**Marine Eco-Environmental   
Protection in China**

The State Council Information Office of   
the People’s Republic of China

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Preface

The ocean covers about 71 percent of the earth’s surface. It is the cradle of life and the source of human civilization. The marine eco-environment is essential to the ecological balance of the planet, to the rational use of resources, to sustained development of human civilization, and to the present and future development of the maritime community of shared future. Its protection is important for national eco-environmental security, sustainable maritime development, and the harmonious coexistence between humans and the ocean. It is the responsibility of all countries to protect and improve the marine environment and to conserve and use marine resources in a sustainable way.

China is a firm advocate for and an active participant in protecting the marine eco-environment, which is vital to its initiatives to build a beautiful China and a strong maritime country. Over the years, China has given priority to eco-environmental conservation and pursued systematic governance. It has coordinated development and protection efforts, and supported high-quality development with high-level protection, striving to build a marine eco-environment of harmonious coexistence between humans and the ocean.

Since the 18th National Congress of the Communist Party of China (CPC) in 2012, President Xi Jinping has made a series of important statements and observations on marine eco-environmental protection, highlighting the need to “care for the ocean as dearly as we treasure our lives”. Under the guidance of Xi Jinping Thought on Eco-Civilization, in order to complete new tasks and meet new requirements for marine eco-environmental protection in this new era, China has launched a series of campaigns of fundamental, pioneering, and long-term significance and has made historic transformations and progress of overarching importance.

Thanks to hard work over the years, China’s marine eco-environment has shown overall improvement, with marked increase in the capacity of ecosystem services and functions in certain sea areas. Marine resources have been exploited and utilized in an orderly manner, and the system for governing the marine eco-environment has been refined. People can safely enjoy the sea, with a greater sense of satisfaction and happiness. These achievements are a testament to the country’s commitment to marine eco-environmental protection.

China has demonstrated its commitment as a responsible major country by actively promoting international cooperation in protecting the marine environment, faithfully fulfilling its responsibilities and obligations under international conventions, and contributing Chinese solutions and strength to the global governance of the marine environment.

The Chinese government is publishing this white paper to present a full picture of China’s ideas, actions, and achievements in marine eco-environmental protection to the international community to facilitate understanding of China’s conservation efforts and advance international cooperation in this regard.

I. Improving Marine Eco-Environment   
for Harmonious Coexistence   
Between Humans and the Ocean

The ocean is crucial to the survival and development of a people and the security and prosperity of a nation. The protection of the marine eco-environment has a vital bearing on achieving harmony between humanity and nature in the modernization drive.

The Chinese government applies the new development philosophy in all fields, and attaches great importance to marine eco-environmental protection. Factoring in the basic reality and development stage of the country, China has gained a deeper understanding of marine eco-environmental protection, making ongoing efforts to improve the system for this purpose and accelerating the building of a marine eco-civilization.

After the People’s Republic of China was founded in 1949, the country began to develop its marine areas. With this development, a number of environmental problems began to emerge. China placed emphasis on them and paid greater attention to protecting the marine eco-environment. In 1964, the State Oceanic Administration was set up, and before long a mechanism for managing China’s marine eco-environment was steadily established. The Marine Environment Protection Law was promulgated in 1982, creating a legal framework for the country’s marine protection, and a revision of this law in 1999 led to the addition of eco-environmental conservation in priorities alongside pollution control.

As part of its effort to implement the United Nations’ 2030 Agenda for Sustainable Development, the Chinese government formulated the China Ocean Agenda 21 to make marine eco-environmental protection more systemic and targeted. In 2023, the Marine Environment Protection Law was revised again, representing a systemic transformation to coordinated land-sea management and overall governance of the marine environment.

To synergize land and sea pollution control and strengthen overall eco-environmental protection, China has incorporated marine protection into the national system of eco-environmental protection. It has gradually strengthened overall planning and coordination between land and sea environmental protection efforts and, on that basis, established an effective system for governing the marine eco-environment. By strengthening marine pollution prevention and control, conserving and restoring marine ecosystems, and launching intensive campaigns for the comprehensive management of key sea areas, China has seen marked improvement in the quality of its marine environment, upgraded services and functions in certain sea areas, and an accelerated pace in the orderly exploitation and utilization of resources and the green transformation of the marine economy.

While China continues to follow best practices in the past, it has been working hard on innovative new approaches to protecting the marine eco-environment and promoting harmonious coexistence between humans and the ocean.

**– Respecting nature and prioritizing eco-environmental conservation**

Respecting, adapting to, and protecting nature is an established notion in China. China has developed an objective understanding of the laws of marine ecosystems, and, based on the systems’ succession and inherent characteristics, works to reinforce their capacity for self-regulation, self-purification, and self-restoration so as to improve their stability, services, and functions.

China has plans in place for worst-case scenarios and prioritizes eco-environmental conservation. It has included eco-environmental progress in the overall plan for marine development, built strong safeguards for marine eco-environmental protection, and utilized marine resources in a well-conceived and rational way. These measures have been put in place to promote harmony between humans and the ocean.

**– Integrating conservation and management**

Marine eco-environmental protection requires systemic efforts. China adopts a holistic approach to protecting the marine eco-environment, attaching equal importance to development, protection, pollution prevention and control, and restoration. It has improved the management of the marine eco-environment through land-sea coordination, coordinating protection work for rivers and seas, mountain and sea areas, onshore and offshore areas, and upstream and downstream river basins. China has established a mechanism for collaborative protection, governance, supervision, and law enforcement across different regions and departments, in order to create a comprehensive system for governing coastal areas, river basins, and sea areas.

**– Enforcing strict supervision in accordance with laws and regulations**

China has placed marine eco-environmental protection under the strictest systems and laws. Upholding the principle of governing the ocean by law, it has coordinated and pressed forward with the enactment and revision of relevant laws and regulations, put in place a legal framework for marine eco-environmental protection, and implemented the strictest system for governing the marine eco-environment. It has strengthened routine and whole-process supervision and management of the marine eco-environment, including region-specific control, monitoring and investigation, supervision and law enforcement, and assessment and inspection. Two mechanisms, Central Eco-Environmental Protection Inspection and State Natural Resources Inspection, play a supervisory role in the protection of the marine eco-environment, enforcing strict measures to combat actions that harm the marine eco-environment.

**– Pursuing innovation-driven and tech-led development**

China is committed to innovation-driven development. The country has strengthened innovation in marine eco-environmental protection technologies, monitoring and evaluation, and institutions and mechanisms. It has made rational decisions and implemented targeted measures to transform and advance protection through digital and smart technology. China assigns a leading role to science and technology in marine eco-environmental protection and the high-quality development of the marine economy, and is committed to overcoming the bottlenecks that hinder further progress. The country now utilizes land, sea, air, and space in its monitoring, governance, and supervision of the marine eco-environment, as well as in its emergency response capabilities and technology.

**– Pursuing green transformation and low-carbon development**

Blue seas and clean beaches, like lucid waters and lush mountains, are also invaluable assets. Upholding the philosophy of green development and applying it in exploring the sea, China is transforming its model of marine development into one of circular utilization. It has developed eco-tourism, eco-fisheries, and other green industries, expanded its channels for realizing the market value of green products, and promoted high-quality economic development and quality of life in coastal areas through high-standard protection of the marine eco-environment.

With a focus on reducing pollution and its carbon footprint, China has increased its carbon sink potential by developing marine ranching while reducing emissions through offshore wind power and other new models of the green, low-carbon economy. These efforts have accelerated the green, low-carbon transformation of the marine industry and green, low-carbon and sustainable development of the ocean, in line with the country’s goals of achieving peak carbon dioxide emissions by 2030 and carbon neutrality by 2060.

**– Upholding government-led and multi-partner governance**

The Chinese government plays a leading role in marine eco-environmental protection through institutional design, planning, supervision, services, and risk prevention. It has established a working mechanism under which the central leadership makes overall plans, provincial authorities assume overall responsibility, and city and county authorities take charge of implementation. Operation entities, factors of trade, and private capital are encouraged to participate in marine eco-environmental protection, to create a sustainable model for the protection and ecological restoration of the marine eco-environment. Through multi-partner governance and synergy from the whole of society, China is striving to build a modern governance system for the marine eco-environment led by Party committees and governments, and joined by enterprises, social organizations, and the general public.

**– Putting people first and enabling the broadest participation**

China is committed to pursuing environmental benefits for the people, to meet their growing aspirations for a beautiful eco-environment. It takes solid action to tackle prominent marine eco-environmental problems, making the sea more accessible to the public. It works to ensure that the people can have safe and green seafood, enjoy clean beaches, blue seas and azure sky, and safely enjoy the sea with a greater sense of satisfaction and happiness.

China promotes a marine culture that emphasizes harmonious coexistence between humans and the ocean for the people and by the people. In Chinese society, there is now a broad consensus on marine eco-environmental protection, and people are taking an active part in it on their own initiative. This has led to the development of a new protection model characterized by collaboration, participation, and shared benefits across the country.

**– Maintaining a global vision and promoting mutually beneficial cooperation**

China champions the concept of a maritime community of shared future. With an open mind and a broad vision, it is determined to work together with people around the world, through thick or thin, to tackle challenges to the marine eco-environment and safeguard the common interests of humanity, so that we can bequeath blue skies and clean waters to our future generations.

Following the principles of mutual trust, mutual assistance, and mutual benefit, China promotes international cooperation in marine eco-environmental protection and shares the fruitful results of its work in protecting the marine environment and developing the marine industry, thereby contributing Chinese insight and Chinese strength to the global initiative to make the ocean clean and beautiful.

II. Coordinating Marine   
Eco-Environmental Protection

China attaches great importance to building a marine eco-civilization and protecting the marine environment. The country has strengthened top-level design to plan, guide, and coordinate its work in this area, while continuing to establish and improve its legal and institutional frameworks to advance marine eco-environmental protection.

1. Well-designed plans

To fulfill the new tasks and meet the new requirements in marine eco-environmental protection and guide relevant endeavors, China has formulated special plans for the marine environment and other plans in relevant sectors, based on its economic and social development plans and in line with its territorial space plans.

**Planning systematic marine eco-environmental protection.** Planning is central to the government’s efforts in protecting the marine eco-environment and building a marine eco-civilization, and the national economic and social development plan outlines the tasks from a strategic perspective. National territorial space plans have been implemented to help develop marine spaces by coordinating land and sea activities and promoting harmony between humanity and the ocean. These plans provide strategic guidance for protecting the marine eco-environment in waters within China’s jurisdiction. In 2022, China issued the 14th Five-Year Plan for Marine Ecological and Environmental Protection. This plan shapes the direction of protection efforts in the new era by creating a comprehensive governance model for marine management at the national, provincial, city, and bay levels, with bays as the basic units of action.

The government has also published the 14th Five-Year Special Plan for Scientific and Technological Innovation in Eco-Environmental Protection, the 14th Five-Year Plan for the Supervision of Ecological Conservation, the 14th Five-Year Plan for Eco-Environmental Monitoring, and the National Plan for Marine Dumping Sites (2021-2025). These plans provide guidance for scientific and technological innovation in marine eco-environmental protection, supervision of marine ecological protection and restoration, monitoring and evaluation of the marine eco-environment, and the management of marine dumping, laying a solid foundation for strengthening marine eco-environmental protection in all respects.

**Prioritizing eco-environmental conservation in spatial planning for marine development and protection.** The marine space is the primary platform for the protection and restoration of marine ecosystems, marine development and utilization, and marine governance tasks. Spatial planning is an essential tool for planning marine development and protection activities as a whole.

