

The Enlightenment of the Present Situation of Marine Environment in Zhejiang Province to the Relevant Development Requirements in the New Period

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Abstract: In the new era, the development level of marine industry in Zhejiang province has been improved rapidly, and a series of marine development concepts and requirements have been implemented one after another, which plays an important role in improving the current situation of marine environment. With the deepening of marine development, the current situation of marine environment in the new era has become complex and diverse. How to make the relevant concepts and requirements of marine development to cope with and adapt to various new problems in the development process has become the key to promote the continuous improvement of marine development level.

Key words: Marine development; Theoretical requirements; Environmental status

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1 Introduction

For marine economy or land economy, the chain problems such as environmental pollution and destruction caused by development have become an important factor restricting the further improvement of development level. If people do not pay attention to it, such as the disappearance of some islands caused by global warming, the reduction of species diversity caused by high pollution and high toxic chemical element emissions, and the reduction of marine supply products and other practical problems will emerge in endlessly. Therefore, it is necessary to further improve and strengthen the relevant concepts and requirements brought about by the environmental situation.

2 Analysis of the current situation of marine environmental pollutants

With the continuous improvement of marine development level, many environmental problems caused by economic activities are becoming more and more prominent. Based on the observation and statistics of the specific pollutants involved, it is found that the main types of marine pollutants are becoming more and more diverse, and the main components are becoming more and more centralized and unified^[1]. From 2014 to 2017, we collected the pollutant details of representative rivers into the sea and sewage outlets into the sea. It can be found that the main proportion of pollutants from rivers into the sea or from land sewage outlets into the sea is cod, and the proportion is increasing year by year. Nitrogen compounds such as total nitrogen, ammonia nitrogen, nitrate nitrogen and nitrite nitrogen all changed, but the decline rate and degree were different, and even organic compounds such as total nitrogen, nitrate

nitrogen and ammonia nitrogen rebounded in some years^[2]. In addition, petroleum and heavy metal toxic pollutants, which account for a small proportion of the total amount of pollutants, have a slower annual decline than other pollutants, and the degree of attention to governance is relatively weak. In recent years, Zhejiang province strictly abides by the relevant national control measures and

requirements for phosphorus pollutants, and has achieved remarkable results^[3]. The content of phosphorus and related organic pollutants has decreased significantly. In terms of organic carbon, it remains stable every year. Because of its relatively stable chemical composition and structure, it is difficult to eliminate it, so it is difficult to control it (Table 1).

Table 1. Pollutant details of representative rivers into the sea and sewage outlets into the sea from 2014 to 2017

Source	Particular year	Chemical oxygen demand	Organic carbon	Total nitrogen	Ammonia nitrogen	Suspended matter	Nitrate nitrogen	Nitrite nitrogen	Total phosphorus	Petroleum	Heavy metal	Arsenic
Pollutants from rivers into the sea	2017	1690000	210000	180000	18000	-	110000	3517	17000	1589	833	105
	2016	1630000	210000	270000	28000	-	104000	7895	26000	1700	857	138
	2015	1960000	210000	340000	23000	-	152000	3375	27000	2033	1219	142
	2014	2140000	-	-	50000	-	-	-	65000	2368	1481	131
Sewage discharge at sea outfall	2017	27700	-	10400	1346	8700	-	-	322	63	61	-
	2016	52600	-	8900	1171	26700	-	-	424	72	39	-
	2015	28900	-	10800	2012	15800	-	-	435	150	41	-
	2014	41800	-	-	2936	23100	-	-	801	110	76	-

3 Current situation of marine environmental problems

Zhejiang province is located in the coastal zone because of its natural geographical distribution and tortuous coastline. In addition, the adjacent East China Sea is located in the middle of the Yellow Sea and the South China Sea, which is not conducive to the diffusion of pollutants and easy to accept pollutants from other sea areas; Secondly, due to the influence of subtropical monsoon climate in recent years, it has the characteristics of four distinct seasons and sufficient air volume, resulting in the aggravation of pollutant diffusion and the expansion of influence scope. In addition to the above-mentioned marine environmental problems, the frequent occurrence of marine disasters and over exploitation of Fisheries in Zhejiang province is also one of the prominent problems^[4-5].

