

# Understanding and Application of Fishery Clauses Involved in the Yangtze River Protection Law of the People's Republic of China

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## Abstract

**The Yangtze River, the largest river in China, is rich in fishery resources. In recent years, with the intensification of human activities, the biodiversity of the Yangtze River Basin has decreased, the biointegrity index has significantly decreased, and the fishery resources have also suffered from greater damage. The Yangtze River Protection Law of the People's Republic of China, promulgated on March 1, 2021, is of great practical significance to the protection and restoration of fishery resources in the Yangtze River Basin. In this study, the relevant clauses related to the fishery, such as the protection of aquatic organisms' natural habitat and the improvement of fishing ban regulations, etc., were combed and probed. The relevant research can provide some reference for the protection and restoration of fishery resources in the Yangtze River and the construction of the beautiful Yangtze River.**

## Keywords

**The Yangtze River Protection Law; Fishery; Understanding and Application.**

## 1. Introduction

The Yangtze river spans China's three major economic regions, eastern, central, and western. It has one-fifth of the wetland area of rivers and lakes, one-third of the water resources, and three-fifths of China's total water energy reserves and has an entirely natural ecosystem [1-2]. In addition, it also has unique biodiversity, rich in aquatic life and mineral resources, feeding nearly 600 million people along the river. The unique ecosystem of the Yangtze River basin, which is linked by water and connects the upper and lower reaches, the right and left banks, the trunk, and tributaries, is not only related to Chinese economic and social supply but also an essential foundation for Chinese economic and social development. To achieve sustainable development for the Chinese nation, we must fully protect the Yangtze River basin's ecological environment and prioritize ecology and green development [3].

Fishery resources are an essential part of ecological environment resources and are closely related to national environmental protection and green development. Aquaculture plays a vital role in ecological restoration. For example, it can increase the potential of fishery carbon sink by establishing a three-dimensional ecological aquaculture system through orderly development of Beachland and shallow sea shellfish algae cultivation. By encouraging the development of non-baited filter-feeding and herbivorous fish in lakes and reservoirs, we can control grass, suppress algae and purify water by fishing. Improving the aquatic biological integrity index in the Yangtze River is also an essential indicator of a favorable ecological environment. We should firmly establish the concept that "clear waters and lush mountains are invaluable assets" and give full play to the unique function of fisheries in ecosystem management. The ecological environment of the water area can be improved effectively by conserving aquatic biological resources. Tapping the potential of fishery emission reduction and sink increase can contribute to the realization of carbon peak and carbon neutrality, realize

the sustainable utilization of fishery resources, and promote the harmonious coexistence between man and nature.

The fishery is not only concerned with ecological and environmental protection but also an essential part of the Chinese agricultural and rural economy. During the 13th Five-Year Plan period, the green development of the aquaculture industry has been steadily promoted, and the quality of industrial development has been steadily improved. Efforts to conserve aquatic living resources have been intensified, positive progress has been made in transforming the growth model and structural adjustment, and the fishery industry's quality, efficiency, and competitiveness have been significantly improved. Fishery development has made positive contributions to ensuring China's food security, winning the battle against poverty, and building a moderately prosperous society. It plays an essential role in ensuring national food security and adequate supply of essential agricultural products, increasing farmers' income, and serving the construction of ecological civilization [4]. In particular, the stable supply of aquatic products has been maintained despite the impact of COVID-19, making an outstanding contribution to ensuring stable prices of "Vegetable Basket" products.

The Yangtze River runs from west to east through the Qinghai-Tibet Plateau, Hengdian Mountain region, Yunnan-Guizhou Plateau, Sichuan Basin, and the plain of the middle and lower reaches of the Yangtze River [5]. The terrain varies greatly, the climate varies significantly, and many tributaries and related water bodies form diverse habitats and breed rich fish resources [6]. The fish species diversity in the Yangtze River is characterized by rich species, significant fluctuation of resources, high specificity, many economic species, and significant regional differences. It is the cradle of China's freshwater fishery, the treasure house of fish genes, the original species base of economic fish, and the typical representative of biodiversity [7]. Therefore, the Yangtze River basin is vital for China's green and high-quality fishery development. In recent years, the ecological environment of the Yangtze River has deteriorated rapidly due to humans blindly emphasizing development and ignoring ecology. According to the Ministry of Agriculture and Rural Affairs, there are nearly 300 endangered species and 92 endangered fish species in the Yangtze Basin. The number of rare and endangered wild animals and plants has declined sharply, and habitats and biological communities have been severely destroyed [8].