China has published various spatial plans, including the National Marine Functional Zoning Plan, the National Plan for Main Marine Functional Zones, and the National Plan for the Protection of Offshore Islands – all of which have played a positive role in the category-specific protection and rational utilization of sea areas and offshore islands at different stages. In 2018, replacing multiple plans with a masterplan, China promulgated the Opinions on Establishing a System for Territorial Space Planning and Supervising Its Implementation, issued the Outline of the National Plan on Territorial Space (2021-2035), and compiled the Outline on Space Planning for Coastal Zones and Nearshore Waters (2021-2035), implementing territorial space plans for coastal areas at all levels.

Through this, the country has implemented a marine spatial planning system that coordinates land and sea space and development, strengthens ecosystem-based management of coastal zones, and arranges for the protection, restoration, development, and utilization of coastlines, sea areas, and islands.

**Advancing protection and restoration in an orderly manner.** Under the guidance of its territorial space plans, China has formulated and implemented for the first time the Plan for Major Projects on the Protection and Restoration of Coastal Zone Ecosystems (2021-2035). This plan puts in place a framework for comprehensively planning and designing the protection and restoration of coastal zone ecosystems, with a focus on improving their quality, stability, and services across “one belt, two corridors, six areas, and multiple points”[[1]](#footnote-0). To improve the diversity, stability, and sustainability of its marine ecosystems, China has also issued the 14th Five-Year Plan of Action for Marine Ecological Protection and Restoration, the Special Action Plan for Mangrove Conservation and Restoration (2020-2025), and the Special Action Plan for the Prevention and Control of *Spartina Alterniflora* (2022-2025). These plans are tailored to local conditions and adopt region- and category-specific measures, aiming to coordinate effective efforts to protect and restore China’s marine ecosystems in a holistic approach.

2. Law-based governance

The rule of law is the foundation for marine eco-environmental protection. China has improved relevant laws and regulations, strengthened the judicial system, and carried out educational campaigns to promote a culture of respecting, studying, observing, and applying the law, in order to carry forward marine eco-environmental protection within the legal framework.

**Establishing a sound legal framework for marine eco-environmental protection.** China attaches great importance to legislation on marine eco-environmental protection, and has promulgated a series of relevant laws and regulations. The Marine Environment Protection Law was first adopted in 1982 and has since been revised twice, in 1999 and 2023, and amended three times, in 2013, 2016, and 2017, to adapt to changing circumstances. Under this comprehensive law, China has formulated seven administrative regulations, including the Regulations on Control over Dumping of Wastes in the Ocean, along with more than 10 departmental rules and 100 normative documents. Furthermore, it has issued over 200 technical standards and specifications, creating a comprehensive legal framework for marine eco-environmental protection.

Other important laws include: the Sea Areas Administration Law and the Law on the Protection of Offshore Islands, which cover the sustainable use, protection, and improvement of the eco-environment of sea areas and islands; the Wetland Conservation Law and the Fisheries Law, which cover the protection of coastal wetlands and fishery resources; and the Yangtze River Protection Law and the Yellow River Protection Law, which cover the planning, monitoring, and restoration of estuaries. Additionally, local regulations and government rules on marine eco-environmental protection have been promulgated and implemented by coastal provinces and equivalent administrative units, including in Guangxi and Hainan, where laws have been enacted to protect coastal beaches and rare animal and plant resources.

**Ensuring judicial protection of the marine eco-environment.** Chinese courts have dutifully provided judicial protection for the marine environment. Since 1984, they have handled more than 5,000 civil disputes over the marine environment. Since 2015, the maritime courts have concluded more than 1,000 administrative litigation cases related to the marine environment. They have also dealt with criminal cases related to marine eco-environmental pollution, illegal sand mining at sea, and illegal harvesting of rare and endangered aquatic wildlife. Drawing on previous experience, China has established a comprehensive judicial system for marine eco-environmental protection, covering criminal, civil, and administrative litigation, and a marine eco-environmental public interest litigation system with Chinese characteristics, ensuring judicial protection of the marine eco-environment.

**Popularizing laws on marine eco-environmental protection.** Through press conferences, seminars and training, media communication, quizzes, and distribution of promotional materials, the Chinese government has popularized laws and regulations with regards to sea areas, islands, maritime environmental protection, and the management of fishing vessels at sea. In some regions, virtual reality experiences, interactive games, micro-films and other new forms have been used to support educational campaigns on the law, to positive effect. Public communication has been strengthened to urge local governments in coastal areas to use sea areas appropriately and ocean-related enterprises to fulfill their responsibilities, and guide the public to build awareness of maritime laws and regulations, so that more people will understand, protect, and care for the ocean.

3. Institutional safeguards

China has established a series of systems for protecting the marine eco-environment, ensuring coordination and connectivity between land and sea management and steadily increasing maritime environmental governance efficiency.

**Establishing the institutional framework.** China attaches great importance to institutional protection of the marine eco-environment. It has established standards and exercised regulation for the exploitation and utilization of marine resources and implemented an institutional framework for marine eco-environmental protection based on standard practice and in accordance with the law.

In terms of pollution prevention and control, China has implemented a filing system for sea-entering sewage discharge outlets. It utilizes a permit system for marine dumping, and carries out environmental impact assessment before approving projects that could impact the marine eco-environment, while ensuring an emergency response system is in place as a backup for worst-case scenarios. With regard to protection and restoration, it has established the systems of marine eco-environmental red lines, protected areas, and natural shoreline control. In terms of supervision and management, it has established systems for territorial space use control and eco-environmental zoning control, for central environmental protection inspection and state natural resources inspection, for enforcing responsibility for meeting targets, and for assessment, evaluation, monitoring, and investigation. In relation to green development, it has established systems for compensating marine eco-environmental protection, managing fishing quotas and permits, and regulating the paid use of sea areas.

**Forming a management system encouraging collaboration among different departments and between different levels of government.** China developed its marine eco-environmental protection management system from the ground up, and has continued to strengthen it over the years. In the reform of State Council institutions in 2018, the responsibilities of marine environmental protection were incorporated into those of the Ministry of Ecology and Environment, and those of marine protection, restoration, development, and utilization, into those of the Ministry of Natural Resources. Transportation, maritime affairs, fisheries, and forestry and grassland departments, coast guards, and the military all participate in marine eco-environmental protection in accordance with their respective functions, which strengthens collaboration between land and sea pollution prevention and control and ensures uniformity.

Supervisory agencies have been set up to monitor the marine eco-environment in the Haihe River Basin and Beihai Sea Area, the Pearl River Valley and South China Sea Area, and the Taihu Basin and East China Sea Area. Coastal provinces and equivalent administrative units are directly responsible for eco-environmental governance of their coastal waters, and for implementing key tasks, major projects and important initiatives to protect and manage the marine eco-environment. Over the years, a working mechanism for marine eco-environmental protection based on coordination among different departments and between central and local governments has been established, and a comprehensive system for collaborative governance of coastal areas, river basins, and sea areas is in place.

III. Systematic Governance of the Marine   
Eco-Environment

China adopts a holistic approach to marine eco-environmental governance, while making extra efforts to address key points and problems. Through land-sea coordination and by increasing river-sea connectivity, it has effectively improved the marine eco-environment.

1. Comprehensive governance of key sea areas

Key sea areas, such as the Bohai Sea, the Yangtze River Estuary-Hangzhou Bay, and the Pearl River Estuary, are located at the strategic intersections of China’s coast where high-quality development is in full swing. These areas, which are economically developed and densely populated and whose marine ecosystem shows strong local features, face significant eco-environmental challenges arising from intensive marine development and utilization. They have thus been made the focal point for comprehensive marine eco-environmental governance.

**The comprehensive governance of the Bohai Sea.** The Bohai Sea is semi-enclosed and therefore has limited capacity for water exchange and self-purification.

China launched its first campaign against marine pollution in 2018, setting the comprehensive governance of the Bohai Sea a main target of pollution control during the 13th Five-year Plan (2016-2020) period. The overall plan set out to complete top-level design in one year, gather momentum in two years, and achieve preliminary progress in three years, with a focus on the “1+12” coastal cities in the Circum-Bohai Sea Region[[2]](#footnote-1). The five core goals of this plan were to raise the proportion of nearshore sea areas with good to excellent water quality, eliminate substandard waters in seagoing rivers, identify and rectify sea-entering sewage discharge outlets, and restore coastal wetlands and coastlines. The major tasks laid out in the plan included controlling pollution, protecting the eco-environment, and guarding against risks.

Over the course of three years, China successfully completed the core goals and tasks set out by the plan for the Bohai Sea. As a result, the deterioration of the eco-environment in this region was contained, and a positive momentum sustained. In 2020, the proportion of nearshore sea areas with good to excellent water quality (Grade I and II) reached 82.3 percent – an increase of 15.3 percentage points from 2017. Additionally, all 49 seagoing rivers saw their state-monitored sections[[3]](#footnote-2) completely free from inferior Grade V water, and a total of 8,891 hectares of coastal wetlands and 132 kilometers of coastlines were restored.

**The comprehensive governance of key sea areas.** In 2021, based on its achievements in the Bohai Sea, China expanded its comprehensive governance endeavors to include the Yangtze River Estuary-Hangzhou Bay and the sea areas near the Pearl River Estuary. It identified the governance of these three key sea areas as one of the signature anti-pollution campaigns during the 14th Five-year Plan (2021-2025) period, and assigned tasks to the nearby eight coastal provinces and municipalities and 24 coastal prefecture-level cities. Based on targeted, scientific and law-based pollution control, these cities have carried out comprehensive, systematic governance at the source through land-sea coordination.



The process has been smooth and notable progress has been achieved in all the major tasks. The water quality in the three key sea areas has shown marked improvement, with the proportion of sea areas with good to excellent water quality (Grade I and II) reaching 67.5 percent in 2023, an increase of 8.8 percentage points from 2020.

2. Synergic governance of land-sourced pollution

Marine eco-environmental problems manifest in the sea, but their root causes lie on land. In order to alleviate the impact of land-sourced pollution on the marine environment, China has adopted robust measures to coordinate land-sea pollution control and monitor the key pathways that channel land-sourced pollutants into the sea.

**Tightening pollution control for seagoing rivers.** Seagoing rivers are the primary routes for carrying land-sourced pollutants into seas.

China has significantly improved its urban sewage treatment quality and efficiency by constructing and upgrading separate pipe networks for rainwater and sewage, tightening supervision over the sewage treatment sector, and reducing the impact of urban industrial and sanitary sewage on the water quality of seagoing rivers. Since 2012, the construction of sewage treatment infrastructure in coastal areas has accelerated markedly, and sewage treatment plants in cities at or above the prefectural level have been upgraded to Grade I-A standards.

Since the beginning of the 14th Five-year Plan period in 2021, China has also initiated efforts to improve its rural environment. Coastal provinces have completed comprehensive environmental improvement for 17,000 administrative villages, enacted livestock and poultry breeding pollution control plans for 170 counties heavily involved in animal husbandry, and reached a sanitary sewage treatment rate of more than 45 percent, substantially reducing sewage discharges in agriculture and rural areas.

China has implemented a comprehensive remediation system to tackle nearshore water pollution and eutrophication caused by excessive nitrogen emissions in river basins. By forming a comprehensive management network covering coastal areas, river basins, and sea areas, China has shifted total nitrogen control to the upper reaches of seagoing rivers, and administered river-specific policy for total nitrogen management.

