Research on Legal Issues of Management of Foreign-related Marine Scientific Research

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Abstract
Since the reform and opening up of China, numerous research organizations and institutions, both domestic and international, have started seeking permission to carry out marine scientific research in China's territorial sea, internal waters, and other jurisdictional waters. Due to the ambiguity of certain controversial concepts in the United Nations Convention on the Law of the Sea (hereinafter referred to as "the Convention") and the rapid advancements in science and technology, the management of foreign-related marine scientific research in China faces legal challenges in practice. For example, there are ongoing disputes regarding whether surveying activities fall within the scope of marine scientific research, how to manage foreign-related marine scientific research in disputed areas, and how to regulate the surveying activities of foreign-related marine buoys. This paper analyzes the legal issues concerning the management of foreign-related marine scientific research in China. It proposes solutions such as legal regulation of measurement activities, joint approval and enforcement of marine scientific research in disputed areas, and the formulation of relevant regulations on foreign-related marine buoys.

Keywords
Marine Scientific Research, Management Regulations, Measurement activities, Disputed Sea Area, Marine buoys

1. Presentation of the problem
Humankind has entered the century of the sea, and the game between States has shifted from the traditional land to the sea. The Convention provides that more than 150 coastal States can claim as jurisdictional sea areas in the form of territorial sea, exclusive economic zone, continental shelf, etc., offshore sea areas that account for about 30 per cent of the total area of the oceans, the coastal state may exercise sovereign rights over natural resources in the exclusive economic zone, continental shelf (Jia Y, 2018). The legal regime of maritime areas such as internal waters, the contiguous zone, the territorial sea, archipelagic waters, straits used for international navigation, and the exclusive economic zone are defined in the content of the Convention, which basically covers the principles and rules of the coastal States in the different maritime areas, as well as in the areas of marine scientific research, navigation of ships, and protection of the marine environment (Xue, Guifang, 2005).

Marine scientific research is an important means for mankind to understand and utilize the valuable wealth of the sea. The rule of law for the management of foreign-related marine scientific research is a natural path. The Convention, known as the "constitution of the sea," not only provides provisions for a country's maritime rights and interests but also serves as an important basis for formulating and implementing various maritime laws and regulations in our country. In order to promote international exchanges and cooperation in marine scientific research and to safeguard China's sovereignty and interests in the oceans, China formulated and implemented the Administrative Provisions on the basis of the Convention at the end of the last century in order to strengthen the management of foreign-related
marine scientific research activities carried out in maritime areas under its jurisdiction. Prior to the introduction of the Administrative Provisions, there were no explicit provisions in the relevant laws on how to manage foreign-related marine scientific research activities carried out in China's territorial waters, exclusive economic zones, and continental shelves, which led to a period in which foreign-related marine scientific research activities were basically left unregulated and unmanageable. The introduction of the Administrative Provisions has done a good job of improving this state of disorganization, making China's foreign-related marine scientific research activities orderly. However, with the rapid development of science and technology, the stability of the law itself, and the unclear definitions of some of the controversial concepts in the Convention, and in conjunction with China's marine management practice, it has been found that there are a number of legal issues that need to be resolved. For example, if the concept of marine scientific research in the Convention is ambiguous, whether surveying activities fall within the scope of marine scientific research, and how surveying activities are regulated. How to regulate foreign-related marine scientific research conducted in disputed areas. How to regulate measurement activities involving foreign marine buoys.

2. Problems and analysis of foreign-related marine scientific research management

2.1 Whether measurement activities fall within the scope of marine scientific research

Due to the continuous development of marine scientific research and the deepening of the fields faced by it, it is very difficult to make a comprehensive enumeration of the concept of marine scientific research, and there is no uniform and authoritative provision on the scope of marine scientific research in the Convention, so whether surveying activities belong to the marine scientific research activities has been controversial in practice. This paper mainly discusses military and hydrographic surveying activities.

2.1.1 On military surveys

Military surveying activities are essentially intelligence gathering activities, which include measuring oceanography, hydrography, marine geology, geophysics, biology, chemistry, acoustics, and other related data, and can help naval vessels to grasp the marine environment and related data including seabed topography and geomorphology, ocean gravity, sea currents, etc. (Zhou Zhonghai & Zhang Xiaoyi, 2012). The limitations of the Convention have led to controversy over the legality of military surveying activities in the EEZ.