*The Yangtze River Protection Law of the People's Republic of China* (hereinafter referred to as *the Yangtze River Protection Law*) will come into force on March 1, 2021, to implement President Xi Jinping's important instructions and cure the "ecological disease", "development disease" and "concept disease" of the Yangtze River. The implementation of this law is of great significance not only to strengthen the protection and restoration of the ecological environment in the Yangtze River Basin and realize the harmonious coexistence between man and nature but also to promote the modern fishery significantly in the Yangtze River Basin and the high-quality development of Fishery economy in China from the perspective of the rule of law. Through *the Yangtze River Protection Law*, this article related to fishery-related provisions of the understanding, summary, and analysis, better the law to govern fishing and farming according to law to provide a reference.

## **2. Establish a River Basin Coordination Mechanism to Ensure the Steady Development of the Yangtze River Basin**

The Yangtze River basin runs for more than 6,300 kilometers through 19 provinces, autonomous regions, and municipalities, covering 1.8 million square kilometers [9]. Therefore, the Yangtze River basin governance is a complex and substantial regional governance project. The protection of the Yangtze River is not the responsibility of any single province or municipality but requires the overall planning, joint management, and standard management

of the whole river basin. *The Yangtze River Protection Law* corrects the management of the Yangtze River by dividing the river into sections and overcomes the disadvantages of independent and redundant construction. It stipulates that the state shall establish a coordination mechanism for the protection of the Yangtze River basin to provide unified guidance, plan and coordinate the protection of the Yangtze River, deliberate significant policies and plans for the protection of the Yangtze River, coordinate significant trans-regional and trans-departmental matters, and supervise and inspect the implementation of the critical protection work of the Yangtze River. The law explicitly requires relevant departments under The State Council, and provincial people's governments in the Yangtze River basin to be responsible for implementing the decisions of the Coordination Mechanism for the Yangtze River basin and responsible for the protection of the Yangtze River according to the division of responsibilities and puts forward new requirements for river chiefs and lake chiefs at all levels in the Yangtze River basin on the protection of the Yangtze River. In addition, the basin information sharing mechanism, local cooperation mechanism, and expert advisory committee should be established.

Establishing the Yangtze River Basin coordination mechanism in law promotes a high-quality development system and the Yangtze River Economic Belt mechanism and is an essential innovation of the regional cooperative governance model. This mechanism as decision and consultation mechanism, the integration of development will be set up relevant institutions to establish regional joint project examination and approval system, improve the mechanism of the joint management, speed up to establish a joint management mechanism between the government. Through the joint law enforcement, administrative licensing, administrative entrustment or station, to realize the seamless joint between administrative law enforcement along the river, Avoid illegal acts that take advantage of changes in territorial jurisdiction to avoid legal liability. Establishing a management system and mechanism for the Yangtze River Basin has transformed "nine Rivers" into "one dragon river". By clarifying the specific responsibilities of central government departments and local people's governments at all levels, the Yangtze River basin has been promoted to realize coordinated and integrated governance and development of the leading dragon body and the tail, thus giving full play to the new supporting role of China's economic belt.

### **3. Protect the Natural Habitat of Aquatic Life and Improve the Biological Integrity Index**

The biological integrity index of the Yangtze River Basin reached the worst level of "fish-free" as human activities destroyed the ecological environment organisms that endangered fish depend on in the Yangtze River Basin, especially the critical habitats of aquatic organisms such as spawning grounds, feeding grounds, wintering grounds, and migration channels. Therefore, it is essential to divide and protect the natural concentrated distribution area of aquatic organisms and the relatively complete area of the ecosystem. *The Yangtze River Protection Law* protects aquatic life by authorizing The State Council and provincial people's governments in the Yangtze River basin to establish national parks, nature reserves, and natural parks by the law in the Yangtze River Basin, the complete distribution area of important typical ecosystems, the sensitive area of ecological environment, the natural concentrated distribution area of precious wildlife and critical habitats, and the distribution area of critical natural relics. At the same time, the law stipulates that relevant departments should conduct regular or special surveys of aquatic wildlife resources and habitats and survey the biodiversity of such important habitats as spawning grounds, feeding grounds, wintering grounds, and migration channels of aquatic organisms. According to the survey, the National Forestry and Grassland Administration and the Ministry of Agriculture and Rural Affairs should over a rapid decline in

