, pollution prevention, ecological modification, and other remedies, to achieve favorable protection of the marine ecological environment and other social public interests.

Secondly, from the litigation capacity, marine administrative organs with professional knowledge and professionals, monitoring technology and equipment, and other obvious advantages, can tackle the complexity and professionalism of marine environmental issues (Li et al., 2015). Compared with land-based pollution, marine pollution is hidden, indirect, complex, and widespread, and the damage is compounded, for example, the dumping of toxic wastes not only causes seawater pollution but also triggers damage to marine resources and long-term damage to marine ecosystem (Landrigan et al., 2020), the death of marine wildlife or the reduction of biodiversity. Marine ecological environment pollution is characterized by complex causes, difficulty in tracing the responsible subject, a high level of professionalism in pollution site investigation and ecological resources damage assessment, and a high cost of restoration. The emergency relief, marine environmental monitoring, and marine ecological restoration of serious accidents caused by marine pollution are costly, technically complex, and high-risk. Marine departments have professional advantages, practical experience, and convenient conditions, can implement marine pollution monitoring and early warning, find illegal marine ecological environment damage behavior, investigation and evidence collection, pollution emergency response, ecological damage restoration, and other aspects (Shi, 2017). At the

same time, since pollution areas in the exclusive economic zone or near-shore waters will affect national maritime rights and interests, the State should authorize its government agencies to initiate proceedings on behalf of the State for compensation for damage to the marine ecosystem (Mei, 2020).

However, the marine administrative organs to initiate MEPIL still face many difficulties, which should be resolved promptly. First, there is a lack of explicit provisions on which administrative organ should initiate MEPIL, which causes the inaccurate definition of the subject of MEPIL and the low willingness to sue, seriously impacting the efficiency of the litigation and immediate relief for ecological damage to the marine environment. For example, the Zhuhai Bureau of Marine Agriculture and Water Affairs, as the plaintiff in the MEPIL was supported by Zhuhai Municipal People's Procuratorate to sue seven individuals as the defendants in the dispute over the responsibility for polluting and contaminating the marine environment by dumping toxic waste pollution. During the trial of the case, the plaintiff, Zhuhai Bureau of Marine Agriculture and Water Affairs was merged into Zhuhai Bureau of Natural Resources during the institutional reform. The institutional functions of the Zhuhai Bureau of Natural Resources and Zhuhai Bureau of Ecology and Environment could not be clarified at the time, resulting in the case being suspended by the Guangzhou Maritime Court for one year. It was finally determined that the Zhuhai Bureau of Ecology and Environment would continue to participate in the litigation as the plaintiff.

In addition, it lacks provisions for the scope and division of competencies for the marine environment administration in MEPIL. At the same time, the nature and legal provisions of the MEPIL are ambiguous, the provisions on bearing the costs of litigation are unspecified, and the litigation procedure is lengthy. Coupled with the lack of experience in litigation and legal professionals, the marine administrative authorities tend to prefer efficient dispute resolution methods, such as the consultative procedure on ecological damages, and thus causes the willingness to file lawsuits. The former State Oceanic Administration (SOA) was merged into the Ministry of Natural Resources of the PRC in the 2019 China institutional reform. The main responsibilities, such as administrative authorization for the use of maritime areas, were incorporated into the Ministry of Natural Resources, and the responsibilities for marine environmental protection were integrated into the Ministry of Ecology. However, the Marine Environmental Protection Law has not yet reclassified the powers and responsibilities. Article 5 of the Marine Environmental Protection Law is unable to cover the full scope of marine environmental supervision and management powers. For example, the supervision and protection of the marine environment of ship-breaking operations by the Maritime Safety Administration in the integrated port harbor area are not included in the above provision (Song, 2021).

Therefore, the provisions should be included to provide a clear division of responsibilities for the division of competence to clarify the relationship between different administrative organs in marine environmental public interest litigation.

4.2 Improvement of the legal system of MEPIL initiated by the procuratorial organs

As a representative of public interest, the procuratorate's standing in MEPIL, which is provided by Civil Procedure Law and Administrative Procedure Law, is also aimed at safeguarding the public interest in the marine ecological environment and is not in contradiction with its status as a legal supervisory organ (Xu, 2017). The procuratorate has the legal authority to represent the public interests and has the advantages of professional judicial personnel, effective legal means, and powerful coordination capabilities (Zhang, 2015a). From the point of view of judicial practice, procuratorial organs in MEPIL have a synergistic, and irreplaceable role in the preservation of marine natural resources and the ecological environment (Li, 2017).