Between 2012 and 2017, the water quality in the state-monitored sections of China’s seagoing rivers generally remained stable with slight improvement, and a substantial improvement was recorded beginning in 2018. Currently, four-fifths of all state-monitored sections have good to excellent water quality (Grade I, II, and III), while sections with very poor water quality (inferior Grade V) have been eliminated.

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**Strengthening the administration of key sea-entering sewage discharge outlets.** Sea-entering sewage discharge outlets are major outlets through which land-sourced pollutants enter the sea. China has promulgated the Implementation Directives on Strengthening Supervision and Administration of Sewage Discharge Outlets into Rivers and Seas, which directs the identification, monitoring, source tracing, and rectification of such outlets and promotes a whole-process management system for nearshore waters, sea-entering sewage discharge outlets, sewage discharge pipes, and pollution sources.

With the goal of enforcing inspection of each and every sea-entering sewage discharge outlet, the country has identified the total number and distribution of all the sea-entering sewage discharge outlets, how sewage is discharged in each outlet and who are in charge of these outlets. Such information helps delineate responsibilities and promote rectification at the source. By the end of 2023, the government had surveyed more than 53,000 sea-entering sewage discharge outlets and rectified over 16,000 of them, amplifying its role in improving nearshore eco-environments.

A unified information disclosure platform has been built to further regulate the setup and administration of sea-entering sewage discharge outlets. The construction of new industrial sewage discharge outlets and urban sewage treatment outlets is strictly prohibited in nature reserves, key fishery waters, bathing beaches, and areas within conservation red lines.

**Cleaning up and controlling marine litter.** China has issued guiding documents, such as the Directives on Further Strengthening Plastic Pollution Control and the Action Plan for Plastic Pollution Control During the 14th Five-Year Plan Period, to address the issue of marine plastic litter at its source.

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| Panel 1 Zhejiang Province’s Blue Circle Project Won  the UN’s 2023 Champions of the Earth Award |
| On October 30, 2023, the United Nations Environment Programme (UNEP) announced its 2023 Champions of the Earth award in Nairobi, the capital of Kenya. The Blue Circle project, a new model of marine plastic waste management initiated by China’s Zhejiang Province, stood out from 2,500 applicants globally to win the UN’s highest environmental honor. This project has contributed a Chinese solution to global marine plastic litter control.  The Blue Circle is a new sustainable model for addressing marine plastic pollution. Piloted in Zhejiang in 2020, it has successfully tackled the problems in controlling marine plastic waste, including difficulties in retrieval, high processing costs, and low recycling rates. One innovative aspect of the Blue Circle model is its visual traceability. By leveraging digital technology, the model realizes whole-process visual traceability “from seas to shelves” and simplifies the identification of marine plastics. The model has been recognized and purchased by multinational corporations, which has facilitated the market-oriented recycling of marine plastic waste, turning waste into wealth.  To date, the Blue Circle project has established 80 marine waste collection sites, including the Marine Cloud Warehouse and the Little Blue Home, in Zhejiang’s coastal cities such as Taizhou, Zhoushan, and Ningbo. These sites collect waste from over 10,000 seagoing fishing vessels and merchant vessels and in sections of the coastline, recycling over 10,000 tonnes of marine waste in total, including some 2,200 tonnes of plastics. |

Additional measures have been put in place to monitor, intercept, collect, salvage, transport, and process marine litter. Coastal cities have enforced regular control and cleanup of marine litter from seagoing rivers and in nearshore waters through programs such as Sanitation at Sea. The Blue Circle project, a new model of marine plastic waste management initiated by Zhejiang Province, won the UN’s 2023 Champions of the Earth award.

China has synergized litter control for rivers, lakes, and seas. In 2022, special actions were taken to clean up marine litter in 11 key bays, including the Jiaozhou Bay. More than 188,000 people participated in the cleanup action and removed a total of 55,300 tonnes of litter from banks, coastlines, and the sea. In 2024, to consolidate the achievements in its marine litter cleanup actions, the country expanded its targets from key bays to all coastal cities.

China has conducted systematic monitoring of marine litter and microplastics. Compared with the results of similar international surveys in recent years, the average density of China’s nearshore marine litter and offshore microplastics are at medium and low levels.

3. Targeted control of marine pollution

Placing equal emphasis on development and protection, China has continued to tighten regular supervision over industries such as marine engineering, dumping of wastes at sea, mariculture, and maritime transport, and actively responded to marine environmental emergencies, making every effort to improve marine pollution prevention and control and reduce the impact of marine development and utilization on the marine eco-environment.

**Exercising strict control over the eco-environmental impact of marine engineering and dumping of wastes at sea.** China is continuing to optimize its administration of environmental impact assessment (EIA), exercising management at the source and tightening control on marine engineering operations such as land reclamation from the sea and marine sand and gravel mining. The country has also strengthened pollution prevention and control for marine oil and gas exploration and development, and exercises unified authority over EIA approval and pollutant discharge supervision.

China is formulating technical standards to bring marine engineering pollutants into discharge permit administration. It selects and delineates ocean dumping sites based on sound planning and with regards to cost and safety considerations. It meticulously assesses the operation of these sites to ensure eco-environmental safety and safe navigable water depths. The Chinese government enforces strict ocean dumping permits, and exercises off-site supervision through automatic vessel identification and online monitoring of ocean dumping to minimize the eco-environmental impact of waste dumping.

**Enforcing systematic pollution prevention and control of mariculture.** China has issued the Directives on Accelerating the Green Development of Aquaculture and the Directives on Strengthening Eco-Environmental Regulation on Mariculture. These guiding documents set standards for pollution discharge, emphasize the EIA administration, and enable category-specific rectification and tailwater monitoring for sewage discharge outlets. This helps to systematically tighten eco-environmental regulation on mariculture. Coastal provinces and equivalent administrative units have also enacted standards for mariculture tailwater discharge and have intensified their regulation efforts.

Mariculture is regulated by EIA administration, which falls under the List of Construction Projects Under Category-Specific Administration on Environmental Impact Assessment. Local governments have closed down, merged and regulated unauthorized and misplaced mariculture tailwater outfalls, while promoting pond aquaculture, industrial aquaculture, and eco-upgrading of net cages to improve aquaculture environments. Coastal provinces, municipalities and counties have released plans regarding the use of mudflats for mariculture, delineating forbidden zones, restricted zones, and designated zones for mariculture.

**Intensifying pollution prevention and control for ships in ports.** To comply with the Water Pollutant Discharge Standards for Vessels, China has launched special actions to address water pollution from vessels, and makes sure that environment-friendly standards have been included in shipbuilding technology laws and regulations.

The country has strengthened joint regulation of the transfer and disposal of water pollutants from vessels, and coastal provinces and equivalent administrative units have completed the construction of basic vessel pollutant receiving, transfer, and disposal facilities.

Continuous inspection of vessel fuel quality is conducted, and stricter regulations have been put in place for the provision and use of power facilities for berthed vessels to identify and eliminate hidden risks.

**Establishing the marine environmental emergency response system.** China has implemented the National Contingency Response Plan for Major Marine Oil Spills and the Contingency Response Plan for Oil Spills Damaging the Environment During Marine Oil Exploration and Development. These plans outline the organizational structure, procedures, information management and disclosure, and safeguard measures for handling marine oil spill emergencies in a relatively complete response system.

China has intensified its effort to identify marine environmental risks. Accordingly, Liaoning, Hebei, and Shandong provinces and Tianjin Municipality in the Circum-Bohai Sea Region have conducted assessment of risks of environmental emergencies and worked out contingency response plans for more than 5,400 key enterprises involved in hazardous chemicals, heavy metals, industrial waste, and nuclear power.

In addition, China has developed a national marine environmental emergency response command system, built a smart platform that integrates communications, monitoring, decision-making, command, and coordination, and strengthened its information technology capability for emergency response.

An “oil fingerprint” identification system has been developed, which has collected over 3,200 crude oil samples. This system allows for full-coverage sampling from marine oil exploration and development platforms and provides key evidence for resolving disputes and conducting damage assessments over marine oil spills.

4. Beautiful Bay Initiative

Bays are essential to sustaining the improvement of the marine eco-environment. China has launched an initiative to build beautiful bays providing clear seawater, clean beaches, and desirable habitats for fish and seabirds, and promoting harmony between humans and seas. Bay-specific policies have been adopted to coordinate nearshore pollution control, eco-environmental conservation and restoration, and environmental rectification of shores and beaches.

**Specifying goals and tasks of building beautiful bays.** The Outline for the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives Through the Year 2035 outlines the initiative of protecting and building beautiful bays. The Recommendations on Advancing the Beautiful China Initiative on All Fronts also includes building beautiful bays as part of the overall plan to build a beautiful China, designating a mid-term completion of 40 percent by 2027 and a full completion by 2035. The Plan for Marine Eco-Environmental Protection During the 14th Five-Year Plan Period focuses on building beautiful bays, delineating nearshore areas into 283 bay units, and designating goals, tasks, and measures for each.

The Optimized Action Plan for Building Beautiful Bays designates more than 110 bays as key programs to be completed by 2027. The work of building beautiful bays is advancing steadily. By the end of 2023, about half of the 1,682 key tasks and construction projects had been completed, with 475 kilometers of coastlines and 16,700 hectares of coastal wetlands improved and restored, at least 85 proportion of the sea areas in 167 bays had good to excellent water quality, and the proportion of sea areas with good to excellent water quality in 102 bays had been increased from 2022.

**Synergizing multiple measures for building beautiful bays.** China has established the criteria for beautiful bays, emphasizing the importance of maintaining good bay eco-environments, healthy marine ecosystems, and harmony between humans and seas. Under this framework, the country has identified five categories of indicators to guide local endeavors and to encourage supplementary local indicators adapted to local conditions.

To oversee progress, an administration platform for building beautiful bays has been established. Using on-site surveys and remote sensing monitoring, the authorities trace and assess progress in smart supervision and urge all levels of government to implement comprehensive bay management in light of local conditions and complete the tasks assigned to them.

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| Panel 2 Excellent Examples of Building Beautiful Bays |
| China’s initiative of building beautiful bays aims to realize “clear seawater, clean beaches, and desirable habitats for fish and seabirds, and harmony between humans and seas”.  **Clear seawater, clean beaches: Fuzhou’s Binhai Xincheng coastline and Xiamen’s southeastern coastline in Fujian Province** have developed a pollution control model for managing floating marine litter. The system utilizes drift trajectory forecasting and key-area smart visual surveillance to realize precise and efficient litter removal. **Dalian’s Jinshitan Bay in Liaoning Province** has implemented a sea-land sanitation mechanism to seamlessly connect sea, coastline, and land sanitation efforts. This approach has realized closed-loop management of marine and coastline litter in three steps: collection, transfer, and centralized disposal.  **Desirable habitats for fish and seabirds: Yancheng’s Dongtai Tiaozini coastline and Dafeng’s Chuandong Port in Jiangsu Province** have prioritized eco-environmental protection and implemented control zones and isolation belts for *Spartina alterniflora*, designed to prevent the uncontrolled growth of invasive species, protect indigenous ecologies and biodiversity, and provide favorable habitats for migratory birds. As a result, these coasts have now become a haven for rare and endangered birds such as spoon-billed sandpipers and Nordmann’s greenshanks.  **Harmony between humans and seas: Shenzhen’s Dapeng Bay in Guangdong Province** has built public spaces characterized by harmony between mountains, seas, and cities. **Wenzhou’s Dongtou Islands in Zhejiang Province** have connected villages, reefs, bays, beaches, and fishing ports to create a beautiful sea garden for the public to enjoy. **Sanya Bay in Hainan Province** has opened free coastal tourism sites to provide the public with access to natural scenery. |

To fund these projects, a multifaceted financing mechanism has been created to amplify government guidance and incentivize the participation of operation entities and private capital. Comprehensive fiscal and financial means, such as fiscal investment, special bonds, and environment-oriented development projects have been employed to accelerate the implementation of beautiful bay projects.