the number of the Yangtze river basin and severely damage or critically endangered wildlife habitats, natural concentrated distribution area, fragmentation of typical ecosystem repair plan and action plan, conservation building facilities, establish gene Banks for genetic resources of wild fauna and flora, rapid repair. A variety of measures shall be taken, such as the construction of fish passage facilities, connectivity between rivers and lakes, ecological regulation, irrigation of rivers and seedlings, gene preservation, proliferation and release, and artificial breeding, in light of actual conditions, to fully meet the ecological needs of aquatic organisms. In addition, some tributaries of the Yangtze River are severely cut off, which has a significant impact on the migration of aquatic organisms, so the law authorizes the relevant watershed management agencies of the Ministry of Water Resources to include the ecological water quantity in the annual water quantity scheduling plan, to ensure the ecological flow during the dry season and fish spawning season. Similar measures can ensure the primary ecological water level balance of the Yangtze River basin, provide the best ecological water environment for the natural reproduction of fish, and facilitate the rapid ecological restoration of the Yangtze River Basin.

Integrity for the Yangtze river aquatic organisms decline phenomenon. This law also requires the Ministry of Agriculture and Rural Affairs jointly with the departments concerned under the State Council and the people's governments at the provincial level in the Yangtze river basin integrity index evaluation system. Moreover, set up the Yangtze river aquatic organisms in the Yangtze river aquatic biological integrity evaluation, and the results as the critical basis to assess the overall status of the Yangtze river basin ecosystem. What is more, it is required that the aquatic biological integrity index of the Yangtze River Basin should be connected with the water environment quality standard of the Yangtze River basin, and comprehensive scientific planning should be carried out for the protection and ecological restoration of the Yangtze River. Many species endemic to the Yangtze river, such as *Lipotes vexillifer*, *Neophocaena asiaeorientalis asiaeorientalis*, and *Acipenser dabryanus Dumeri*, have been or are on the verge of extinction. Therefore, to realize the protection of aquatic wild animals and plants in the Yangtze River basin, we should not only start from the overall situation and do comprehensive planning but also pay attention to the typical and carry out special protections for the endangered precious aquatic wild animals and plants in the Yangtze River basin. Therefore, this law stipulates that the Ministry of Agriculture and Rural Affairs and the local people's governments at or above the county level in the Yangtze River Basin shall formulate a protection plan for the precious and endangered aquatic wild animals and plants in the Yangtze River Basin, and give priority to the protection of such precious and endangered aquatic wild animals and plants as *Neophocaena phocaenoides*, *Lipotes vexillifer*, *Psephurus gladius*, *Acipenser sinensis*, *Acipenser dabryanus Dumeril*. The law also encourages units with conditions to study the living environment characteristics and population dynamics of some aquatic wild animals and plants and actively organize artificial breeding, popular science education, and rescue work [10].

Inland river navigation in the Yangtze River Basin plays a vital role in developing river-sea combined transportation and building a golden waterway for the whole basin. Water navigation is crucial to the local economic development of the Yangtze River Basin. However, domestic garbage, domestic sewage, wastes, or other toxic and harmful substances entering the water caused by direct discharge or capsizing of ships will cause severe damage to the ecological environment and habitat of aquatic wild animals and plants and lead to the decline of biodiversity. Therefore, *the Yangtze River Protection Law* authorizes the Ministry of Transport of The State Council, together with the Ministry of Natural Resources, the Ministry of Water Resources, the Ministry of Ecology Environment, the Ministry of Agriculture and Rural Affairs, and the National Forestry and Grassland Administration to scientifically delimit navigation prohibited or restricted areas in essential habitats for aquatic life in the Yangtze Basin. If navigation is permitted in the restricted navigation area of the crucial aquatic life habitat,

necessary measures shall be taken to reduce disturbance to meaningful aquatic life. In addition, strict restrictions will be imposed on waterway improvement projects in the Yangtze River basin, the red line for ecological protection, naturally protected areas, and essential habitats for aquatic life. At the same time, this law determines the legal liability for violation of relevant provisions.

