

## *Original Paper*

# Current Situation, Problems and Suggestions of Uninhabited Island Management—Taking Dalian City as an Example

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Received: September 25, 2024      Accepted: October 8, 2024      Online Published: October 10, 2024

doi:10.22158/elp.v7n3p1

URL: <http://dx.doi.org/10.22158/elp.v7n3p1>

### ***Abstract***

*As a part of natural resources, the management and development activities of uninhabited islands have entered a new period of more systematic and refined management under the guidance of Island Protection Law of the People's Republic of China of the People's Republic of China. This paper focuses on the practice of the development and utilization management of uninhabited islands after the implementation of the law. Through in-depth analysis of the current management links, the common problems existing in uninhabited islands and the management status of uninhabited islands in Dalian City, the relevant problems existing in uninhabited islands are improved, and corresponding countermeasures are provided for the development and utilization management of uninhabited islands.*

### ***Keywords***

*uninhabited island, management status, development and utilization*

## **1. Legal Protection Status of Uninhabited Islands**

As an important carrier of “three-life” space, islands are an important platform for protecting the Marine ecological environment, and a strategic frontier for safeguarding national rights and interests and safeguarding national defense security (Wang, 2017). Because of the late development of Marine resources in China, there are no specific unified laws for the management of islands, and the applicable laws of various organs in the process of management, development and protection of islands are different, and many problems have emerged in the early process of development and utilization.

Uninhabited island is an important component of natural resources of our country. At present, many relevant laws have been promulgated in the administration of island without inhabitant in our country. Its administration is strictly regulated by a series of laws and regulations. The concept of uninhabited islands first appeared in the “Regulations on the Protection and Utilization of Uninhabited Islands” promulgated by the State Oceanic Administration in 2003, which set out the basic framework for the

management, development, protection and utilization of islands. Subsequently, the Law of the People's Republic of China on the Protection of Islands, which came into effect in March 2010, has made a clear definition of "uninhabited islands" and identified "uninhabited islands" as islands that do not belong to the address registration place of residents' household registration administration. China has established a comprehensive legal framework for the management of uninhabited islands, which not only relies on Island Protection Law of the People's Republic of China of the People's Republic of China, but also includes a number of guiding and implementing rules and regulations. There are also the Guiding Opinions on the Protection and Utilization of Uninhabited Islands, Opinions on Paid Use of Sea Areas and uninhabited Islands, Measures for the preparation and Administration of Provincial Island Protection Planning, Measures for the Approval of the Development and Utilization of Uninhabited Islands and other relevant rules and regulations, which constitute the management system of uninhabited islands (Wang, Xu, Zhang et al., 2023, pp. 127-135). The List of Uninhabited Islands for Development and Utilization published in 2011 has effectively promoted the interest and participation of all sectors of society in the investment and development of these islands, marking that the rational development and utilization of uninhabited islands has entered a new period of activity. However, due to our country's lack of experience in developing island and imperfect legal system, a series of legal problems have been generated.

In recent years, the development and utilization of uninhabited islands in China has been increasing. However, the existing laws and regulations have shown a certain degree of lag when dealing with the development trend in this field, and have been unable to adapt to the status quo of gradually developed uninhabited islands. Although these laws and regulations cover various principles and regulations for the management and development of uninhabited islands from a macro level, the guidance and operability of the current laws and regulations still have certain limitations in view of the actual conditions and conditions of the development and utilization of each island, as well as the increasingly diversified and complicated needs for island development. In the process of development and utilization of uninhabited island resources, we are faced with a series of problems left over from history, which requires us to deeply examine the legal weaknesses in the existing management system. In order to promote the standardization and efficiency of island management, it is urgent to improve and perfect the relevant laws and regulations system and practical operation norms. To ensure that the problems in the development, use and management of uninhabited islands can be properly solved, and finally achieve sustainable development of uninhabited islands, so as to protect the ecological environment of uninhabited islands and safeguard national ecology and homeland security. Therefore, the improvement of relevant legal systems plays an important role in the supervision and development of uninhabited islands.