Emphasis has been placed on innovation in institutions, mechanisms, and key technologies, and outstanding cases have been selected to showcase successful examples and demonstration models and elevate the overall level of beautiful bay projects. Currently, 20 state-level outstanding cases have been selected.



Through comprehensive governance of key sea areas, land-sea coordination in pollution control, and building beautiful bays, China’s nearshore water quality has improved; in 2023, the proportion of sea areas with good to excellent water quality saw a 21.3 percentage points increase from 2012.

IV. Science-Based Conservation and   
Restoration of Marine Ecosystems

China coordinates and integrates the conservation and systematic restoration of marine ecosystems in a manner that respects and protects nature and follows its laws. It utilizes science-based decision-making and targeted measures that aim to safeguard eco-environmental security and improve the diversity, stability and sustainability of marine ecosystems.

1. Consolidating the shields for marine ecosystems

China was the first country in the world to propose and enforce red lines for ecological conservation. It has employed multiple means to build firm protective shields for marine ecosystems, giving sufficient time and space for the ocean to recuperate.

**Creating a classification and zoning system for marine ecosystems.** Classification and zoning constitute a basic model of modern marine management. Since 2019, China has been engaged in establishing such a system. It has put in place a classification framework based on biogeographic and aquatic settings and involving four groups – water column, geoform, substrate, and biotic, and taken a nested approach to zoning marine ecosystems, dividing its offshore waters into 3 first-level eco-environmental zones. These first-level zones are then divided into 22 second-level zones, which are then further divided into 53 third-level zones. In 2023, the 20 third-level offshore zones most impacted by human activity were further divided into 132 fourth-level zones.

Applying unified standards, China classifies ecosystems by level and scale to reflect its natural geographic layout, providing a foundation for understanding the basic conditions of its marine ecosystems and refining marine ecological evaluation, conservation, and restoration.

**Evaluating the carrying capacity of marine resources and environment and the suitability of territorial space for development.** In 2015, the Overall Plan for Reform of the System for Developing an Eco-Civilization was issued. For the first time, it set the requirement of evaluating the carrying capacity of resources and the environment, marking the beginning of such evaluation in China. In 2019, the Guidelines on the Establishment and Implementation of a Territorial Space Planning System was promulgated, requiring the orderly, coordinated, and scientific planning of various types of functional space based on evaluations of the carrying capacity of resources and the environment and the suitability of territorial space for development.

China subsequently developed a system of technologies and methods for this purpose, and completed evaluations of the carrying capacity of its marine resources and environment and suitability evaluation of territorial space for development at city, provincial, regional and national levels. The results were used for drawing red lines for marine eco-conservation and designating marine ecological space and areas for development and utilization.

**Drawing red lines for marine eco-environmental conservation and strictly enforcing them.** Red lines for eco-environmental conservation are an important institutional innovation and a major decision made by China. China has made systematic arrangements for key areas of marine eco-environmental conservation. Areas with extremely important eco-environmental functions, such as biodiversity and coastline protection, together with areas with highly vulnerable ecosystems due to factors such as coastal erosion, have been delimited within the red lines and given strict protection. These areas are distributed along “one belt and multiple spots” [see Panel 3].

The country has also published a series of documents that regulate the limited human activities allowed within the red lines and clarify requirements for regulation and control. Remaining firm in its commitment to eco-environmental security, China carries out red line monitoring, efficacy evaluation, and boundary demarcation, and continues to improve the spatial configuration of red lines and their long-term regulation and control mechanisms for the protection of vital environmental spaces.

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| Panel 3 China’s Red Lines for Marine Eco-Environmental Conservation |
| To date, China has drawn red lines covering a total area of 150,000 sq km across several types of ecosystems, including mangrove forests, seagrass beds, coral reefs, coastal salt marshes, important estuaries, and important sea islands. They are distributed along “one belt and multiple spots”.  The “one belt” runs from north to south, covering the important coastal wetlands of the Liaohe River and the Yellow River estuaries, Yancheng City of Jiangsu Province, the Yangtze River estuary, the Chongming Dongtan wetlands, Hangzhou Bay, the Pearl River and Beilun River estuaries, among others. The belt contains the majority of China’s typical marine ecosystems, including 99 percent of the country’s mangrove forests, 91 percent of its coral reefs, and 89 percent of its seagrass beds, thus forming a blue eco-environmental shield.  The “multiple spots” cover most of the country’s undeveloped and uninhabited sea islands, habitats of rare and endangered marine species and migratory birds, and spawning sites of important fishery resources, thus offering protection to the key sites for the inhabitation and migration of living organisms. |

**Improving the marine protected areas system.** In its marine protected areas system China includes important marine ecosystems, and natural areas with concentrations of rare and endangered marine species and natural relics and landscapes, and provides them with special protection.

Over the years, the country has established 352 marine protected areas, which protect about 93,300 sq km of sea areas, and has made preparations for 5 marine national park candidate areas. These areas focus on the protection of rare and endangered marine species such as the spotted seal and the Chinese white dolphin, typical ecosystems such as mangrove forests and coral reefs, and topographies such as ancient shell dykes and sea floor ancient forest remnants, forming a multifunctional marine protected area system with a sound layout and encompassing various forms. The marine protected areas have enabled the populations of rare marine species to recover gradually. For example, over 2,000 spotted seals – a species under first-grade state protection – spend the winter at Liaodong Bay every year and this number has remained stable for many years.

**Maintaining marine biodiversity.** China gives effective protection to marine life by safeguarding ecological corridors, raising species’ level of protection, carrying out scientific research and monitoring, imposing fishing moratoriums in key sea areas, and conducting fish stock enhancement.

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| Panel 4 No “Casualty or Relocation” of White Dolphins in the Construction of the Hong Kong-Zhuhai-Macao Bridge |
| On October 24, 2018, the 55-km Hong Kong-Zhuhai-Macao Bridge opened to traffic. The bridge runs through the Chinese white dolphin reserve at the Pearl River estuary, home to the largest population of the animal, which is under first-grade state protection.  To ensure that no white dolphins were harmed or forced away during construction of the bridge, builders utilized advanced technologies from home and abroad and applied innovative construction techniques and methods during the building process. By adjusting designs, raising work efficiency, and reducing operation time at sea, they reduced the impact on marine creatures to the minimum. The bridge helps reduce sea traffic between Hong Kong and Macao by providing an alternative form of travel, effectively protecting the habitats of white dolphins and promoting the harmonious coexistence between humans and the ocean.  Continuous monitoring and surveying from 2017 to 2021 showed that the population of white dolphins at the Pearl River mouth stood at about 2,600 by the end of the five-year monitoring period, representing stable population growth. |

Today, the number of recorded marine species in China has reached 28,000, accounting for about 11 percent of the global total. The National Germplasm Bank of Marine Fishery Species has collected and preserved some 140,000 samples of various biological resources, and the pace of its genetic resource collection and preservation continues to accelerate.

China carries out fish stock enhancement in nearshore areas and now releases around 30 billion fry of aquatic organisms annually. For key protected species like the Chinese white dolphin, sea turtles, corals, and spotted seals, the country has published special national protection action plans or programs, established national protection alliances, and carried out fruitful work that has resulted in stable growth of populations. Twenty coastal wetlands have been included on the List of Wetlands of International Importance, including the National Nature Reserve for Spotted Seals in Dalian of Liaoning Province and the National Nature Reserve for Sea Turtles in Huidong County of Guangdong Province.

2. Restoring marine ecosystems

China carries out major marine eco-environmental restoration projects by letting nature restore itself, with artificial restoration as a supplement. It has formed an initial restoration framework ranging from mountain tops to the ocean, guided by precise planning, guaranteed by systems, and supported by funding and infrastructure, laying firm marine eco-environmental foundations for building a beautiful China.

**Taking comprehensive measures in a problem-oriented approach.** China views marine ecosystems as a whole and makes accurate diagnoses of marine eco-environmental problems. On this base, it sets appropriate conservation and restoration goals and tasks and adopts targeted models such as protection and conservation, natural restoration, assisted regeneration, and eco-environmental reconstruction. It selects optimal area- and category-based restoration measures and technologies according to specific conditions of the place and time. For example, in terms of restoration priorities, estuary wetlands in the warm temperate zone were chosen for the Bohai Sea; coastal wetlands in the warm temperate zone for the Yellow Sea; estuaries, bays, and sea islands in the subtropical zone for the East China Sea; and typical coastal wetlands in the subtropical zone and tropical zone for the South China Sea.

**Strengthening the supporting role of science and technology and encouraging standard-setting.** China is strengthening research on the evolution and internal mechanisms of marine ecosystems, carrying out projects designed to achieve technological breakthroughs, and developing standards and norms to make eco-environmental restoration more holistic, science-based, and workable.

To form a system of standards for restoration technologies it has selected a first batch of 10 innovative and applicable marine eco-environmental restoration technologies, published the Technical Guidelines for Marine Eco-environmental Restoration along with 11 technical guides for coastal eco-environmental disaster reduction and restoration, and formulated technical manuals for the restoration of typical marine ecosystems such as mangroves, coastal salt marshes, and oyster reefs.

**Strengthening financial support for restoration.** Since 2016, the central government has established special funds to support coastal provinces, autonomous regions, and municipalities in carrying out marine eco-environmental protection and restoration projects in key areas, including sea areas, sea islands, and coastal zones that are important to eco-environmental security and offer a wide range of eco-environmental benefits.

To promote the establishment of a market-oriented investment and financing mechanism for marine eco-conservation, it has issued the Decisions on Encouraging and Supporting Private Capital to Participate in Eco-Environmental Conservation and Restoration, which encourages and supports private capital involvement in the whole process of marine eco-environmental conservation and restoration projects, including investment, design, restoration, and maintenance. It has also introduced incentive policies to grant newly-increased construction land-use quotas to entities that have met the standards for planting mangrove trees.