The relevant provisions of the Yangtze River Protection Law on the integrity assessment of aquatic organisms and the protection of aquatic organisms and their natural habitats are necessary measures to promote the restoration of the ecological environment in the Yangtze River Basin, which is of great significance for promoting the restoration of biodiversity in the Yangtze River Basin and maintaining the status of the ecological treasure house of the Yangtze River Basin. The above laws and regulations are also a vivid practice of using the rule of law method to safeguard the ecological security of the Yangtze River Basin, and ensure the "harmonious coexistence between man and nature" [11].

#### **4. Improve the Regulations on Banning Fishing in the Yangtze River and Protect the Diversity of Biological Resources in the Yangtze River**

Aquatic biodiversity is one of the essential indicators of ecosystem health in the Yangtze River Basin [12]. However, due to long-term human disturbances such as overfishing, the aquatic biological resources in the Yangtze River Basin have seriously declined, resulting in a sharp decrease in the number of fish and a sharp drop in biodiversity. To more effectively protect wild fishery resources and alleviate the crisis of biological resources decline and biodiversity decline in the Yangtze River Basin, the Ministry of Agriculture and Rural Affairs issued a notice on the scope and duration of the ban on fishing in critical waters of the Yangtze River Basin in January 2020, announcing the implementation of the 10-year Ban on fishing in the Yangtze River starting from 0 o'clock on January 1, 2020. However, the protection of biological resources in the whole Yangtze River basin cannot be entirely realized by a "fishing ban". The Yangtze River Protection Law also provides relevant regulations on fishing activities in the Yangtze River basin. For example, this law stipulates that the state shall exercise strict fishing management in critical waters of the Yangtze River Basin. Production fishing is completely banned in the Aquatic life reserves of the Yangtze River Basin. Productive fishing of natural fishery resources will be banned in the mainstream and major tributaries of the Yangtze River, large lakes, and designated areas at the mouth of the Yangtze River within the specified period. Specific measures shall be formulated by the Ministry of Agriculture and Rural Affairs in conjunction with the relevant departments of The State Council. The regulation stipulates that productive fishing of natural fishery resources is prohibited in essential waters of the Yangtze River, which provides sufficient legal basis for the 10-year Plan to ban fishing in the Yangtze River [13]. It also provides solid legal support for the better implementation of fishery prohibition. Provisions for concrete, such as electric fish, poison fish, fish, and illegal fishing behavior, also have carried on the responsibility division. It has been clear that the Ministry of Agriculture and Rural Affairs, jointly with the departments concerned under the State Council and the Yangtze river basin of the people's government at the provincial level to strengthen the Yangtze river basin out of law enforcement, investigated the electric fish, poison fish, fish and destroy the fishery resources and the ecological environment of fishing practices. In addition, the law requires local people's governments at or above the county level in the Yangtze River Basin to do an excellent job in the compensation, production transfer, and social security work of fishers who have returned from fishing in essential waters of the Yangtze Basin by relevant state regulations.

The Fishing Law of the People's Republic of China stipulates that the measures for the administration of fishing prohibition and restriction in water areas shall be formulated by the

Fisheries administration department of the Ministry of Agriculture and Rural Affairs or the departments of fishery administration of the people's governments of provinces, autonomous regions and municipalities directly under the Central Government. However, *the Yangtze River Protection Law* stipulates that fishing bans and fishing restrictions in waters other than essential waters of the Yangtze River basin shall be formulated by local governments at or above the county level. The powers of here by strengthening apauage management manner and refinement fully embodies the protection of the Yangtze river fishing balanced particularity and general principles, compaction and governments at all levels and departments responsibility, play to the various departments, various places, and the whole society's enthusiasm and initiative, to realize the value of multiple work-oriented. In addition, the clear and specific provisions of this law on legal liability for illegal fishing also provide strong support for effectively deterring illegal fishing, further implementing the fishing ban policy, and effectively preventing illegal fishing.

