



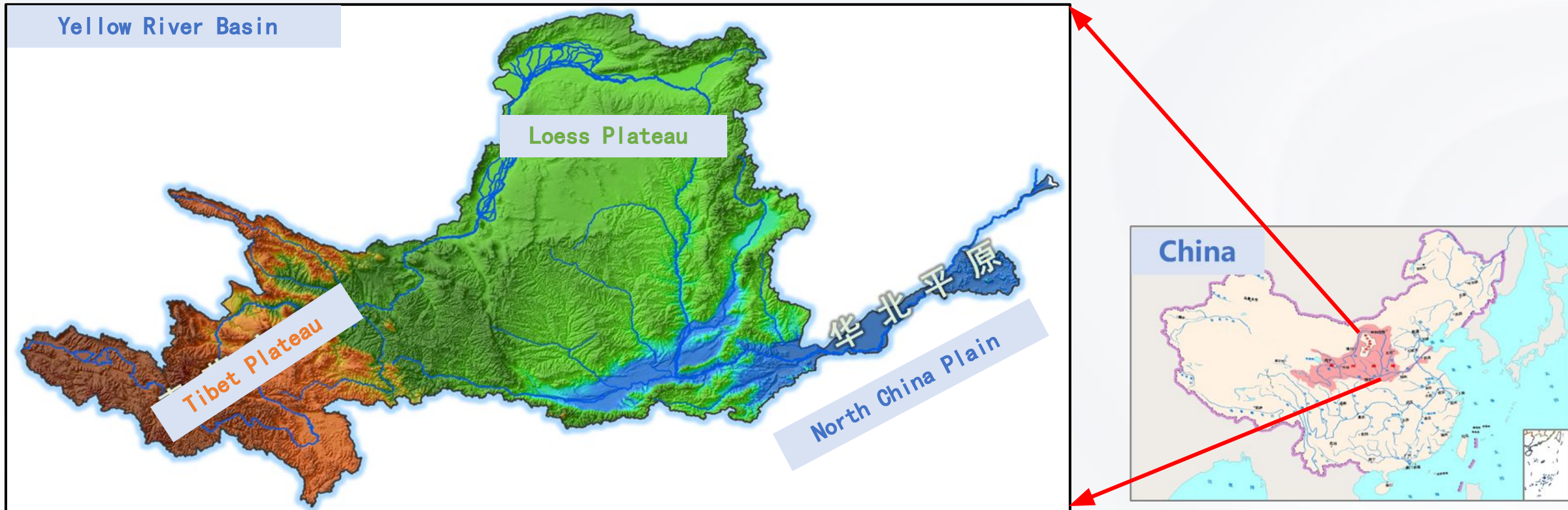
水利部黄河水利委员会 黄河水利科学研究院

Yellow River Conservancy Commission, Yellow River Institute of Hydraulic Research