There are natural factors in the occurrence of marine disasters, but the inducing factors caused by human activities can not be ignored. These projects are basically industries with high pollution or pollution risk. Although environmental assessment and risk assessment have been conducted before and after the completion of relevant projects, and pollutant discharge treatment has been conducted for their respective production plants, once the leakage or excessive discharge occurs, the consequences of marine environmental loss are immeasurable, and the potential environmental risk is high^[6]. In addition, the

secondary marine industry in Zhejiang province has shown a trend of centralization and large-scale development, which has laid a hidden danger for environmental hazards and production accidents such as water pollution, waste gas pollution, nuclear leakage and oil spill.

The over exploitation and utilization of fishery resources is another practical problem facing the marine environment of Zhejiang Province, which is known as China's fish tank. At present, the development of Fisheries in Zhejiang province exists in the form of pelagic fishing and artificial breeding, and the proportion of offshore marine catch is less and less. The reason is that the excessive exploitation of Fisheries destroys the breeding cycle of aquatic organisms such as fish, resulting in the decline of fishery population diversity and regeneration capacity, and the sustainable utilization and development of marine fishery resources are restricted, which leads to the coastal fishery in Zhejiang province. The degradation of marine ecosystem^[7-8].

In addition to the above-mentioned problems of marine environment in Zhejiang province, it also faces the realistic environmental challenges in the future development. Due to the development of marine economy, the marine sustainable development of Zhejiang province is facing complex and diverse challenges, involving the superposition of multiple complex problems, such as pollution pattern, ecosystem degradation, different degrees of coastal zone development, uneven utilization rate of marine resources space

development, marine ecological protection work to be further improved and so on, which also restricts the rise of marine economy in Zhejiang province and the real difficulty of the speed of development. With the further deepening of marine development in the future, under the pressure of high intensity and sustainable development, it will be the focus of future work to solve many restrictive factors that affect the sustainable development of the ocean, such as the decline of marine ecological capacity, the reduction of marine environmental carrying capacity and the destruction of marine environment.

4 Implications for development requirements

4.1 Strategy of strengthening the province by sea

Zhejiang province has made great contributions to the development of marine economy by relying on the advantageous location of China's eastern coast. The plan of building Zhejiang province into a strong marine economic province has been put forward as early as 2003, focusing on the development space and opportunities in the marine field in the 21st century, coupled with the advantages of rich marine resources and geographical location, coupled with a good industrial foundation, to accelerate the pace of marine economic development and the construction of a strong marine province, all of which benefit from the province's early awareness of the strategic intention of building a strong marine province in the future. It is not only related to accelerating the pace of building a well-off society, but also an important measure to realize social industrialization and modernization. Relying on the advantages of topography, to make full use of marine resources, cultivate new economic growth points and innovative development modes, and promote the optimization and adjustment of economic structure and strategy. Zhejiang province is located in an important area of the Yangtze River Delta in China. It is the core area of the strategy of building a national Yangtze River Delta economic belt. Building a strong marine province can promote the province to participate in the cooperation and exchange of the Yangtze River Delta in a larger scope, and play an important role in expanding the opening up, broadening the space for economic development, innovating the coordinated development pattern of land and sea, and improving the economic competitiveness and international influence of the province. It plays a crucial role^[9-10].

In the strategy of building a strong marine province, Zhejiang province should take planning as the guide,