In order to ensure the rational use and effective management of uninhabited islands, it is necessary to refine and improve the relevant specific systems, not only to strengthen the legalization and standardization process of the development and utilization of uninhabited islands, but also to take into

account the protection of their unique ecological environment, so as to attach equal importance to scientific development, orderly utilization and strict protection. While ensuring the ecological environment integrity of uninhabited islands, the sustainable use of island resources is promoted, so as to safeguard the country's precious ecological resources and homeland security. In the process of supervision and development of uninhabitable islands, establishing a perfect and well-targeted legal system has a vital significance, which is not only an inevitable requirement for legal construction, but also a strong guarantee for promoting healthy and sustainable development of uninhabitable islands of our country.

## **2. Legal Problems Existing in the Administration of Uninhabited Islands**

Island Protection Law of the People's Republic of China establishes the Marine authority of The State Council as the leading agency for the protection, development, utilization and management of uninhabited islands in the country, laying a solid legal foundation for this field and stimulating the continuous development of management systems and norms for uninhabited islands. However, the problems left over from history still pose challenges in the governance, development and utilization of uninhabited islands, which affect the standardized management process of these islands. In view of this, it is particularly urgent to accelerate the solution of the problem of island use left over from history, carry out in-depth research and take effective measures. For the comprehensive management and development of uninhabited islands, the state can not only rely on the single law of Island Protection Law of the People's Republic of China. In fact, for various construction activities on islands and the protection and utilization of natural resources, a series of laws and regulations should be jointly applied to regulate the use of land on islands. The Forestry Law, the Mineral Resources Law, and the Land Management Law together constitute a multidimensional and comprehensive legal framework to ensure that the development and utilization of uninhabited islands is in line with the principle of economic benefits, without damaging the ecological and environmental balance, and to achieve legal, orderly and sustainable management of island resources.

### *2.1 Administrative Examination and Approval Functions of Uninhabited Islands Overlap*

Before the promulgation of Island Protection Law of the People's Republic of China, uninhabited islands needed multi-party agencies to work together when conducting administrative approval. The development and utilization of these islands is far from a simple task, considering the uniqueness of each island and the diversity of development modes, its complexity is self-evident. Therefore, it is not only involved in these departments of land and ocean, but also involves many departments such as forestry and energy. The Law on the Protection of Islands defines a centralized and unified management mechanism for the administration of uninhabited islands, and the Marine administration department is uniformly responsible for the development, construction, protection and management of uninhabited islands (Li, 2020, pp. 44-54). Nevertheless, the Act appears to be relatively simple in terms of regulatory measures for the development of uninhabited islands, and fails to fully demonstrate strong

control efforts.

Following a series of relevant laws and regulations such as the Land Administration Law of the People's Republic of China, local management departments need to deal with diverse ownership situations when approving island use activities. These include statutory requirements in areas such as land, fisheries, rural land contracting, mineral resources and forests, resulting in a wide variety of property rights certificates involved. At the same time, there are land certificates, forest rights certificates, real estate certificates, sea area use rights and other property certificates, administrative approval documents and lease, contract contracts (agreements), and even no procedures for the development and utilization of resident islands (Peng, Li & Zhang, 2023, pp. 11-15).

The overlapping of administrative examination and approval functions on uninhabited islands is mainly reflected in the following aspects:

In view of the possible overlapping of departmental responsibilities and the limited authority of Marine management departments, local legislation needs to focus on strengthening the role of Marine authorities in the utilization, protection and supervision of uninhabited islands. It is also necessary to clearly define the management responsibilities for the development and utilization of uninhabited islands involving construction quality, port shoreline, fire safety, waste disposal, and safe production (Wu & Zhu, 2018, pp. 120-127) and detailed list its specific management responsibilities in several key links such as project quality monitoring, port shoreline management, fire safety assurance, waste disposal and safe production, so as to achieve the goal of clear responsibilities and management in place.

Among the central and local governments, provinces and cities and counties, the distribution of administrative approval authority on uninhabited islands is uneven or incomplete. In the actual registration of the exploitation and utilization of Marine resources, the corresponding rules are scattered and the levels of norms are different. There is no unified registration system for the right to the use of sea areas, fishery rights, mining rights, and the right to the use of uninhabited islands, so the registration system of such immovable property can only be applied (Li, G. Q., & Li, M., 2024, pp. 14-26). The administrative examination and approval of the right to use islands and the setting of relevant laws and regulations in China are mainly concentrated in lower-level departmental rules and normative documents. Similar problems are also prevalent in other single-line legislation on natural resource management, highlighting the characteristics of early legislation on the development, utilization and management of natural resources in China: the legislative level is not high enough, the distribution is scattered and lacks unity, and most of them rely on lower-level legal documents such as administrative regulations and departmental rules to guide practice, rather than high-level laws or unified legal framework.