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| Panel 5 The Xiamen Approach to Marine Eco-Environmental Restoration |
| Xiamen, a scenic coastal city boasting green mountains as well as blue waters, inspired Xi Jinping thought on eco-civilization and is an important pilot zone for its implementation. Its work epitomizes China’s marine eco-environmental restoration efforts over more than three decades.  Starting with the comprehensive environmental improvement of the Yundang Lake in 1988, Xiamen initiated a succession of comprehensive bay area improvement projects for the western sea area, the Wuyuan Bay, the Huandong sea area, the Xinglin Bay, the Maluan Bay, and others, creating beautiful shorelines and marine eco-environmental scenery, and forming broad and pleasant urban public spaces.  The city has also carried out projects to restore the Guanyinshan and Gulangyu beaches, forming a natural barrier for local coastal protection that covers one million sq m and functions as an important area for disaster prevention and reduction, tourism and leisure, and eco-environmental services. Through city-wide inspection, full-coverage testing, and all-round tracing and whole-chain treatment, Xiamen has basically completed the rectification of 400 problematic sea-entering sewage discharge outlets across the city, fundamentally improving the water quality of its sea waters.  The city has since won a number of prestigious honors, including the UN-Habitat Scroll of Honor Award, the International Awards for Liveable Communities, and the PEMSEA Leadership Award for Integrated Coastal Management, and was included in the First Batch of National Demonstration Zones for Developing Marine Eco-Civilization.  The Xiamen Approach, which coordinates eco-environmental conservation and restoration across all elements, districts, and dimensions, is a model in building a beautiful China and maintaining harmony between humanity and the sea. It provides Chinese experience, solutions, and wisdom to addressing eco-environmental governance in bay cities, a conundrum for many countries across the globe. |

**Implementing major marine eco-environmental conservation and restoration projects.** From 2016 to 2023, the central government lent financial support to coastal cities in implementing 175 major marine eco-environmental conservation and restoration projects, including the Blue Bay environmental improvement initiative, the ecological restoration campaign in the comprehensive management of the Bohai Sea region, the coastal zone protection and restoration project, and a special action for mangrove conservation and restoration. These projects involved 11 coastal provincial-level administrative units and received a total investment of RMB25.258 billion from the central budget, ultimately leading to the improvement and restoration of nearly 1,680 kilometers of coastline and over 50,000 ha of coastal wetlands nationwide.

China also published the Special Action Plan for the Conservation and Restoration of Mangrove Forests (2020-2025) and, by the end of 2023, had built approximately 7,000 ha of mangrove forests nationwide and restored approximately 5,600 ha. The results of the 2022 Survey of National Land-Use Changes show that the area of mangrove forests in the country stood at 29,200 ha, an increase of about 7,200 ha from the beginning of the century, making China one of the few countries in the world with a net increase in mangrove forest area.

Through these efforts, China is continuously strengthening the service functions of marine ecosystems, raising the ocean’s carbon sink capacity, and building a strong eco-environmental security shield in coastal areas. It is promoting high-quality development through high-standard marine eco-environmental conservation and restoration.

3. Taking strict precautions against marine disasters

Marine disasters pose serious threats to marine ecosystems. By increasing the resilience of coastal ecosystems and strengthening the identification of, and emergency response to marine eco-environmental disaster risks, China steadily improves its capacity to prevent and mitigate marine disasters, and holds firm to the red line of marine eco-environmental security.

**Strengthening coastal ecosystems against marine disasters such as typhoons and storm surges.** China is among the countries most severely impacted by marine disasters. In response, it has built a three-dimensional global ocean observation network with a reasonable regional distribution, complete functions, and a complete system, achieving basic long-term operational observation of its jurisdictional waters and key waters of concern. It is progressively making marine disaster warning reporting more automatic, intelligent, precise, and cover more parts of the world, thereby providing technical support for marine disaster prevention and response.

Mangrove forests, coastal salt marshes, and other ecosystems act as natural defense lines against marine disasters, and when combined with newly-constructed eco-environmental sea dykes, they form a comprehensive protection system that synergizes ecology and disaster reduction. China now fully utilizes the disaster prevention and reduction functions of natural ecosystems and has comprehensively strengthened its coastal ecosystems against marine disasters such as typhoons and storm surges.

**Increasing the capacity to prevent and control marine eco-environmental disasters.** Marine eco-environmental disasters have seriously affected the social and economic development of China’s coastal regions. In China, marine eco-environmental disasters are mainly local biological outbreaks such as red tides and green tides caused by *Ulva prolifera.*

China has developed an emergency plan for red tide disasters and strengthened its early warning and monitoring. It detects, tracks, and provides timely and accurate warnings of red tide disasters, and monitors the development and evolution trends of red tides to provide greater disaster prevention, control, and emergency response. It has carried out monitoring, early warning, prevention, and control of the Yellow Sea green tides caused by *Ulva* *prolifera*, thereby reducing their impact.

In response to population surges of bio-organisms such as jellyfish and *Acetes chinensis*, it monitors key areas during key periods and releases information in a timely manner.

4. Examples in building harmonious and beautiful islands

Sea islands are important platforms for protecting the marine environment and maintaining ecological balance. By focusing on individual islands or island groups, the demonstration zone creation project aims to build beautiful islands with lush vegetation, clean beaches, clear waters, bountiful resources, and harmony between humans and the environment. The ultimate goal of this project is to promote high-level conservation and high-quality development of sea island areas.

**Solid progress in building demonstration zones**. The initiative to build harmonious and beautiful islands started in 2022. Focusing on “a beautiful eco-environment, enjoyable life, and clean production”, 36 indicators were created, covering seven areas: eco-environmental protection and restoration, resource conservation and intensive utilization, improvement of living environments, green and low-carbon development, development of specialty industries, cultural development, and institutional reform. The indicators were adopted as guidance for building demonstration zones. In 2023, 33 islands were selected as the first batch of harmonious and beautiful islands.

**The leading role of ecological conservation in the project.** By prioritizing eco-environmental protection, China has worked to restore its sea island eco-environments through ecological protection and restoration projects, including those concerning shorelines, islands, and aquatic plants. In coastal regions throughout the country, the use of mangrove forests, seagrass beds, and other blue carbon ecosystems as carbon sinks is actively promoted. In Shandong Province, efforts are underway to establish an international zero-carbon island in the Changdao Islands. These efforts involve issuing marine, seagrass beds, and seaweed beds carbon sink loans and exploring innovative approaches to turning marine carbon sink resources into assets.

China continues to enhance the living environment of its sea islands by improving infrastructure, including transportation, water supply and drainage, electricity, and communication facilities. Dongao Island in Guangdong Province has undergone large-scale planting of flowers, trees, and shrubs. A scenic green road encircling the island is now complete, and the construction of boardwalks along the coast is currently in progress.

China promotes integrated cultural and tourism development of sea islands. By utilizing the unique resources offered by its islands – including their sea access, rich histories, and eye-catching temples – the country hopes to strengthen its “tourism plus” model in these regions, including “tourism plus fishing”, “tourism plus the countryside”, “tourism plus culture”. These tourism models showcase the compelling stories attached to traditional maritime culture that have been passed down through the ages and, in turn, help preserve this way of life for future generations. On Meizhou Island in Fujian Province, for example, 33 items have been designated as intangible cultural heritage items, leading to increased awareness of the Mazu culture of the area and ensuring its protection and transmission of its intangible cultural heritage.

5. Building eco-environmental coastal zones

Coastal zones are special areas where land and sea meet and interact, with rich natural resources, unique environmental conditions, and intense human activity. As the intersection of coastal areas and the sea, China’s coastal zones are crucial for building a strong national eco-environmental security shield, supporting coastal economic and social development, facilitating China’s connections with other countries over land and sea, promoting high-standard construction and opening up, and facilitating high-quality development.

In 2021, China proposed the construction of eco-environmental coastal zones coordinating work on land and at sea. To carry out the comprehensive evaluation of its marine eco-environmental conditions, China has developed a system of technology and methodology for eco-environmental coastal zone evaluation. To scientifically identify eco-environmental problems in coastal zones, nine evaluation indicators have been set up, covering four areas: ecosystem stability, environmental quality, sustainable resource utilization, and human safety and health. Through measures such as eco-environmental protection and restoration, building a coastal greenway network, and improving eco-environmental sea dykes, the country is working to create healthy, clean, safe, diverse, and prosperous coastal zones.

V. Strengthening Supervision and Administration of the Marine Eco-Environment

China has mobilized its resources and expertise from all sectors to safeguard the red lines for ecological conservation, ensure basic environmental quality, and keep resource utilization within sustainable limits. In governing the marine eco-environment, the country has adopted a multipronged approach that integrates region-specific regulation and control, monitoring and surveying, regulation and law enforcement, and evaluation and inspection. To guarantee the smooth progress of marine eco-environmental governance, protection and restoration, it has strengthened its application of information, digital, and smart technologies in environmental supervision and administration.

1. Space utilization control and region-specific environmental regulation and control

China employs a functional zoning strategy that exercises space utilization control based on territorial space planning, strengthening region-specific regulation and control of the nearshore eco-environment. In this way it delineates red lines and sets limits for development activities.

**Regulating the utilization of marine spaces.** Taking into consideration the location and resource endowment of its sea areas, China first implemented marine functional zoning in the 1990s and specified the zones’ major functions and the requirements for protecting their eco-environments.

In 2015, China introduced the National Plan on Marine Functional Zones, which delineated its marine spaces into four categories: zones for optimized development, zones for key development, zones for restricted development, and zones prohibited for development. This plan also set constraints for the degree of development and protection in these zones.

In 2019, China began to integrate marine functional zoning and marine functional zone planning into its overall territorial space planning, incorporating multiple plans into one. In October 2022, China enacted the Outline of the National Territorial Space Plan (2021-2035). Coastal provincial-level governments implemented relevant measures within their administrations. Detailed and scientific plans were made to divide marine territorial space into eco-environmental conservation zones, eco-environmental control zones, and maritime development zones, each with specific functions, utilization approaches, and conservation and restoration requirements. A regulatory system has been gradually established for the utilization of marine spaces characterized by full coverage of sea areas, islands, and coastlines, and coordination of involved industries and utilization approaches.

**Enforcing region-specific regulation and control for the nearshore eco-environment.** China has used differentiated measures to achieve region-specific and precise regulation of the nearshore eco-environment by delineating control units and introducing a negative list of projects with potential eco-environmental impacts. These efforts align with national economic and social development plans and the national territorial plan to safeguard the eco-functions and improve the environment of nearshore waters. The focus of these regulations is to safeguard the red lines for ecological conservation, ensure basic environmental quality, and keep resource utilization within sustainable limits.

Since 2017, coastal areas have taken steps to implement region-specific regulation and control of the nearshore eco-environment. China has delineated 3,036 nearshore eco-regulation and control units and ensures that industries in these units develop within the environmental carrying capacity.

The first application system for region-specific eco-regulation was launched in Xiamen City in Fujian Province, effectively addressing difficult issues for new enterprises, including site selection, lengthy approval processes, and slow project implementation. The city divided its offshore waters into 42 control units and improved land-sea coordinated environmental governance, which has optimized the transformation and upgrading of coastal industries.

In 2024, China released the Directives on Strengthening Region-Specific Eco-Environmental Regulation and Control, which instructed coastal regions to strengthen region-specific regulation and control in nearshore areas. The document proposed the establishment of a region-specific regulation and control system for the marine eco-environment that covers all marine spaces and employs precise and scientific measures, and the formulation of systematic implementation plans, providing essential guidance for nearshore development, protection and construction activities of all kinds.

2. Monitoring and surveying

The protection of the marine eco-environment is built on monitoring and surveying. China has improved its monitoring network, which features sky-space-land-sea integration and has strengthened marine monitoring, assessment, and early warning, to provide a clear factual basis for decision-making by relevant supervision and administration authorities.

**Enforcing marine eco-environmental monitoring on all fronts.** China has continued to optimize the configuration of its marine eco-environmental monitoring network, which covers sea areas under its jurisdiction with a focus on nearshore waters. The goal is to establish a modern marine eco-environmental monitoring network characterized by land-sea coordination and river-sea connectivity.