scientific and technological progress and system innovation as the driving force, port city as the support, port construction and port industry as the breakthrough point, accelerate the comprehensive development of marine resources, strengthen the construction of marine infrastructure and environmental protection, further expand the total marine economy, optimize the marine industrial structure and layout, and constantly improve the quality of marine industry, comprehensive economic competitiveness and sustainable development capacity. To build a strong province of marine economy, we should find a way of joint development of marine economy and land economy with Zhejiang characteristics. It should be applied as the development principle that optimizing the structure and improving the level of production, market orientation and standing out innovation, and governing the sea according to law and coordinate development. We should make overall arrangements for the comprehensive development of marine resources such as "port, fishery, landscape, grassland and energy", speed up the adjustment of marine fishing and breeding structure, vigorously develop marine secondary industry, actively expand marine service industry, and strive to enhance the overall strength and international competitiveness of marine economy. We should give full play to the basic role of the market in allocating resources, form a diversified investment mechanism and market-oriented operation mechanism, vigorously promote the innovation and progress of marine science and technology, and give full play to the role of science and technology education in the development of marine economy. Speed up the legal construction of marine resources development and utilization, straighten out the marine management system, adhere to the unity of marine resources development and utilization and marine ecological environment protection, and enhance the sustainable development capacity of marine economy. Specifically, we should optimize the structure of marine fishery and salt industry, accelerate the development of port industry and marine service industry, seriously implement the strategy of invigorating the sea through science and education, attach importance to the work requirements of combining the comprehensive utilization and development of marine resources with ecological environment protection, and strengthen the investment and support for marine economy, so as to effectively guarantee and stimulate the implementation of the strategy of strengthening marine

province. To speed up port industry and marine service industry is to speed up the development of coastal port construction, marine transportation, port industry, marine tourism and other fields. We should cultivate marine high-tech industries and speed up the training and introduction of marine scientific and technological talents. In addition, the organization and coordination, investment, scientific and legal management of marine economic work are also strengthened to jointly promote the development of the strategy of building a strong marine province in Zhejiang province.

4.2 Marine ecological civilization construction

The level of marine development in Zhejiang province is changing from immature to mature. Meanwhile, the mode of growth is gradually changing from extensive to intensive, which greatly improves the utilization efficiency of marine resources. Throughout the history of marine economic development, it can be seen that this is also a process of continuous supplement and improvement of constraints such as environment exposed in the process of related development. Taking marine fishery as an example, excessive fishing and uncontrolled acquisition of a large number of fish and other marine biological resources have disrupted the original growth and reproduction laws of organisms, affected the evolution process of related species, and destroyed the original more balanced ecosystem in the sea. In addition, in the process of extraction, processing and utilization of marine non food resources and energy resources, certain chemical principles and technologies will be used to extract certain components or elements.

According to statistics, most of the marine environmental pollution occurs in the coastal waters, and more than 70% of the pollution in the coastal waters comes from land pollution sources, so the pollution prevention and control of land pollution sources has become the key to effectively resolve and reduce the damage of marine environmental pollution. The characteristic of strong diffusion ability is that the pollutants in seawater will continue to spread and disperse with seawater. Although seawater itself has self-purification ability, this self-purification ability can only be achieved by relying on the decomposition and degradation process of water pollutants by microorganisms in seawater. First, the process is relatively slow; Secondly, the toxic elements such as heavy metals and arsenic in the pollutants will make the microorganisms in the water die out, which will affect the

main body of this process, and then cause the occurrence of stagnant water in a certain water area. Moreover, with the flow of water, this kind of pollution will intensify and spread to the surrounding waters, causing immeasurable losses.

As a big province of marine resources, Zhejiang province has been in the forefront of the country in the construction of marine ecological civilization. In accordance with the five in one overall development layout and four comprehensive strategic development layout, we should strengthen the five development concepts of innovation, coordination, green, openness and sharing as the guide, take the construction of ecological civilization as the core, coordinate all aspects of comprehensive management and control development, and comprehensively implement the development idea of "green water and green mountains are golden mountains and silver mountains". Efforts have been made to improve the level of intensive and economical utilization of marine resources, comprehensive management of marine environment, innovation ability of marine science and technology, disaster early warning and disaster prevention and reduction ability, reform of law enforcement system and mechanism, and construction of planning supporting system. It has further solved the problems such as the weak carrying capacity of marine environment, the relatively insufficient reserves of sea beach resources, the imbalance of island coastline development and protection, the rising risk of marine disasters, and the weak technical support of marine management. It has improved the comprehensive marine management capacity, laid a solid foundation for the transformation of Zhejiang from a big marine province to a strong marine province, and finally built a "clean water, green coast" city. The marine ecological civilization pattern of "clean beach, beautiful bay, abundant material and pleasant people" provides guarantee.

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