In the approval process of island development and utilization, Marine administrative departments, land planning departments, environmental protection departments, forestry departments, tourism departments, fisheries departments, military departments, etc. may involve the authority of island

management, and the specific functions of various departments in the use, protection, planning, construction and other aspects of islands are not clear enough. In practice, multiple departments have the right to approve or supervise the same matter, resulting in duplication and conflict of approval work. The approval process of island projects is complex, and the development and utilization of uninhabited islands often involves multiple pre-approval processes, such as island application, EIA approval, shoreline use, sea area right, etc. If there is no effective linkage mechanism among all approval links, functions may cross and overlap, resulting in prolonged approval cycle and reduced administrative efficiency.

### *2.2 Poor Supervision and Illegal Development of Uninhabited Islands*

Each uninhabited island has its own characteristics in terms of resources and environment. So there will be many problems in the process of island development. Among these are not only the problems of local government supervision but also the illegal development of the islands. From the current development status, there are some problems in the random use of uninhabited islands and the lack of targeted development, utilization and protection programs.

In the supervision system of uninhabited islands, the core supervision responsibility mainly falls on the competent Marine authorities, which may lead to other related government departments facing restrictions on their authority when they intervene in the supervision process. Under the current model, other government departments cannot independently carry out routine regulatory activities on uninhabited islands unless authorized or cooperated with the maritime authority. This situation may weaken the initiative of these departments to participate in the daily supervision of uninhabited islands, resulting in a passive response to the supervision work, that is, usually only when obvious illegal use is found, other relevant departments will intervene to investigate and deal with it according to their duties, instead of conducting continuous and comprehensive collaborative supervision. Thus, it will affect the effective establishment and implementation of multiple and normal supervision mechanisms in the process of development and utilization of uninhabited islands. In history, due to the lack of effective management and environmental protection laws and regulations, many ecological resources on uninhabited islands have suffered serious damage, including but not limited to excessive mining, construction waste accumulation, vegetation destruction, etc., and the subsequent ecological restoration and management work is lagging behind. Improper disposal of abandoned facilities or relics left by early military, fishing, mining and other activities not only affects the natural landscape of the island, but also may bring security risks and environmental pollution. The lack of cooperation and coordination mechanism between Marine authorities and other government departments makes it difficult to obtain comprehensive and multi-directional supervision on the development and utilization of uninhabited islands.

In terms of illegal development, some developers are more subjective in island development. This can be seen from a number of cases, especially in some places, due to a variety of reasons, the protection and management measures of uninhabited islands have not been effectively implemented, resulting in

specific problems including unauthorized development without approval, some regions and enterprises without obtaining legal procedures, such as building houses, docks, tourism facilities, etc. These acts have seriously violated the Law of the People's Republic of China on the Protection of Islands and other laws and regulations. The Pingtan sea area in Fujian Province is a typical case of illegal development. In 2015, the Pingtan Comprehensive Experimental Zone implemented the development of Lantau Island without obtaining the right to use the island. The construction of the base and supporting facilities and other buildings, and supporting the construction of 1000-ton pier, island trestle, observation platform and other facilities. In the early years, some uninhabited islands were illegally occupied by individuals, enterprises or other organizations for development and utilization without formal administrative approval procedures, resulting in unreasonable and even destructive benefits of island resources. In Shandong, some individuals or groups disregard national laws and regulations and carry out illegal development activities on uninhabited islands without authorization. In addition, some villages still hold the wrong idea, regard these islands as their own territory, illegally occupy them, and hinder and prevent Marine administration departments from implementing island protection measures in accordance with the law. In order to effectively solve the problems related to management and illegal development, the national level has continuously strengthened the supervision of ecological and environmental protection, severely cracked down on illegal development of uninhabited islands, urged local governments at all levels to fulfill the main responsibility of island protection, strengthened the supervision system, and advocated the concept of green development, striving to find a balance between economic development and ecological protection. Realize the sustainable utilization of island resources.