The country has combined national and local resources to build marine eco-environmental monitoring bases and comprehensive eco-environmental quality monitoring stations, both at the national level. With a network of 1,359 state-monitored seawater quality sites, China’s marine monitoring comprises 15 tasks in four categories: environment quality monitoring, ecosystem monitoring, special monitoring, and supervisory monitoring. China has boosted its monitoring capacity in emerging hotspot areas, including marine litter, marine microplastics, marine radioactivity, new marine pollutants, and ocean carbon source and sink. It has strengthened monitoring for the health of mangrove forests and other typical ecosystems. A unified data transmission and sharing platform for marine eco-environmental monitoring has been developed, which releases seawater quality data on a regular basis and publishes the annual Bulletin of Marine Ecology and Environment Status of China.

**Taking a holistic approach to marine ecosystem early warning and monitoring.** In order to better understand the distribution, patterns, current conditions, and evolution trends of its marine ecosystems, and the major eco-environmental issues and risks, China has built an ecosystem early warning and monitoring system. This system prioritizes nearshore waters, covers all waters under China’s jurisdiction, and extends to key polar and deep-sea areas of interest.

In nearshore waters, targeted surveys and monitoring have been carried out in areas subject to high eco-environmental risks, as well as in those characterized by typical marine ecosystems, such as key estuaries, bays, coral reefs, mangrove forests, seagrass beds, and salt marshes. In waters under China’s jurisdiction, analysis and assessment have been conducted to address issues such as sea level changes, ocean acidification, and low oxygen levels. Large-scale monitoring has been conducted for all major types of marine ecosystems, and monitoring on polar and deep-sea ecosystems has been expanded.

During the 14th Five-year Plan (2021-2025) period, China plans to set up more than 1,600 offshore eco-environmental trend monitoring stations and points and complete a national survey on the conditions of coral reefs, salt marshes and seagrass beds, and a general survey on the ecosystems of river estuaries and seaweed beds.

China released the Bulletin of China’s Early Warning and Monitoring for the Marine Eco-Environment. Work has been done to build an effective early warning approach for typical marine ecosystems. Operational early warning has been basically realized for coral bleaching.

**Conducting baseline survey of marine pollution.** In order to have a full understanding of its marine eco-environment, China has conducted three baseline surveys of marine pollution – in 1976, 1996, and 2023, respectively. The 2023 survey covered four issues: marine pollutants, marine pollution sources, environmental pressure and impacts in coastal zones, and the refined eco-governance of bays. As well as obtaining basic marine eco-environmental data, this latest baseline survey provided scientific decision-making support for assessing China’s marine eco-environment and enacting relevant protection strategies and policies.

3. Strict regulation and law enforcement

China has built a multidimensional regulation and law enforcement network covering its marine areas through coordinated regulation and law enforcement, inter-departmental collaboration, and synergy in central and local efforts. Illegal and unauthorized utilization of seas and islands and destruction of the marine eco-environment are severely punished.

**Improving comprehensive maritime regulation.** China has continued to improve the comprehensive regulation capacity over sea areas, islands, and coastal zones by establishing a system that covers all stages and aspects of ex-ante, in-process, and ex-post regulation. This system leverages the role of comprehensive regulation in maintaining orderly utilization of seas and islands, enforcing the red lines of resource security, ensuring eco-friendly utilization of seas and islands, and underpinning high-quality development.

The country is building and operating a full range of systems, including a regulation system for sea areas and islands, a regulation system for marine eco-environmental restoration, and an information system for territorial space planning that presents all information on a single map. It employs a regulation model in which satellite remote sensing monitoring, marine monitoring, and coast-based monitoring supplement each other to collect information about the utilization of sea areas, and the spatial and resource changes and eco-environmental status in sea areas and islands.

China employs diverse means such as remote sensing monitoring and marine and coastline patrols to conduct high-frequency monitoring of sea areas, islands, and coastlines. It gives extra attention to land reclamation projects, eco-environmental restoration projects, drilling platforms, submarine cables, cross-sea bridges, and other marine utilization activities; and to key areas such as those rich in marine sand, marine oil and gas exploration and development sites, ocean dumping sites, and mariculture and fisheries sites.

Intensive monitoring and regulation have been imposed to sanction marine eco-environmental violations once they occur, and the country’s marine regulation and law enforcement capacity is steadily improving.

**Strengthening comprehensive law enforcement for marine eco-environmental protection.** In recent years, China has strengthened all-round law enforcement in the sea areas under its jurisdiction. Regular law enforcement inspections are conducted on marine engineering, marine nature reserves, marine fisheries, and maritime transport, while a formidable deterrence for violations is provided by specialized law enforcement inspections such as the Marine Shield for coastline conservation and land reclamation regulation and control, the Green Shield for rigorous supervision over marine nature reserves, the Emerald Sea for striking out at marine eco-environmental violations of laws and regulations, and the Blue Sword and the China Fisheries Sword for fisheries resource conservation.

Between 2020 and 2022, China conducted more than 19,000 inspections on marine engineering projects, drilling platforms, islands, and ocean dumping sites, and handled over 360 cases of illegal activities involving land reclamation from the sea, ocean dumping, and island eco-environmental damage. Severe punishments have been imposed for violations and crimes in key areas of marine eco-environmental protection.

4. Strengthening evaluation and inspection

China has implemented goal-oriented responsibility and performance evaluation systems for marine eco-environmental protection. It conducts Central Eco-Environmental Protection Inspection and State Natural Resources Inspection. These measures address key issues in the marine eco-environment and encourage local authorities to fulfill their responsibilities, giving officials an incentive to improve their performance.

**Implementing the goal-oriented responsibility system and performance evaluation system for marine eco-environmental protection.** In 2014, China amended the Environmental Protection Law and enforced the goal-oriented responsibility system and performance evaluation system for eco-environmental protection.

In 2015, China released the Action Plan for Prevention and Control of Water Pollution, which incorporated core goals and tasks such as the proportion of nearshore sea areas with good to excellent water quality, in the performance evaluation system for local governments in coastal areas.

In 2020, China included nearshore water quality in the performance evaluation system for the pollution control campaign, raising the standards for nearshore water quality year by year.

In 2023, China amended the Marine Environmental Protection Law to specify that coastal local governments at or above county level will bear responsibility for the environmental quality of sea areas under their jurisdiction. The performance evaluation results serve as an important basis for rewarding or punishing officials and for their promotion, and play an important role in ensuring that local governments and officials in coastal areas fulfill their responsibilities.

Zhejiang Province has initiated a comprehensive assessment system for the marine eco-environment, and incorporated the results into the Five-Aspect Water Governance[[4]](#footnote-3) performance evaluation system and the Building Beautiful Zhejiang performance evaluation system. This has proved effective in encouraging local officials to improve their performance and break new ground at work.

**Enforcing supervision and inspection of eco-environmental protection.** Since 2015, China has carried out three rounds of central eco-environmental inspection across 31 provinces and equivalent administrative units, relevant departments of the State Council, and relevant state-owned enterprises directly under the central government. Oceans and seas have been designated as key subjects of inspection. Incidences of marine eco-environmental violations have been disclosed and reported to provincial-level Party committees and governments. These violations include unauthorized mariculture businesses in nearshore waters, mangrove ecosystem damage, illegal land reclamation from the sea that encroaches coastal zones, and nearshore water pollution.

With determination, the inspection teams have taken resolute measures to ensure environmental protection mechanisms are put in place at the local level. Their work has been central to problem-solving, gaining approval from the central authorities, recognition from the public, and support from all sectors.

China carries out provincial-level inspection on eco-environmental protection, with a focus on addressing acute marine eco-environmental problems. Routine inspections are conducted regularly, special inspections have been strengthened, and inspection mechanisms comprising routine inspection, regular inspection, and ad-hoc inspection have been established. Supervision and inspection of key projects, key areas, and key links has been advanced across the board, targeting marine pollution, ecosystem destruction, and other pressing problems.

**Enforcing national inspection of natural resources with a focus on marine eco-environmental protection.** In the Outline of the 13th Five-Year Plan for National Economic and Social Development, China proposed to implement the marine inspection system and have regular marine inspections.

In 2017, the first round of marine inspection of 11 coastal provincial-level governments was launched, focusing on the local implementation of major decisions and plans of the CPC Central Committee and the State Council on marine resources and the marine eco-environment, of relevant laws and regulations, and of relevant national plans, programs, and key policy measures. The inspection teams referred the problems identified to provincial-level governments, making sure that local governments fulfill their primary responsibilities in marine eco-environmental protection and reasonably allocate resources in the sea areas and islands under their jurisdiction by law.

In recent years, national natural resources inspection teams have carried out annual marine inspections of local governments in coastal areas, focusing on strict land reclamation control and coastal wetland conservation. These inspections ensure that provincial-level governments fulfill their primary responsibilities, and target new cases of illegal land reclamation, encroachment on conservation red lines, illegal approval of sea utilization projects, destruction of mangrove forests, uninhabited islands, and natural coastlines, and other pressing problems that adversely impact the marine eco-environment.

Problems identified are forwarded to the relevant provincial-level governments in the form of inspection notifications, and leaders of prefecture-level and city governments found with severe violations are summoned for questioning. Prominent problems are notified and made public. Follow-up inspection is then conducted to ensure local governments have fulfilled their duties.

VI. Advancing China’s Green and   
Low-Carbon Maritime Development

China has always been committed to protecting the marine environment, dedicating its efforts to comprehending and managing the vast oceanic expanse. On the basis of ensuring ecological security, it has improved its efficiency in marine resource utilization and developed an eco-friendly marine economy to meet the people’s diverse needs of the sea. Through high-level eco-environmental protection, China strives to foster new impetus for and new advantages in its high-quality development.

1. Promoting efficient utilization of marine resources

The ocean provides humanity with a treasure trove of resources that we rely on to survive and develop. So, too, does it provide a foundation to build China into a strong maritime country. China has continued to promote the economical and intensive utilization of marine resources. It coordinates and improves the supply of resources and factors of production from its sea areas, and preserves the ocean’s reproductive capacity. In the pursuit of these goals, the country strives to form sound dynamics between high-level resource security and high-quality development.

**Promoting the economical and intensive utilization of resources from sea areas.** In recent years, China has actively planned for and carried out economical and intensive marine resource utilization, and adopted tailored policies for different resources accordingly.

To assess its marine resources, China has launched a pilot scheme to inventory its marine resource assets, which will form the basis for optimal resource allocation and efficient utilization. It has selected 18 demonstration cities and counties to test pioneering methods and technologies in order to establish benchmarks for the economical and intensive utilization of marine resources that can be replicated and improved upon with practical experience. Additionally, it will encourage various resources and factors of production to better contribute to China’s high-quality development.

To effectively utilize sea area resources and transition from a two-dimensional to a three-dimensional management approach, China has introduced a multi-rights system for sea areas. Measures have been taken to guarantee the supply of sea areas, address outstanding problems in land reclamation from the past, and regulate sea area utilization across various industries, including optimizing the management of mariculture and determining its scale and layout on a scientific basis. It has also issued specific policies governing the occupation of sea areas by photovoltaic projects, promoting hybrid utilization and three-dimensional development.

**Strengthening the sustainable utilization of fishery resources.** China is employing scientific assessment in its efforts to balance the conservation and sustainable utilization of its fishery resources in the long run. Since launching its summer fishing moratorium in 1995, China has extended the duration and scope of the ban over the years and exercised effective control over fishing intensity in order to conserve and restore fishery resources and promote the sustainable and healthy development of the fishery industry. Since 2003, China has implemented the aggregate management of marine fishery resources, a fishing licensing system, and dual control over the number and engine power of marine fishing vessels, as well as species-based and region-specific fishing quota management.