MEPIL cases initiated by the procuratorial authorities can not only repair or compensate for damage to the marine ecosystem that has already been caused but can also play a preventive judicial role in preventing damage to the marine ecosystem from occurring or reoccurring (Li, 2020). In cases where "significant losses" have not yet been incurred or where preventive civil liability is required, the challenge of the relevant administrative authorities' inability to initiate the MEPIL procedure will be resolved. At the same time, the procuratorial authorities can investigate and handle the prosecution procedures for marine environmental pollution and ecological damage crimes, and civil compensation can be carried out simultaneously. For example, civil compensation for ecological damage to the marine ecosystem can be used as criminal sentencing scenarios to guarantee the performance of civil compensation, the investigation of criminal evidence can be used to judge the seriousness of the civil infringement, etc. (Sun and Tao, 2013). The procuratorial authorities have accumulated a relatively large number of experience, to avoid the administrative authorities' willingness to initiate public interest litigation (Luo, 2017). Through procuratorial recommendations or public notices, administrative organs or social organizations with standing should be urged to initiate the civil MEPIL.

Procuratorial authorities still face a series of problems in initiating the MEPIL. First, although criminal incidental civil public interest litigation is an effective remedy for marine ecological damage. However, a high proportion of CSCCP suits will bring about serious legal conflicts. CSCCP and civil MEPIL suits are very different in terms of the application of the law, jurisdiction, the status of the parties, the trial procedure, appeal, and other legal mechanisms. Civil proceedings are not independent, and there is excessive reliance on the procedures and results of criminal procedures. Until the facts of the criminal offense of damage to the marine environment are established by the courts, the issue of civil liability and compensation is put on hold, making it difficult to take preventive civil measures (Wu, 2021). The former is mainly based on Criminal Law and Criminal Procedure Law, while the latter is mainly based on Civil Procedure Law and Environmental Protection Law. In general, in civil litigation, a second instance can be brought, but the defendant's right to appeal in CSCCP may be limited, and if the amount of compensation proposed by the procuratorate is too high or too

low, it may be difficult to rectify through the appeals procedure. In addition, the former is under the jurisdiction of the basic court in the place where the offense was committed or where the defendant resides, while the latter is under the jurisdiction of the maritime court in the place where the act of damage was committed, the result of the damage was caused, or the preventive measures were taken. There are also many differences in the legal system. The former proceedings are less than two months while the latter is usually six months. And the former lacks property preservation measures to guarantee enforcement. In the second, there is a shortage of legal provisions on the jurisdiction of prosecutorial public interest litigation, the second instance appeal system, the scope of administrative public interest litigation, and the criteria for determining whether an administrative organ has performed its duties by law. And there is also a lack of legal provisions relating to the possibility of the procuratorial authorities failing the cases, and the possibility of abuse of litigation rights arising from an excessively high rate of success in litigation (Yu, 2021).

Therefore, based on the construction of MEPIL, the specific mechanisms for the procuratorial authorities to participate should be stipulated. Firstly, procuratorial authorities, initiate the civil MEPIL cases independent of the criminal procedure under the exclusive jurisdiction of the maritime courts, thereby reducing the number of CSCCP cases and conflicts of jurisdiction. Secondly, it will improve the jurisdictional system and the appeal system at the second instance for the MEPIL cases, expand the scope of administrative public interest litigation, and clarify the criteria for determining whether administrative organs are performing their duties by the law. Thirdly, it is to improve the provisions relating to the failure of the procuratorial authorities to bring MEPIL cases and the evidence transfer, trial procedures, and jurisdiction of the CSCCP cases. Fourth is improving pre-litigation procedures. The pre-litigation procedure has the function of urging the administrative authorities of the marine environment to fulfill their statutory responsibilities and reinforcing the litigation capacity of social organizations (Liu, 2019). It should be prescribed that the procuratorial authorities shall have the power to investigate and obtain evidence in the proceedings and that specific systems such as the Public Notice Procedure and the interface between Pre-litigation and litigation procedures shall be improved (Hu, 2020).