### *2.3 The Ecological Environment Is Seriously Damaged in the Process of Development*

Uninhabited islands have attracted much attention because of their unique geographical forms and diverse natural resources. However, in the actual development process, due to the lack of planning, overall management and other problems are common, often lead to the irrational use of island resources and even serious waste, at the same time, its originally fragile ecosystem has been irreversible damage. In the past, most of the development activities of uninhabited islands showed strong randomness and lack of targeted planning strategies, especially in the aspect of environmental protection. Fishery production, port construction, tourism development and other common activities have caused serious damage to the original topography of the island. In particular, the exploitation of stone, the dumping of garbage and the landfill of toxic and harmful substances make the ecological environment of the island and its surroundings deteriorate day by day. The uninhabited islands that are closer to the inhabited islands become the back gardens for the residents to raise poultry and livestock (Huang, L., & Huang, Bo., 2012, pp. 151-156). Some uninhabited islands have been developed for stone mining and processing, and traditional industries have been transferred here to reduce costs, and their extensive operation mode has caused far-reaching damage to the ecological environment of the islands, resulting in the destruction of the ecological environment of the uninhabited islands and pollution of the

surrounding sea areas. Some uninhabited islands have been used as low-cost production and construction sites in history, but environmental protection and long-term ecological value have been ignored, resulting in increasingly prominent contradictions between island development and ecological protection. Due to the lack of effective management and environmental laws and regulations, ecological resources on many uninhabited islands have suffered serious damage, including but not limited to excessive mining, construction waste accumulation, vegetation destruction, etc., and the subsequent ecological restoration and management work is lagging behind. Improper disposal of abandoned facilities or relics left by early military, fishing, mining and other activities not only affects the natural landscape of the island, but also may bring security risks and environmental pollution.

### **3. Taking Dalian City as an Example—Status Quo and Problems of Uninhabited Island Management**

In recent years, with the continuous upgrading of China's attention to the management and protection of uninhabited islands, the State Oceanic Administration has put forward strict governance requirements for coastal provinces. Liaoning Province actively responded to the call of the state and gradually established a complete set of laws and policies covering the management, protection and development of uninhabited islands. These include a series of provincial regulations such as the "Liaoning Province Sea Area Use Management Measures" and "Liaoning Province Marine Environmental Protection Measures", as well as the "Liaoning Coastal Economic Belt Development Plan (2009-2020)" and other strategic plans, as well as funds collection and management policies for the use of uninhabited islands, such as the "Liaoning Province uninhabited Island Use funds Collection and Management Measures". At the same time, in the "Twelfth Five-Year Plan for Marine Economic Development of Liaoning Province", "Marine Function Zoning of Liaoning Province (2011-2020)" and "Liaoning Province Island Protection Plan (2012-2020)" and other documents, Liaoning Province has clearly defined the objectives of rational utilization of island resources and ecological protection. In addition, the "Liaoning Coastal Zone Protection and Utilization Plan (2011-2020)" and "Liaoning Province Ecological and Environmental Protection Plan (2016-2020)" also emphasize the overall protection and scientific utilization of coastal zones and islands from a larger scale. At the same time, in order to further strengthen the supervision of uninhabited islands, comprehensively grasp the development and utilization status of uninhabited islands, and properly deal with problems left over from history, Liaoning Province carried out the construction of uninhabited islands survey and business system, and established the most comprehensive, complete and accurate uninhabited islands database (Jiang, 2024, pp. 145-148).

According to the survey, Dalian has many islands, superior geographical position, obvious location advantage and rich island resources. The coastline of Dalian Island is 840 kilometers long. There are 538 islands, accounting for 85% of the total number of islands in the province, of which there are 40 inhabited islands and 498 uninhabited islands. On March 5, 2024, Changhai County First loan Center

was officially listed in the county government affairs Service Center, which is the first first loan center built and operated in Island County in China.