2. Laying a solid foundation for green development of the marine economy

China is committed to achieving its targets for peak carbon dioxide emissions and carbon neutrality. One way in which the country aims to reach these targets is by integrating green and low-carbon concepts into the development of its marine economy. This includes promoting sustainable fishing and the green growth of ports, shipping, and shipbuilding, as well as the sound exploitation and utilization of clean marine energy. China’s marine industries have already made positive progress in embracing this green transformation.

**Modern ocean ranches.** Ocean ranching is an approach to preserving aquatic life resources and restoring the marine eco-environment that has played a pivotal role in the sustainable development of marine fisheries in China.

By 2023, the country had established 169 national demonstration ocean ranches, generating an annual eco-environmental benefit of nearly RMB178.1 billion. The conservation of marine fishery resources led to a five-fold increase in the numbers of large yellow croaker, small yellow croaker, cutlass fish, and cuttlefish in Zhejiang Province in 2019 compared to the late 1990s, and the density of small yellow croaker increased by 34.1 percent.

Mariculture has expanded from offshore to deep-sea areas and high seas. The first item of fully submersible deep-sea fish farming equipment independently developed by China has been put into operation, creating a unique green mode of deep-sea and high-sea fish rearing.

**Greener and more intelligent ports, shipping, and shipbuilding.** China has intensified its efforts to build smart and green ports with growing clean energy utilization. The Port of Qingdao has established a cutting-edge hybrid energy supply system that integrates wind and solar power with hydrogen production and storage. Clean energy now accounts for 66 percent of the total supply at the port, and its intelligent sky rail logistics system reduces energy consumption by over 50 percent. The introduction of intelligent zero-carbon emission docks at the Port of Tianjin will contribute to carbon neutrality in production and consumption, lowering energy consumption.

China is also active in the construction of three green shipping corridors – connecting the Port of Shanghai with the Port of Los Angeles and the Port of Long Beach, the Port of Guangzhou with the Port of Los Angeles, and the Port of Tianjin with the Port of Singapore. These corridors will accelerate the decarbonization of the shipping industry.

Additionally, China is making significant progress in the adoption of green ships and new energy vessels. Its first methanol dual-fueled ship can reduce carbon emissions by 75 percent,nitrogen emissions by 15 percent, and sulfur and particulate matter emissions by 99 percent. Its 700-TEU fully-electric container vessel reduces the same amount of carbon emissions as 160,000 trees can do in a year.

**Booming clean marine energy.** China’s usage of clean marine energy continues to increase in both scope and share. By the end of 2023, the country’s installed capacity of offshore wind power had reached 37.69 million kW, accounting for about half the global total capacity and solidifying its position as the global leader for the fourth consecutive year.

Renewable marine power is growing rapidly. The megawatt-class Fenjin marine current turbine generates green power that is fed into the State Grid; the Nankun, China’s first independently developed deep-sea megawatt-class wave power generation platform, provides clean electricity to remote islands; and the Penghu deep-sea fish rearing platform can meet its own electricity needs using clean energy from wave and solar energy converters and energy storage devices.

3. Exploring methods for realizing the values of ecosystem goods and services

Blue seas and clean beaches, like clear waters and green mountains, are invaluable assets. China has been working to develop new systems for marine carbon sink, stimulate the business management and development of marine ecosystem goods and services, and explore mechanisms to realize their values.

**Planning a compensation system for offshore eco-environmental protection.** China has established a system that guides those who benefit from marine ecosystems in fulfilling their compensation obligations and motivates those involved in the protection of the marine eco-environment to perform their jobs to the highest level. By implementing this system, a positive relationship has been fostered between the two groups, ultimately promoting sustainable development of the marine economy.

The Opinions on Furthering the Reform of the Eco-Environmental Protection Compensation System, issued in 2021, stipulates the task of establishing a compensation system for offshore protection. Hainan Province, Hebei Province, Guangxi Zhuang Autonomous Region, Lianyungang City in Jiangsu Province, and Xiamen City in Fujian Province have all tailored marine compensation policies to their specific local conditions and acted on these, with positive responses.

**Developing new systems for marine carbon sink.** Marine carbon sink will significantly contribute to the realization of China’s targets for peak carbon dioxide emissions and carbon neutrality. The country has developed an action plan for blue carbon sink and has set technical standards for blue carbon surveying and monitoring. Pilot schemes have been launched to survey carbon stock and quantify carbon sinks in blue carbon ecosystems such as mangroves, salt marshes, and seagrass beds. Monitoring of sea-air carbon dioxide flux and greenhouse gas emissions reduction on oil and gas platforms is also under way.

China has published the Measures for the Administration of Voluntary Greenhouse Gas Emission Reduction Trading (Trial) and the Methodology of Greenhouse Gas Emissions Voluntary Reduction Project: Mangrove Vegetation Creation (CCER-14-002-V01), and supported marine carbon sink projects in joining the China Certified Emission Reduction (CCER) trading market. Innovative initiatives such as incentive carbon trading, carbon sink insurance, and carbon sink mortgages, have been piloted in multiple provincial-level administrative regions, including Shandong, Jiangsu, Zhejiang, Fujian, Guangxi, Guangdong, and Hainan.

**Encouraging the business management and development of marine ecosystem goods and services.** In 2021, China issued the Opinions on Establishing and Improving the Mechanism for Realizing the Values of Ecosystem Goods and Services and made comprehensive arrangements for its implementation. The Criteria for Crediting the Overall Values of Ecosystem Goods and Services (Trial) was published and came into effect alongside the Typical Cases for Realizing the Values of Ecosystem Goods and Services, providing the theoretical and technical underpinning for realizing the values of marine ecosystem goods and services.

Governments in coastal areas have actively sought innovation in their policies and mechanisms. In Dongtou District of Wenzhou City in Zhejiang Province, a creative model based on the government awarding funds and local budget funds was introduced to attract private capital to participate in the Blue Bay Restoration Project and the Ocean Garden Initiative. The China Oceanic Development Foundation established the Guangdong-Hong Kong-Macao Greater Bay Area’s first eco-environmental special fund, designed to support the construction of the marine industrial parks, eco-parks, and marine engineering centers in the area and to facilitate technological innovation and industrial development of marine ecosystem goods and services.

**Continuing to improve compensation for marine eco-environmental damage.** China attaches great importance to compensation for marine eco-environmental damage, and defined a clear framework for its implementation in the 1999 amendment to the Marine Environmental Protection Law. Subsequently, the country promulgated the Measures of National Claims for Marine Ecological Damages and the Regulations on Several Issues in the Adjudication of Disputes Concerning Claims for Marine Ecological and Resource Damages to provide further practical guidance, leading to improved results in this area. In 2023, another amendment was made to the Marine Environmental Protection Law to further improve this system.

4. Launching a nationwide green and low-carbon campaign

China has developed a variety of education and scientific outreach initiatives aimed at promoting marine culture. These programs are designed to strengthen public awareness regarding environmental and ecological preservation, advocating for simple, moderate, and healthy lifestyles that prioritize green living and low-carbon practices. They encourage people to voluntarily participate in China’s green development, fostering a sense of care, protection, and personal engagement with the sea among the public.

**Building public awareness of marine eco-environmental conservation.** China hosts yearly themed activities celebrating World Oceans Day (also China’s National Ocean Awareness Day), Earth Day, World Environment Day, and World Wetlands Day. More than 160 ocean awareness promotion centers have been established across the country to foster public interest in ocean conservation.

A number of celebrations centered around the sea have become significant exhibition platforms for China’s marine culture, including the Zhoushan Islands – China Ocean Culture Festival, the China (Xiangshan) Fishing Season Opening Festival, and renowned conferences and forums like the China Marine Economy Expo and the World Ocean Week in Xiamen. The National Maritime Museum of China, hailed as the “Forbidden City on the Sea”, has opened to the public, providing an important space for people to learn about oceanic civilization and marine resources, and to reshape their values towards the ocean.

Furthermore, the National Marine Knowledge Competition has been held for the past 14 years, attracting six million participants from the public and students from over a thousand universities and colleges. The result of these efforts has been a significant increase in public interest and understanding of the ocean, and in the public’s sense of duty, responsibility, and pride regarding the governance and utilization of the sea.

**Encouraging public engagement in marine eco-environmental conservation.** Eco-environmental awareness is championed throughout Chinese society, and every member of society is encouraged to spread environmental awareness and be an active practitioner. In 2019, the Blue Citizen concept was introduced, along with various projects and activities to encourage residents to play a role in preserving the beauty and cleanliness of the sea, fostering a generation of “blue citizens”. Since 2017 and for seven years in a row, China has hosted the National Beach Cleanup and the Beautiful Oceans activities – two unique events that look to unite the collective efforts of all people across the country as they care for and protect the sea.

In Xiamen City, Fujian Province, chiefs of Lake Yundang are selected from the public, as a way of soliciting public opinions and suggestions regarding marine eco-environmental protection. In Hainan Province, a “garbage bank” has been established to encourage tourists to actively engage in beach cleanups, fostering a positive atmosphere through various activities that involve everyone in the conservation efforts.

**Promoting a green lifestyle.** It is the responsibility of every individual to preserve the marine eco-environment. A number of initiatives have been introduced to encourage voluntary public action in maintaining the wellbeing of the oceans. These include practicing responsible tourism, refraining from purchasing endangered marine life products, avoiding disturbance to marine creatures, and not throwing plastic waste in the sea. Additionally, more and more people are reducing their consumption of plastic bottles, bags, and meal kits by opting for reusable alternatives, thereby decreasing plastic waste from the source. They are taking action to lead a green, low-carbon, and circular lifestyle.

VII. Carrying Out All-Round   
International Cooperation on Marine   
Eco-Environmental Protection

Marine issues are global issues, and protecting the marine eco-environment is a common concern for people all over the world. In 1972, the United Nations Conference on the Human Environment adopted the Declaration on the Human Environment, which included conservation of the marine environment in its 26 principles and initiated global action on marine environmental protection. In 1982, the Third United Nations Conference on the Law of the Sea adopted the United Nations Convention on the Law of the Sea (UNCLOS), opening a new chapter in global marine governance and providing comprehensive and systematic provisions for marine environmental protection.

The international community has steadily advanced global ocean protection by establishing a series of marine environmental protection agreements. Countries around the world are building consensus and working in synergy to address the risks and challenges facing the marine eco-environment, striving to make the oceans clean and beautiful.

China is committed to the vision of a maritime community of shared future, and conducts in-depth mutually beneficial cooperation with the international community through multiple channels and in various forms, contributing Chinese wisdom to global marine eco-environmental protection.

1. Actively fulfilling obligations and participating in global governance

To promote the wellbeing of humanity, China actively plays its role as a major country, and diligently fulfills its responsibilities and obligations under international maritime conventions through concrete action.

**Diligently fulfilling its responsibilities and obligations under international maritime conventions.** The marine eco-environment encompasses topics in a wide range of areas. China supports advancing global marine eco-environmental protection through a holistic approach, and actively promotes the implementation of UNCLOS and other international conventions concerning the sea.

In May 1996, China ratified and became a party to UNCLOS, opening a new chapter in the country’s participation in global maritime governance. In addition, China has demonstrated its determination and commitment to marine protection in broader and more detailed areas by joining more than 30 multilateral treaties related to oceans, including the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, and the Antarctic Treaty.

Under the framework of international conventions, China has established a policy system surrounding marine eco-environmental protection, resource conservation, and management of polar activities. It carries out voluntary fishing moratoriums on high seas and fulfills its environmental protection obligations, including performing environmental impact assessment for its Antarctic expeditions.