## 5. Focus on Watershed Protection and Promote Green and High-quality Development

Green development is a model innovation based on traditional development and a new development model that takes environmental protection as an essential pillar of sustainable development under the constraints of ecological environment capacity and resource carrying capacity. The Promulgation of *the Yangtze River Protection Law* has also established green development in the Yangtze River Basin. It has written into law the principle of "jointly pursuing extensive protection and avoiding large-scale development" and has become a legal system that all regions in the Yangtze River basin must abide by for economic development. Article 18 of this law outlines the plan for green development, article 26 sets out the red line for green development, and Chapter 6 contains 11 articles precisely specifying measures for green development. A complete water ecological environment index is the basis and guarantee of biological integrity. However, the current water environmental quality standard only using the chemical index is not enough to protect the ecological environment and biodiversity of the Yangtze River Basin, which is not conducive to the protection of the ecosystem. The excessive total phosphorus content in the water environment will accelerate the eutrophication of the water body, resulting in the death of fish and shrimp, the uncontrolled growth of algae, and seriously affecting the ecological balance of the river basin. Water ecological environment quality determines the ecological environment of the watershed and is closely related to the green development of fishery. *The Prevention and Control of Water Pollution Law of the People's Republic of China* has detailed system provisions for the prevention and control of water pollution. However, relevant provisions have been added to this law according to the specific pollution characteristics of the Yangtze River basin. Article 58 of this law provides for increased support for the ecological restoration of the water environment of key national lakes, which not only systematically regulates the organizational work of local people's governments at and above the county level, but also explicitly stipulates that the ecological restoration of lakes where the concentration of nitrogen and phosphorus seriously exceeds the standard should be comprehensively cleaned up. It is expressly prohibited to carry out fishery production and construction activities that may cause ecological damage in the ecologically fragile lakes of the Yangtze River Basin with severe soil erosion.

Protecting the ecological environment of the existing waters is the basis of promoting the green and high-quality development of the Yangtze River Basin. Therefore, it is essential to strengthen fishery waters' ecological environment protection. First, optimize and adjust the aquatic germplasm resources protection areas, strengthen the construction of aquatic germplasm resources protection areas, enhance the management and protection capacity of the protected

areas, and effectively protect significant aquatic germplasm resources and their habitat environment. Second, actively investigate and monitor fishery resources and the ecological environment of water areas to dynamically grasp the situation of fishery resources and water area environment. Third, we will further improve the mechanism for compensating for the ecological protection of fishery resources, strictly evaluate the impact of construction projects, supervise and implement measures to compensate for the ecological protection of fishery resources, and promote the restoration of fishery resources and the ecological environment.

Secondly, tidal flat aquaculture is an integral part of the economic development of fishery aquaculture in the Yangtze River Basin, and its reasonable demarcation is crucial for the green and high-quality development of fishery. This law authorizes the local people's governments at or above the county level in the Yangtze River Basin to draw up and organize the implementation of flat tidal plans for aquaculture waters, rationally delimit prohibited, restricted, and aquaculture areas, and scientifically determine the scale and density of aquaculture; Strengthen the management of aquaculture inputs, guide and standardize aquaculture and proliferation activities. Based on scientific evaluation of aquatic ecological environment index, tidal flat resource endowment, and environmental carrying capacity, scientific demarcation of all kinds of aquaculture function zones, rational distribution of aquaculture production [14]. In addition, in the green development of fishery, it is also necessary to continuously promote a variety of new green aquaculture modes, such as "rice-fishery integration, smart fisheries, recreational fisheries, fish-vegetable symbiosis, and fish-light complementation", to realize the material recycling and zero pollution emissions in aquaculture [15]. The above relevant provisions protect farmers' legitimate rights and interests and play a positive role in realizing ecological environment protection, quality and efficiency improvement, and green and high-quality development of water areas.

## 6. Summary

The Yangtze River Protection Law provides essential legal compliance for the coordinated management of the Yangtze River Basin. It can effectively improve the biological integrity index and biodiversity of the Yangtze River Basin by protecting the natural habitat of aquatic organisms and improving the fishing ban regulations. The promulgations of the law are of great significance for strengthening the protection and restoration of the ecological environment in the Yangtze River Basin, promoting the rational and efficient use of resources, ensuring ecological security, and realizing the harmonious coexistence between man and nature and the sustainable development of the Chinese nation. It is believed that under the strong support of the Yangtze River Protection Law, the Yangtze River fishery will usher in higher quality green development.

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