In terms of the protection of uninhabited islands, the Department of Natural Resources of Liaoning Province issued the Notice on the Protection and Management of uninhabited Islands in 2023 to further effectively protect the natural resources and environment of the islands and promote the high-quality economic and social development of the island region. Actively promote the pilot project of handling historical problems left over from uninhabited islands, and organize Wafangdian City of Dalian to carry out the pilot project of handling historical problems left over from uninhabited islands. At present, Wafangdian City has completed the compilation of the list of historical problems left over from uninhabited islands, ecological assessment reports and ecological restoration plans. By 2023, there was the first public disclosure of the right to use uninhabited islands, indicating that Dalian has made progress in exploring market-oriented ways to manage and utilize uninhabited islands. The three-dimensional Marine development of Changhai County of Dalian City started early, and the number of three-dimensional Marine rights ranked first in the country. On the basis of the approval of the three-dimensional stratified right to use the sea area, Changhai County further clarified the requirements for increasing aquaculture production activities in the three-dimensional stratified right of the sea area by issuing departmental management opinions, extending the management of the application for the approval of the sea area right to the management of the production activities of the sea area use, reducing the disputes over the use of the three-dimensional stratified right of the sea area, and protecting the legitimate rights and interests of the sea area right holder.

At present, the management of uninhabited islands in Dalian is gradually developing in a standardized and systematic direction, but there are still many practical problems to be solved in the actual operation, including ecological protection, reasonable development, enforcement of laws and regulations, and long-term management and supervision mechanism construction of island resources. With the enhancement of the national awareness of the protection of uninhabited islands and the deepening of the reform of the management system, Dalian will further strengthen the protection and effective management of the uninhabited islands under its jurisdiction.

#### **4. Uninhabited Island Administrative Management Solution**

##### *4.1 Clarify the Problems Left Over from History and Coordinate the Relationship between Various Departments*

In 2022, the Ministry of Natural Resources launched the “Pilot Work Plan for the disposal of historical problems left over from Uninhabited Islands”, which marked the official start of the targeted solution strategy deployment, although the initial progress was slow and the results were limited. Facing the historical problems left over from uninhabited islands, the State Oceanic Administration and the Ministry of Natural Resources have taken a series of active measures. They have earmarked funds in the budget to fund research projects aimed at delving deeper into and solving the management



challenges of the islands. At the same time, the two departments, in collaboration with relevant agencies, have jointly developed an initial framework of policy recommendations to provide guidance for dealing with the historical island disputes. On this basis, the Ministry of Natural Resources is working to design a flexible and diverse approval process system, which will adopt differentiated treatment methods according to different situations and needs, in order to more effectively manage and regulate the use of uninhabited islands. It aims to design a simplified and optimized approval path based on different issues of historical islands, such as speeding up the approval process and improving efficiency by reducing the review steps of development and utilization plans and technical demonstration reports. At the same time, the improvement of the administrative approval system is also in progress, aiming to clarify the responsibilities of various departments, reduce the overlap of functions, shorten the approval time, and enhance the government service capacity. In order to ensure the continuity and comprehensive nature of the protection of uninhabited islands and prevent overlapping duties and management loopholes, the coordination and cooperation between the central and local governments should be strengthened to achieve full coverage of the protection of uninhabited islands, make overall planning for comprehensive law enforcement of the protection of uninhabited islands, optimize the allocation of law enforcement resources, and clearly define the responsibility boundaries of various law enforcement bodies. In particular, clarify the division of responsibilities and cooperation between the China Sea police and local Marine administrative law enforcement agencies. We will establish and improve a comprehensive system of coordination on administrative law enforcement for the protection of uninhabited islands (Jiang & Pei, 2023, pp. 219-223).

Liaoning Province has taken an important step in the exploration and management of uninhabited islands, successfully carrying out the first comprehensive survey without any omissions in the province, marking remarkable results in the collection of information on uninhabited islands. This pioneering work has built a rich, all-encompassing and highly accurate information database, accurately recording the approved use status and development and utilization details of all islands, effectively solving the problem of missing data on islands in the past. The basic service management system for uninhabited islands has been widely used in provincial, municipal and county-level island management agencies. Through the system, detailed island information can be accessed at any time for spatial analysis and island law enforcement, which greatly improves the work efficiency (Jiang, 2024, pp. 145-148).