China has also participated in the UN regular assessment of the state of the global marine environment, and released regular progress reports on the implementation of the UN’s 2030 Agenda for Sustainable Development, national reports on the implementation of the Convention on Biological Diversity, and national communications on climate change, presenting to the international community China’s actions and progress in marine eco-environmental protection and resource conservation, and making tangible contributions by fulfilling its obligations under various conventions.

**Integrating into and promoting global ocean governance.** China actively participates in the establishment of global maritime governance mechanisms and promotes a more just and reasonable global maritime governance system. It works hard to integrate into multilateral governance, and actively participates in the affairs of the United Nations Environment Programme (UNEP), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization **(**UNESCO-IOC), the International Seabed Authority (ISA), and the International Maritime Organization (IMO).

China plays an active role in the Conference of the Parties to the UNCLOS, the Antarctic Treaty Consultative Meeting (ATCM), and other agendas. Since 2012, China has submitted more than 120 proposals, independently or jointly, to relevant polar international organizations, and over 700 proposals to the IMO and other international organizations, engaging itself extensively in the formulation of relevant rules and regulations for environmental protection and resource conservation.

It has advanced the formulation of ISA’s regulations on exploration and development, the negotiation of agreements and regulations on fisheries under the United Nations Food and Agriculture Organization (UNFAO), the negotiation of an internationally legally binding instrument on plastic pollution, and other multilateral processes. China was also heavily involved in the negotiation and implementation of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, and contributed significantly to the negotiations on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ) and its signing as a treaty, which took nearly 20 years to reach consensus. Overall, China has made an outstanding contribution to global ocean governance.

2. Expanding “circle of friends” for maritime cooperation

Addressing global marine eco-environmental issues remains a long-term and arduous task that requires extensive global participation and collaborative efforts. China upholds multilateralism, and has developed blue partnerships through an open and pragmatic approach. It works with the international community to build a sea of prosperity and beauty for all countries.

**Building extensive blue partnerships.** On a voluntary and cooperative basis, China has worked with other countries to establish a global blue partnership characterized by consultation and joint contribution. In 2017, China called for building a blue partnership at the first UN Ocean Conference, designed to promote international cooperation on “cherishing our ocean and protecting our blue home”. The proposal was then made formal with China announcing the Vision for Maritime Cooperation Under the Belt and Road Initiative.

In September 2021, “actively promoting the establishment of a blue partnership” was designated by the High-level Dialogue on Global Development as one of the specific measures taken by China under the framework of the Global Development Initiative (GDI). At the 2022 UN Ocean Conference, China released the Blue Partnership Principles and launched the Sustainable Blue Partnership Cooperation Network and the Blue Partnership Fund, for joint action in the protection and sustainable utilization of the sea and its resources.

Currently, China has signed intergovernmental and interdepartmental agreements on marine cooperation with more than 50 countries and international organizations participating in the Belt and Road Initiative, contributing significantly to cooperation on global marine eco-environmental protection.

**Expanding platforms and mechanisms for maritime cooperation.** China prioritizes marine eco-environmental protection as a key area of cooperation, taking the initiative to establish new platforms and mechanisms and build consensus among all parties. Leading cooperation with platform building as the foundation, China has taken a lead in establishing and operating the East Asia Marine Cooperation Platform and the China-ASEAN Maritime Cooperation Center. These platforms conduct practical cooperation with East Asian and ASEAN countries on marine scientific research, eco-environmental protection, and disaster prevention and mitigation.

It has built relevant mechanisms for international organizations in China, including the APEC Marine Sustainable Development Center and the United Nations Decade Collaborative Center on Ocean-Climate Nexus, coordinating global innovation and cooperation in the ocean and climate fields, facilitating the sharing and exchanges of beneficial experience in marine eco-environmental protection, and playing an important role in jointly protecting the marine ecosystems.

**Advocating and guiding bilateral and multilateral cooperation.** Championing the principle of planning together, building together and benefiting together, China has continued to expand areas of international cooperation, conducting dialogue and exchanges on multilateral platforms.

It has held the Thematic Forum on Maritime Cooperation of the Belt and Road Forum for International Cooperation, the World Coastal Forum, the Eco Forum Global Guiyang, and the China-ASEAN Environmental Cooperation Forum, advancing cooperation towards new progress in eco-environmental protection and restoration, disaster monitoring and early warning, and marine plastic pollution prevention and control.

China attaches great importance to mutually beneficial and win-win cooperation between countries, and has established long-term bilateral cooperation mechanisms with many countries in many fields. It actively provides technical support to other developing countries, and has established joint marine research centers, laboratories, and observation stations with Indonesia, Thailand, Malaysia, Cambodia, Sri Lanka, Pakistan, Nigeria, Mozambique, and Jamaica, playing a positive role in strengthening marine eco-environmental protection in other developing countries.

China works with other countries to carry out research on endangered marine species, joint environmental surveys in the Yellow Sea, coral reef monitoring and data collection, and prevention and control of marine litter and microplastic pollution. The results from these programs have injected more impetus to regional marine eco-environmental protection.

3. Expanding cooperation in deep-sea and polar scientific expedition

Protecting deep-sea and polar eco-environments is the common responsibility of humanity. As an important participant, vigorous promoter, and active practitioner in deep-sea and polar affairs, China takes a leading role in international deep-sea and polar exploration and research, working together with the international community to promote sustainable development of these regions.

**Jointly advancing deep-sea research and exploration.** China actively takes part in international seabed affairs, coordinates deep-sea surveys, and strengthens the protection of the deep-sea eco-environment. It has conducted more than 80 scientific research voyages in the deep sea, going on joint scientific expeditions with Russia, Japan, Nigeria, Seychelles, and Indonesia, and contributing to a better understanding of deep-sea ecosystems.

For more than 10 consecutive years since 2011, based on its studies in the field of earth science, China has submitted seabed naming proposals to the Sub-Committee on Undersea Feature Names (SCUFN), of which 261 have been approved, contributing to a clearer understanding of the deep-sea geography. Based on the results of its investigation of deep-sea biological resources, China has also set up a marine microorganism bank that leads the world in inventory and number of species, helping humans to expand their understanding of biological life processes in the deep sea.

**Jointly expanding understanding of polar regions.** China is committed to protecting the natural environment of the North and South Poles in accordance with international law, and actively participates in international cooperation to address environmental challenges and climate change for these regions. At the 40th Antarctic Treaty Consultative Meeting (ATCM), China took the lead in jointly proposing the Green Expedition Initiative with more than ten countries, and the initiative was ultimately passed as a resolution to open a new chapter of Antarctic expedition.

China has built five Antarctic research stations, and two Arctic research stations in Norway and Iceland, which serve as important platforms for several thousand scientists to carry out polar observation, biological monitoring, and glacier research. Additionally, it has organized 13 scientific expeditions in the Arctic Ocean and 40 in the Antarctic, while signing memorandums of understanding or joint statements with the United States, Russia, Australia, Iceland, and New Zealand and carrying out international cooperation with more than 10 countries.

It is a key participant in the Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAiC) – the largest Arctic scientific research program – and plays a leading role in advancing international cooperation on the Joint Arctic Scientific Middle-Ocean Ridge Insight Expedition (JASMInE). China works with other countries to undertake the tasks of the Antarctic RINGS (Ice Sheet Margin) Action Group under the Scientific Committee on Antarctic Research (SCAR), and has made positive contributions to a deeper understanding of polar regions on global marine ecosystems.

4. Providing extensive foreign assistance and training

Facing a deteriorating marine eco-environment, all countries are members of a community of shared future. China stands in solidarity with the international community and carries out cooperation with it. While pursuing its own development, it also brings more benefits to other countries and peoples, contributing its share to global marine eco-environmental protection.

**Providing extensive foreign assistance.** China has provided support and assistance to the best of its ability to other developing countries in addressing marine eco-environmental issues through various means. In 2012, it launched the Marine Scholarship of China program, which has enabled over 300 students from 45 countries, including Belt and Road partners, to obtain master’s or doctoral degrees in oceanography and other related fields, helping other developing countries to cultivate professionals in marine sciences and management. It has provided technical assistance in marine spatial planning, marine economic planning, and sea level rise assessment to Thailand, Cambodia, and Cape Verde, and has held workshops on ocean dumping management technology under the London Convention and its 1996 Protocol, to help grow an awareness of the sea and provide the technology for marine eco-environmental protection for African and Latin American nations.

**Actively carrying out foreign training.** In order to provide a platform for marine education, training, and public awareness in developing countries, China has established several education centers, including the China-ISA Joint Training and Research Center, the China Western Pacific Center of the International Ocean Institute (IOC), the IOC Regional Training and Research Center on Ocean Dynamics and Climate (ODC), and the Tianjin Regional Training Center of the Ocean Teacher Global Academy **(**OTGA).

As a positive contributor to improving the technical capabilities of scientific researchers in related fields in developing countries, it hosts various events in which participants share knowledge and practical experience on integrated coastal zone management, ocean governance, and marine eco-environmental protection, and provides training in this field for about 500 people every year.

Conclusion

Oceans constitute a blue home that ensures the survival of humanity. In the face of the global challenge to the marine eco-environment, humanity forms a community of shared future, and shares a common responsibility to protect the marine eco-environment and ensure its sustainable development.

Today, as China embarks on a new journey of rejuvenating the Chinese nation through Chinese modernization, the country’s maritime endeavors have entered an era of historic opportunities. Protecting the marine eco-environment has become an essential requirement and fundamental guarantee for building China into a strong maritime country and achieving harmony between humans and the sea.

On this new journey, China will continue to champion the new development philosophy, promote eco-environmental progress, and build a marine eco-environment underpinned by harmony between humans and the sea. Embracing the vision of a better world through cooperation and mutual benefit, China contributes to a global maritime community of shared future through concrete actions. It is ready to work with other countries to lay the foundation for a marine eco-civilization, pursue green development of the sea, and build a cleaner and more beautiful world where oceans serve as a permanent home for humans to live and thrive.

1. The “one belt” refers to a coastal ecological safety belt comprising shelter forests and coastlines. The “two corridors” refer to two ecological corridors serving crucial functions in maintaining biodiversity. One corridor is for migratory birds and coastal wetlands, while the other is for important coastal species. The “six areas” include the Yellow and Bohai seas, the Yangtze River Delta, the west coast of the Taiwan Strait, the Guangdong-Hong Kong-Macao Greater Bay Area, the Beibu Gulf, and Hainan Island, all of which play essential roles in the implementation of national strategies. The “multiple points” include mangroves, coral reefs, seagrass beds, salt marshes, oyster reefs, and other ecologically sensitive points with important ecological functions. – *Tr*. [↑](#footnote-ref-0)
2. The “1+12” coastal cities in the Circum-Bohai Sea Region are the one municipality of Tianjin and 12 cities at the prefectural level or above: Dalian, Yingkou, Panjin, Jinzhou, and Huludao of Liaoning Province, Qinhuangdao, Tangshan, and Cangzhou of Hebei Province, Binzhou, Dongying, Weifang, and Yantai of Shandong Province. – *Tr*. [↑](#footnote-ref-1)
3. A water-quality monitoring and sampling section is vertical to the water flow in a river or water channel. China designates state-monitored sections/points for the assessment, examination, and ranking of surface water quality. [↑](#footnote-ref-2)
4. The Five-Aspect Water Governance comprises sewage treatment, flood control, flood drainage, water supply, and water conservation. – *Tr*. [↑](#footnote-ref-3)