The fifth is to enhance the prosecution support system of the procuratorial authorities. An important way for procuratorial authorities to participate in MEPIL is through a prosecution support system, which can be done through the provision of legal advice, the submission of written opinions, assistance in the investigation and evidence collection, and other means by the law to support social organizations or administrative authorities in civil MEPIL cases (Zhu and Liang, 2018). And this should be the appropriate way for the procuratorate to handle civil MEPIL cases (Lin, 2022). After the pre-litigation procedure, if the administrative departments or the relevant social organizations have not filed a lawsuit, or there are no suitable agencies to bring the MEPIL case, the procuratorial organs will directly file a civil MEPIL case (Zhang X. Q., 2019). This ensures that the procuratorial and administrative authorities fulfill their responsibilities

respectively and promptly, as well as working closely together in the litigation proceedings and subsequent processes such as the restoration of marine ecological and environmental damage remedy. Improvements to the procuratorial prosecution support system include: expanding the scope of prosecution support, clarifying the litigation status and functions, refining the modality and scope of authority and responsibility, and clarifying procedural provisions (Zhao, 2023). For example, the case of civil MEPIL between the plaintiff, Ledong Lizu Autonomous County Ecological and Environmental Protection Bureau of Hainan Province, and the defendants, some Fujian company and two individuals, was supported by the Second Branch of the Hainan Provincial People's Procuratorate. The procuratorate appointed staff to appear in court and participate in the investigation and debated procedures and expressed views on issues such as the assumption of legal responsibilities.

4.3 Expansion of the standing of the MEPIL

Public interests should be maintained through multiple means. The entities with standing to bring civil public interest litigation in the MEPIL should be pluralistic (Mei, 2017). Based on the theory of public trust and environmental rights, social organizations are important means for the public to participate in marine environmental public affairs. And expansion of the standing of social organizations is beneficial to the protection of the public interest (Zhang, 2015b). The first reason is the function of public interest integration. Social organizations can integrate the common interests of different citizens and groups because social organs have broader social bases and can directly contact the public, especially environmentally disadvantaged groups. The second is the function of supervision. Social organizations are non-profit organizations with relatively independent status which could balance the environmental decision-making authorities and citizens' environmental rights. And social organizations can supervise the behavior that destroys the marine environment and ecosystems, and the marine administrative organs through social forces effectively. The third is the relief function. If social organs could bring a lawsuit, while individuals can not bring MEPIL cases in China, to protect the marine resources, environment, and ecology which are crucial to human survival and sustainable development, and to maintain marine economic value and ecological value. Marine environmental and ecological legal disputes are very complicated and diversified, and the participation of social organizations can provide professional support in terms of technical and legal expertise.

Social organizations have professional advantages in the fields of law and marine science. At the same time, as MEPIL may involve certain sensitive marine areas, or the aggressors of marine pollution are foreign vessels or multinational enterprises, MEPIL suits initiated by neutral, non-governmental social organizations, and filed under the jurisdiction of the Chinese courts, can reduce the sensitivity of the incidents, international conflicts, and provide better protection for China's maritime rights and interests. (Chen

and Bai, 2018). At the same time, social organizations can also bring their unique advantages by assisting in the commissioning of judicial appraisals, coordination and reconciliation between the plaintiff and defendant, and supervising the use of restoration funds as a third-party institution (Huang and Yu, 2021).

However, whether social organizations have standing has become a major concern in marine environmental law in China (Jin, 2021). Chinese environmental social organizations have been developing for a relatively short period facing challenges such as inadequate mechanisms, weak social support, and low degree of specialization. And there are fewer social organizations with expertise in marine environmental science and litigation capacity. Many of them are confronted with obstacles such as insufficient capacity to respond to lawsuits and financial constraints. As a result, some social organs are unable to undertake professional work such as investigating marine environmental pollution sources, assessing and collecting evidence, and initiating litigation. Some are unable to afford the high costs of investigation and evidence collection, damage appraisal, and litigation procedures. At the same time, social organizations face external dilemmas such as complicated registration and management procedures and the lack of incentive measures. As a consequence, the willingness of social organizations to initiate MEPIL has been relatively low, and the number of cases has shown a noticeable decline (Zhang et al., 2017).

The positive effects of social organization in MEPIL should be strengthened by enhancing their capacity while creating a stable external environment. Firstly, disputes over the standing in academic and judicial practice should be eliminated while the legal system should be improved. The procedural system for social organizations in MEPIL should be stipulated (Wu, 2014). The Civil Procedure Law is the basic law in the field of civil public interest litigation, while the Marine Environmental Protection Law is the specific law that applies to the protection of the marine environment which complements the Environmental Protection Law. The Environmental Protection Law and the Civil Procedure Law stipulate the standing of social organs in civil EPIL, which should also apply to the MEPIL cases. The Marine Environmental Protection Law does not prohibit social organizations from initiating MEPIL suits (Zhang and Zheng, 2021). Social organizations should notify the administrative organs before filing a lawsuit, and the administrative organs should respond within the period prescribed by law. If the administrative organs expressly indicate that they will not bring MEPIL, or do not respond within a reasonable period, the social organizations shall file MEPIL cases.