#### *4.2 Improve the Law on the Protection of Islands and Promote a Supporting System for the Management of Uninhabited Islands*

In the process of revising and strengthening Island Protection Law of the People's Republic of China, the core is to coordinate the integration and complementarity of the law and other laws in specific fields, such as the Land Management Law and the Mineral Resources Law, to ensure consistency and synergy within the legal system. By integrating the experience and lessons accumulated from the normative documents formed in the practice of various departments and regions, it aims to provide a solid practical basis for the construction of special laws and regulations for uninhabited islands, so as to

ensure that the newly formulated laws can closely fit the actual regulatory needs of the current uninhabited islands, and truly guide and regulate the management work from the characteristics of the islands themselves and the protection status quo. At the local level, when actively exploring and building a regulatory mechanism for uninhabited islands that ADAPTS to local characteristics, all localities must pay attention to maintaining the consistency between local legislation and the national superior law, not only following the principle and spirit of the superior law, but also addressing issues that have not been specified in detail in the upper law but urgently need to be standardized in actual island management. Actively adopt local legislative means to supplement and improve.

In terms of management status, China's Marine authorities attach great importance to the issue of historical islands, including the formulation of special plans, the organization and implementation of detailed investigations, the establishment of information reporting systems, the implementation of pilot projects and in-depth thematic discussions, in order to build a solid foundation for the incorporation of these historical issues into the scope of standardized management in accordance with the law. In terms of scientific research monitoring and evaluation system construction: establish and improve the long-term monitoring and evaluation system of island resources and environment to provide scientific basis and technical support for island protection and rational utilization. Clarify the system of property rights and use rights, further clarify the ownership of property rights of uninhabited islands, standardize the procedures of obtaining, transferring and renewing the use rights of islands, safeguard the market order of island development and utilization, and prevent illegal occupation and disorderly development. Strict supervision and law enforcement, improve the enforcement of island protection laws and regulations, increase penalties for illegal island development, use modern scientific and technological means to strengthen supervision, and ensure the effective implementation of various legal provisions. Refine the classification and protection level of islands: On the basis of the existing legal framework, further refine the classification standards and protection levels of islands, set differentiated protection and utilization rules according to different types of uninhabited islands, and clarify which islands are strictly prohibited from development, which can be appropriately utilized, and which can be focused on development. On the basis of fully considering the unique differences of natural environment and resources of uninhabited islands, the environmental protection and resource management are governed by comprehensive legislative means. Abstract summary is made from specific social facts and management rules, and various actual rules for the protection and utilization of uninhabited islands are included, from which basic rules guiding and regulating the management of uninhabited islands are abstracted, and all types of rights subjects are unified and standardized, so as to move from comprehensive management to systematic governance and comprehensive policies. This is also the proper meaning of comprehensive legislation on environmental and resource management of uninhabited islands (Ma, 2021, pp. 76-89).

Establishing and improving the supervision system of uninhabited islands is a task that requires the cooperation and continuous promotion of the central and local governments. In the future, we should continue to deepen the reform of the use management system of uninhabited islands, strengthen the normal monitoring and law enforcement, so as to achieve the sustainable use of island resources and long-term protection of the ecological environment. China's "Island Protection Law" and supporting systems will be further improved to effectively promote the law-based management and scientific and orderly development of uninhabited islands.

#### *4.3 We Will Strengthen Environmental Protection on Uninhabited Islands and Try Our Best to Restore the Ecological Environment on Islands*

The 35th meeting of the Central Leading Group for Comprehensively Deepening Reform "should give priority to ecological protection and rational use of resources as the guidance, and strictly prohibit the development and utilization of sea areas and uninhabited islands in need of strict protection" (Wang, 2024, pp. 45-56). Strengthening the environmental protection of uninhabited islands and making every effort to restore the ecological environment of islands is a multi-faceted task involving laws, policies, science and technology and public participation. Uninhabited islands are the organic unity of ecological capital and economic capital, which is not the simple addition of the value of the right to use uninhabited islands and the value of the ecosystem services of the islands, but the sum of the economic value and social ecological value of the natural resource assets of uninhabited islands in a certain period of time (Zhang, Wu & Chen, 2024). Xiamen city has formulated a plan for the protection and utilization of uninhabited islands, clarified the principle of "protection first", and gradually restored the sea and island ecosystem according to the idea of "one island, one policy, restoration year by year". In terms of the environmental protection of the uninhabited islands, the islands can be protected by referring to the relevant experience of Xiamen city.