The discussion on the nature of military surveying is characterized by different views at the international level. The traditional maritime powers, led by the United States, tend to advocate that military surveying activities are an act of measurement accompanied by military purposes and should not be included in the scope of marine scientific research. In its view, in the light of the provisions of articles 19 and 40 of the Convention, surveying activities are activities that are clearly juxtaposed with marine scientific research, and its military surveying activities in the maritime areas of other States are consistent with the freedom of navigation and overflight on the high seas, as well as with other lawful uses of the oceans and seas in relation to international cooperation.

Most developing countries are of the view that military surveying activities should be included in the scope of marine scientific research, and since most developing countries are militarily weak and military surveying often involves the core interests of the State, it is reasonable for coastal States to exercise jurisdiction, as failure to restrict the military surveying activities of other States would pose a certain threat to national security.

2.1.2 On hydrological measurements

The Guidelines for Navigation and Overflight in the Exclusive Economic Zone (EEZ) define hydrographic surveys as follows: Hydrographic surveys are activities carried out for the purpose of measuring data related to the water column to provide information for nautical charting and navigational safety and for the use of persons associated with the marine environment (e.g., oceanographers, biologists, environmentalists, etc.) (Zou L. G., 2013). Hydrographic surveying activities are by definition similar to mapping activities. The United States considers hydrographic surveying activities to be part of the freedom of navigation and overflight on the high seas, among other internationally lawful uses, and therefore coastal States cannot regulate hydrographic surveys outside their territorial seas or require prior notification.

2.2 Lack of clarity as to jurisdiction over disputed maritime areas

Since the establishment of the exclusive economic zone system, a large number of overlapping maritime areas have
arisen at the international level. Disputed sea area refers to the sea area where there are conflicting claims between countries, mainly including territorial sovereignty disputes based on island sovereignty claims, jurisdictional delimitation disputes based on the overlap of exclusive economic zones and continental shelves, as well as disputes on the legal status of the relevant sea area due to different interpretations of the treaties (Yen-chiang Chang, 2018).

Part 13 of the Convention does not provide for marine scientific research in overlapping areas claimed by coastal States. The controversy over the management of marine scientific research in the disputed area is mainly about whether the coastal State can autonomously carry out marine scientific research activities in the disputed area, and whether it can approve and manage the marine scientific research activities of foreign organizations or individuals in the disputed area (He–Yun Xu, 2019). Due to the political and sensitive nature of the disputed sea area, when a third country applies for access to the sea area for scientific research, in order to avoid intervening in the disputes of other countries, it often applies to two countries at the same time, but the laws and regulations of each country as well as different means of law enforcement and supervision can easily lead to the emergence of disputes at sea, which can rise to the level of diplomatic disputes, restricting the international cooperation in marine scientific research.

2.3 Inadequate legislation for the management of marine buoys

The small size of ocean buoy equipment is not conducive to observation and discovery, and the use of relevant satellite technology and scientific and technological means can accomplish the task of ocean data monitoring, which makes it possible for the equipment of researching countries to obtain relevant ocean data and information in a simple manner even if they do not enter the maritime areas under the jurisdiction of other countries, and it is more difficult for coastal countries to regulate them, and the relevant provisions in the Convention are not able to manage and regulate the ocean buoys involved in foreign affairs, and there is at present no legislation in China on the aspects of ocean buoys involved in foreign affairs. Therefore, it is necessary to further regulate the behavior of foreign parties in placing marine buoys in the waters under our jurisdiction by introducing relevant regulations on the management of marine buoys involving foreign parties, so as to seize the legal high ground in the battlefield of the sea.

3. Response Path to Management Problems of Foreign-related Marine Scientific Research

3.1 Legal regulation of measurement activities

While there is no doubt about the right of the United States to freedom of overflight and navigation in the exclusive economic zones of other States in accordance with the relevant provisions of the Convention, this does not mean that this freedom is unlimited. According to Article 11 of the Exclusive Economic Zone and Continental Shelf Act, the freedom of navigation and overflight by any State in our exclusive economic zone is premised on compliance with international law, and our laws and regulations. No matter how much the United States claims that it enjoys freedom of navigation and overflight in our exclusive economic zone, it must abide by the relevant international laws and our laws and regulations.

Therefore, the author is of the view that foreign illegal surveying activities should be regulated in the light of the relevant provisions of the Convention, the relevant principles of international law, and China's laws and regulations. Foreign parties applying for marine scientific research-related surveying activities in the sea areas under China's jurisdiction need to go through China's approval and at the same time accept China's jurisdiction, and for other claims that do not fall within the scope of marine scientific research, they also need to comply with China's relevant laws and regulations, and can only carry out the relevant activities after approval.