Secondly, it should establish an incentive system for environmental organizations' participation in MEPIL. Social organizations' registration and management procedures should be simplified, the standing should be appropriately lowered, and more social organizations should be motivated to participate. In addition, social organizations should be included in the list of exemptions or reduction of litigation fees to decrease the economic burden. A certain percentage of the ecological restoration fee can cover the cost of litigation for social organizations, such as investigations, appraisals, assessments, research, legal representations, and other necessary expenses (Huang and Du, 2018). The judges may

determine the bearing of the litigation costs according to the hearing. Part of the expenses undertaken may be covered by the defendants or included in the marine environment fund.

4.4 Improving the jurisdictional system

Whether all MEPIL cases belong to the exclusive jurisdiction of the Maritime Courts is highly debated, which affects the prompt hearing of these cases. According to the provisions of the Scope of Cases Accepted by the Maritime Courts, the exclusive jurisdiction of the Maritime Courts comprises 108 types of disputes in six categories, including lawsuits relating to the development, exploitation, and environmental protection of oceans and navigable waters, maritime administrative cases, and maritime special procedure cases. At present, there are 11 maritime courts in China, which have formed a relatively developed cross-administrative division of the trial mechanism. For example, the Qingdao Maritime Court, in which Qingdao is the main seat of the court, has jurisdiction over Yantai, Weihai, Rizhao, Dongying, and other major coastal cities which can cover the major maritime areas of Shandong Province.

The advantages of the exclusive jurisdiction of the maritime courts are reflected in the following: more comprehensive coverage, not subject to territorial jurisdiction, which is compatible with the cross-regional situation of marine environmental pollution. It is highly specialized, does not hear general cases, and has a unique advantage in handling maritime disputes. It has professional advantages in maritime trials, marine damage identification, the deployment of maritime areas, and the preservation of marine biological resources. The maritime court's exclusive jurisdiction ensures the trial standards' consistency, improves efficiency, enhances the strength of marine environmental conservation, and safeguards the rights and interests of the parties. The exclusive jurisdiction system should be gradually improved and harmonized with the civil, criminal, and administrative procedure laws.

First, the jurisdictional system for civil public interest litigation in the marine ecosystem should be clarified. According to Article 7 of the Law on Special Procedures in Maritime Litigation, civil MEPIL arising from damage caused by pollution of the sea area as a result of discharges, leaks, or dumping of oil or other harmful substances from ships, production or operation at sea, or breaking or ship-repairing operations shall be under the exclusive jurisdiction of the maritime court of the place where the pollution occurs, or where the damage is caused, or where the pollution-preventive measures have been taken. Therefore, civil MEPIL concerning damage caused by pollution of the maritime area as a result of sewage discharge from ships, production at sea, or vessel operations shall be brought before a maritime court. Some scholars believe that pollution of the marine environment caused by port operations, ship collisions, and discharges from land should be under the exclusive jurisdiction of the maritime courts (Wang and Xie, 2013).

However, since most inland provinces do not have maritime courts, to avoid cases being handled across geographical

boundaries, to reduce the burden on the parties, and to save judicial resources, plaintiffs should be given the right to choose jurisdiction. Procuratorial authorities or environmental protection agencies may choose to file a MEPIL lawsuit in an ordinary court in the place where the pollution occurred, where the damage was caused, where the measures were taken to prevent the pollution, and where the defendant is domiciled, or they may choose the exclusive jurisdiction of a maritime court.

Second, according to the provisions of the Administrative Procedure Law, administrative cases shall be accepted by the People's Court, where the defendant's administrative organ is located. According to the Administrative Litigation Law provisions, the people's court where the defendant is located shall have jurisdiction over the case. However, supposing the administrative act involved developing and using oceans and navigable waters, fisheries, and protecting the environment and ecological resources. In that case, it shall be subject to the maritime court's jurisdiction. CSCCP cases are currently under the jurisdiction of the People's Court. With the Ningbo court, the Qingdao Maritime Court will also be authorized to hear criminal cases. Some scholars have argued that maritime courts, with their more excellent trial experience and expertise, should be unified in accepting maritime criminal cases in harmony with the provisions of the Criminal Procedure Law.

4.5 Improving public participation in the MEPIL

The public is the direct beneficiary of the maintenance of the marine public interest and sustainable development and is the main force for the protection of the marine ecological environment. The public has direct concerns about marine conservation. Under the increasingly serious situation of marine environmental pollution and damage, public awareness, participation, and support for the MEPIL is one of the key factors determining its effectiveness.