In terms of environmental protection of uninhabited islands, relevant laws and regulations should also be improved, Island Protection Law of the People's Republic of China and relevant laws and regulations should be further strengthened and improved, and contents such as protection levels, development restrictions and ecological red lines of uninhabited islands should be clearly stipulated, and strict approval system should be implemented for the development and utilization of uninhabited islands to ensure that all development activities are carried out under the premise of legal compliance. Projects that may have a negative impact on the ecological environment will not be approved. Scientifically formulate plans for the protection and utilization of uninhabited islands, clarify the delineation of ecological protection areas on islands, implement the strictest use control, and prohibit or restrict all activities in important ecological function areas that do not meet the requirements of ecological protection. We will strictly implement the planning, implementation, supervision, monitoring, evaluation and early warning system, carry out surveillance and monitoring on uninhabited islands, and control development and utilization activities (Fu, Wu, Cai et al., 2021, pp. 728-734).

In terms of ecological restoration, the research and development of relevant standards for the investigation, assessment, protection and utilization of natural resources on islands should be accelerated. For the standards for the development and utilization plan formulation, island ecological assessment, ecological restoration, and right to use price evaluation of uninhabited islands that have been established, the research progress should be accelerated and the standards should be released and implemented as soon as possible (Shen, Cao, Wang et al., 2021, p. 14). Carry out ecological restoration projects on uninhabited islands that have been damaged, including vegetation restoration, shoreline restoration, water conservation, wildlife habitat reconstruction, etc., to restore the original ecosystem structure and function as far as possible. In the future, it is necessary to achieve new breakthroughs in the realization of differentiated supervision of the protection of uninhabited islands in procuratorial public interest litigation, and the protection of uninhabited islands with a holistic system view and “active prosecution”, and the integration of Marine intelligent information construction (Deng & Jiang, 2023). Establish mechanisms for ecological compensation and compensation for damage. The ecological compensation system should be introduced. For the behaviors that cause damage to the ecological environment through the development and utilization of islands, the government should not only stop the infringement, but also carry out ecological restoration according to law and pay the corresponding compensation. For the ecological damage left over from history, we should study and introduce targeted compensation policies. The system of ecological red lines should also be strengthened. Implement the “island-sea linkage”, and support the construction of far-reaching Marine aquaculture support bases on uninhabited islands that can be developed and utilized and are not included in the ecological protection red line list (Wang, 2024). Based on the ecological protection red line, the construction prohibited areas, construction restricted areas and construction permissible areas on uninhabited islands shall be delimited, the development prohibited and restricted areas shall be clearly defined, the development intensity of islands shall be strictly controlled, and the ecosystem and biodiversity of islands shall be protected. In terms of scientific and technological innovation, advanced remote sensing, geographic information system and other technical means are used to conduct real-time monitoring and assessment of the ecological environment of uninhabited islands, providing scientific basis for protection and management decisions. To improve public participation and education, in order to improve the protection effect of uninhabited islands, relevant departments are strengthening public publicity efforts to popularize the knowledge of ecological environmental protection on islands, aiming to awaken the public’s awareness of the protection of these precious natural heritage. Through strengthening public education, all sectors of society should be encouraged to actively participate in the practice of ecological conservation of the island, jointly promote the sustainable development of the island environment, and form a joint protection force. At the same time, strengthen supervision and law enforcement, strengthen law enforcement, seriously investigate and punish illegal occupation and damage to the ecological environment of uninhabited islands, and ensure that island protection laws and regulations are effectively implemented. It is our duty to strengthen the environmental protection

of uninhabited islands in an all-round way, gradually improve and restore the ecological environment of islands, and make them valuable resources for sustainable development.

## 5. Conclusion

The management of uninhabited islands is a systematic project, which requires the joint efforts of the government, society and individuals to continuously promote the protection and rational utilization of uninhabited islands through the rule of law, technology and internationalization, so as to ensure the health and stability of the island ecosystem and leave a precious natural heritage for future generations.

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