3.2 Joint authorization and enforcement of disputed maritime areas

Although there are disputed areas at the international level, the value of utilizing them should not be stifled, and the vitality of the region should be maintained through various means. Thus, even in disputed waters, a disputing party is in principle able to enjoy the corresponding right in the event of a bona fide claim within the waters, but the sensitivity of the disputed waters makes the exercise of this right legally and politically restrictive (Wang Yu & Yenchiang Chang, 2019).

In order to better develop and utilize the oceans and seas, since the 1970s, China has, from the perspective of maintaining peace and stability in the region, put forward the initiative of ”setting aside disputes and developing the oceans and seas jointly” with its neighbouring countries in the East China Sea and the South China Sea. For example, the China-Japan Fisheries Agreement was signed with Japan in the East China Sea in 2000. In 2005, in the South
China Sea oil companies from China, Vietnam, and the Philippines reached an Agreement on Tripartite Joint Marine Seismic Work in the Agreement Area of the South China Sea. In 2018, China signed a Memorandum of Understanding (MOU) between China and the Philippines on cooperation between the two countries in oil and gas development (Ye Quan, 2021). Although these agreements have not yielded the good results expected, they have unleashed China's goodwill towards joint development and management of the disputed waters.

China reformed its maritime law enforcement system and institutions in 2018, and the China Coast Guard Bureau was given comprehensive maritime law enforcement duties and diversified authorities and powers and is the backbone of maritime law enforcement (Mao Wanlei, 2022). The Maritime Police Act provides for maritime police agencies to be able to regulate and enforce the law with respect to ships of international organizations, foreign organizations, and individuals engaged in marine scientific research activities in waters under the jurisdiction of the State. Bilateral and multilateral maritime law enforcement cooperation mechanisms may be established within the terms of reference, and participation in the activities of maritime law enforcement cooperation mechanisms and international cooperation and exchanges in maritime law enforcement may be carried out.

In the author's view, China can consider carrying out joint law enforcement with other countries to enforce and manage foreign-related marine scientific research activities in the disputed waters, and jointly enjoy and use the research data and conclusions and other information obtained by foreign organizations, while at the same time avoiding the use of force as much as possible in the process of law enforcement, so as to avoid triggering unnecessary international disputes.

### 3.3 Development of regulations on the management of foreign-related marine buoys

Since the lack of relevant regulations on the management of foreign-related marine buoys has led to certain limitations in the management of marine buoys, corresponding regulations should be formulated. The legislative purpose of the regulations should be consistent with the legislative purpose and spirit of the Administrative Provisions. Its content can refer to the resolution XX-6 of the 20th General Assembly of the Intergovernmental Oceanographic Commission of UNESCO in 1999 on the Argo Program, which states that "all deployments of profiling buoys that may enter maritime areas under national jurisdiction must be notified to the relevant coastal state in advance through the appropriate channels, including information on the exact location of the deployment" (Liu Zeng-Hong, 2001).

The relevant research plan, the purpose of the investigation and research, the areas that the buoys may pass through, the principle of data use, and the way of cooperation should be clearly stipulated, and it should be stipulated that the buoy deployer's obligation to inform should be stipulated, and that the relevant research equipment should be handed over to the relevant departments for inspection after the completion of the scientific research activities. All original information and data obtained in the course of the research should be provided to our country in a timely manner and free of charge after the research, and at the same time, it should be stipulated that the research party shall not publish and use sensitive data involving our national security without the permission of the relevant departments of our country.

### 4. Conclusion

In the history of human development, the relationship between seapower and a strong country is like "two wheels of a car and two wings of a bird", which are indispensable, and without seapower, it is impossible to become a real-world power. The construction of a strong maritime nation cannot be separated from the scientific research and exploitation of the resources of the oceans by mankind, but the utilization of the oceans must be reasonable and lawful, and must not contravene the spirit of the Convention and the laws and regulations of the countries concerned. China is now more perfect for the management of foreign-related marine scientific research supporting laws and regulations, but in the face of the social development of the new legal issues arising from the rapid changes in the future still needs to be in the legislation, law enforcement, and other levels of continuous improvement and improvement for the management of foreign-related marine scientific research to provide a solid legal safeguards and law enforcement basis for the realization of the strategic goal of a strong marine country to provide legal support.

### References