Firstly, various measures were taken to popularize the legal knowledge of the MEPIL, to raise public awareness, and to cultivate initiative in marine environmental protection. For example, in 2022, the Ningbo Maritime Court heard an MEPIL case on the illegal use of prohibited fishing gear to catch aquatic fish. Above 9,000 people, including residents living in coastal areas and marine practitioners, watched the live broadcast of the case. The public gained a deep understanding of the extinction threat and the continued decline of fishery resources posed by illegal fishing. The public awareness of the protection of marine ecological resources has been improved. At the same time, the public also expressed support for the court's judgment on the criminal liability of the perpetrators and the compensation for marine ecological damage. Secondly, the standing of social organizations should be stipulated. This has already been discussed in Part 4.3 of the paper and will not be further developed here. Thirdly, the possibility of establishing the legal system of the MEPIL initiated by the individuals should be considered in the future. Individuals who suffer from marine pollution should have the standing to bring the MEPIL suits.

5 Conclusion

The situation of marine environmental pollution and ecological resource destruction in China is still relatively serious (Zhang et al., 2019; Xu and Zhang, 2022) affecting sustainable economic and social development (Zhai and Chang, 2019). The basic structure of the marine environmental public interest litigation system has gradually formed, showing that the procuratorial organs are leading, social organizations actively initiate public interest litigation, civil cases account for the majority, the causes of action are diversified, etc. MEPIL has played an indispensable role in the preservation of marine resources and the environment. The MEPIL can effectively punish offenses, rehabilitate damaged marine ecosystems and improve public awareness of environmental protection.

For example, with the increase of coastal projects, some enterprises have illegally dumped construction waste into the sea to reduce costs, causing serious damage to the marine ecosystem. For instance, the Procuratorate of Haikou City, Hainan Province, filed a civil MEPIL case in 2019, which prevented and deterred illegal marine dumping and protected the marine ecosystem. Company C dumped 69,000 cubic meters of construction waste without obtaining permission. The construction waste was identified by a professional organization as containing toxic and hazardous substances, which would enter the marine biological chain and damage the marine ecosystem and resources. Through diffusion and dispersion, construction waste will have a lasting impact on the marine aquatic environment, and harmful heavy metals such as mercury, nickel, lead, arsenic, and copper will continue to affect the quality of seawater. At the same time, the dumped waste will directly change the original habitat of the benthic organisms in the involved marine area, and will completely change the geological environment of certain sea areas, with most of the benthic species being buried. After imposing administrative penalties on perpetrators of offenses, the local marine and fisheries department, after written advice and supervision by the procuratorate, did not bring a lawsuit for compensation and was therefore unable to hold the perpetrators liable for the damage caused to the marine ecosystem. The Haikou Municipal Procuratorate filed the civil MEPIL case, and the requests were supported by the Haikou Maritime Court. The court ultimately ruled that the three defendants including the company's real controller and commissioner of dumping, jointly liable for compensation for ecological damage totaling more than RMB 8.6 million for the restoration of the marine ecosystem, and made a public apology in the nationally distributed media.

However, China's MEPIL system still has many problems, restricting the implementation of the litigation goal. There are conflicting legal provisions on MEPIL, the number of cases is relatively low, and there are disputes on the eligible plaintiffs and the sequence. The position of the marine administrative authorities has not been fully reflected. The system of MEPIL initiated by procuratorial organs is not improved, and there are conflicts of jurisdiction and other problems. As part of environmental public interest litigation, marine environmental public interest litigation should comply with the basic provisions of the Civil Procedure Law

and the Environmental Protection Law. It should be closely related to judicial practices and stipulate that the marine administrative authorities, social organizations, and procuratorial organs can initiate the MEPIL, and jointly safeguard the public interests of the marine ecological environment with their respective professional advantages. The marine administrative authorities have priority status, social organizations as complementary, and procuratorial organs as the ultimate protection of the public interest (Yu, 2021). China should gradually implement the exclusive jurisdiction system of the maritime court, to realize the advantages in maritime trials and the damage appraisal and other aspects. In the future, the institutional framework for MEPIL should be specified in the Basic Law of the Oceans, with detailed provisions on the function and nature of MEPIL, standing, litigation procedures, the scope of damages, rules of evidence, jurisdiction, adjudication and mediation, and the fund for compensation of damages.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material. Further inquiries can be directed to the corresponding author.

Author contributions

LY: Data curation, Funding acquisition, Investigation, Methodology, Resources, Writing – original draft, Writing – review & editing.

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