1. Introduction

Yellow River

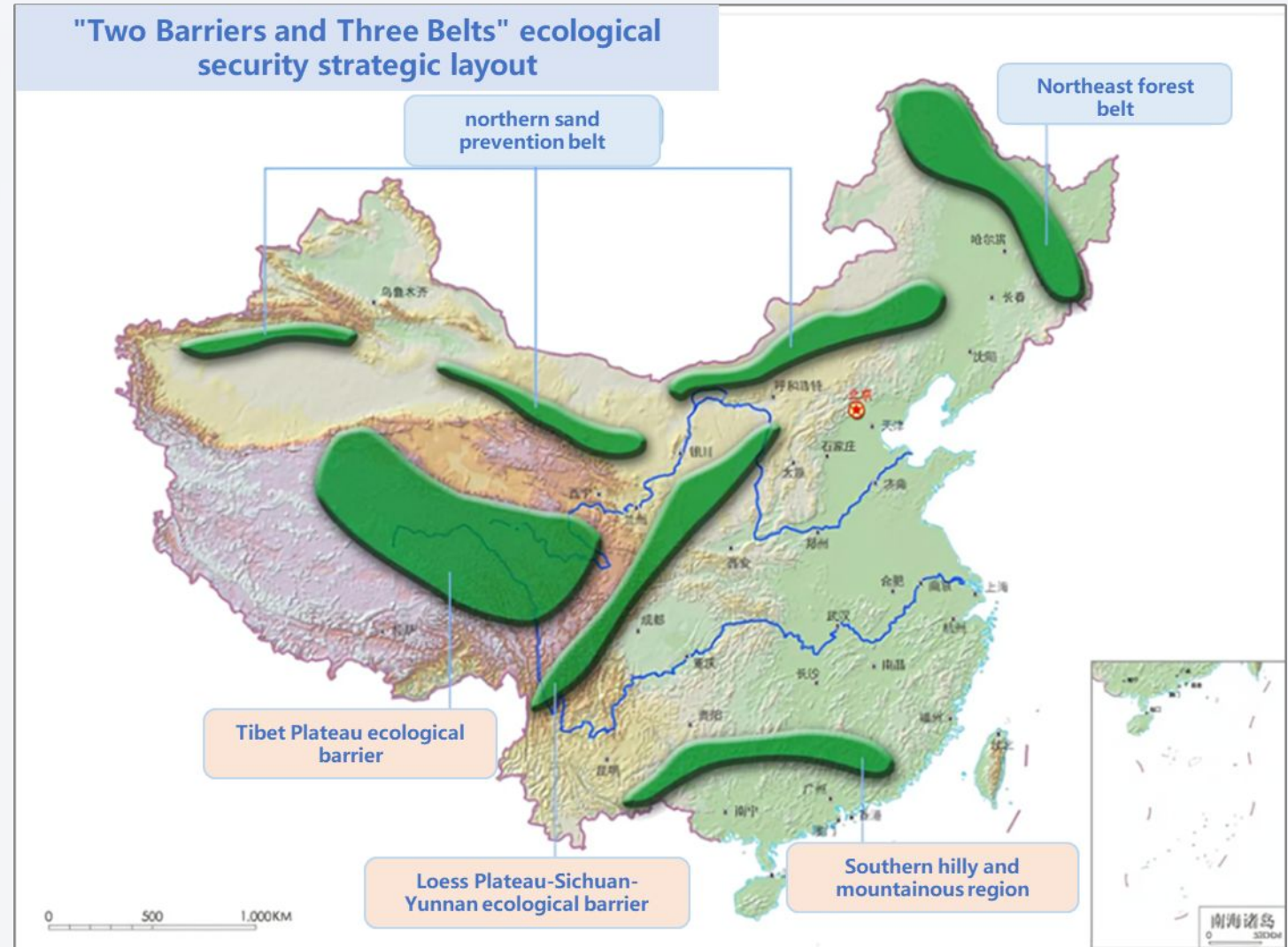
- The second longest river in China with a total length of 5,464 km and 795,000 km²
- The mother river of the Chinese nation.
- It spans three major terraces: the Tibet Plateau, the Loess Plateau, and the North China Plain.
- The upper and middle reaches are dominated by mountainous terrain, while the lower reaches are mainly plains and hills.



1. Introduction

Yellow River Basin

- An important ecological barrier in China.
- In China's "Two Barriers and Three Belts" ecological security strategic layout, the Yellow River Basin is a highly significant region.
- Among the 63 key ecological function zones in China, 12 are related to the Yellow River basin.

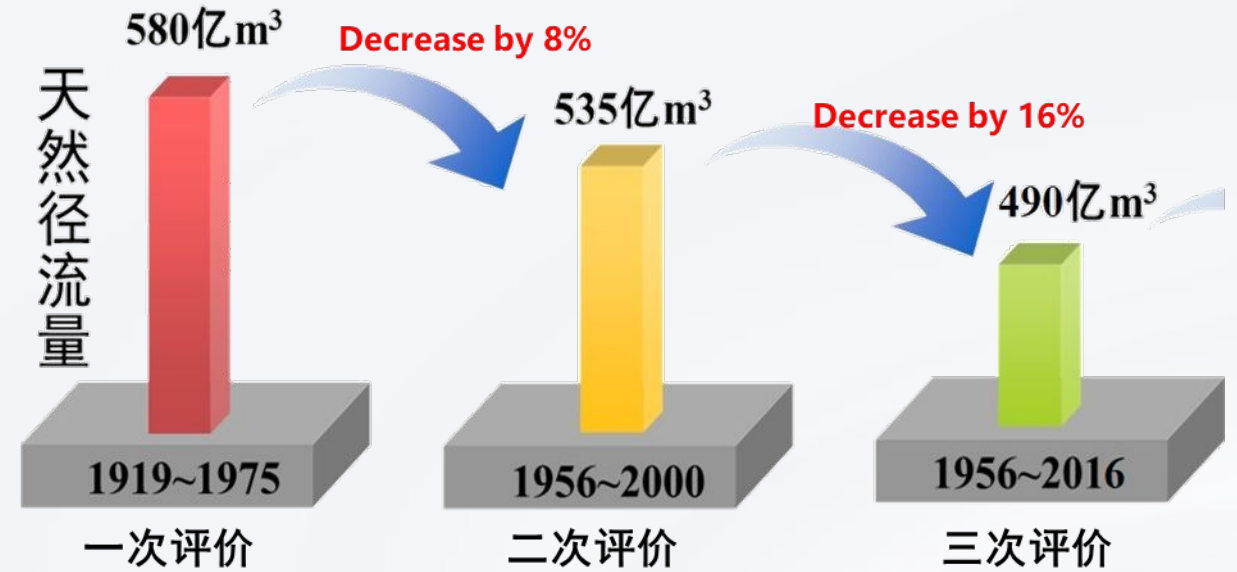


With climate change and economic development, ecological protection in the Yellow River Basin is facing many new challenges.

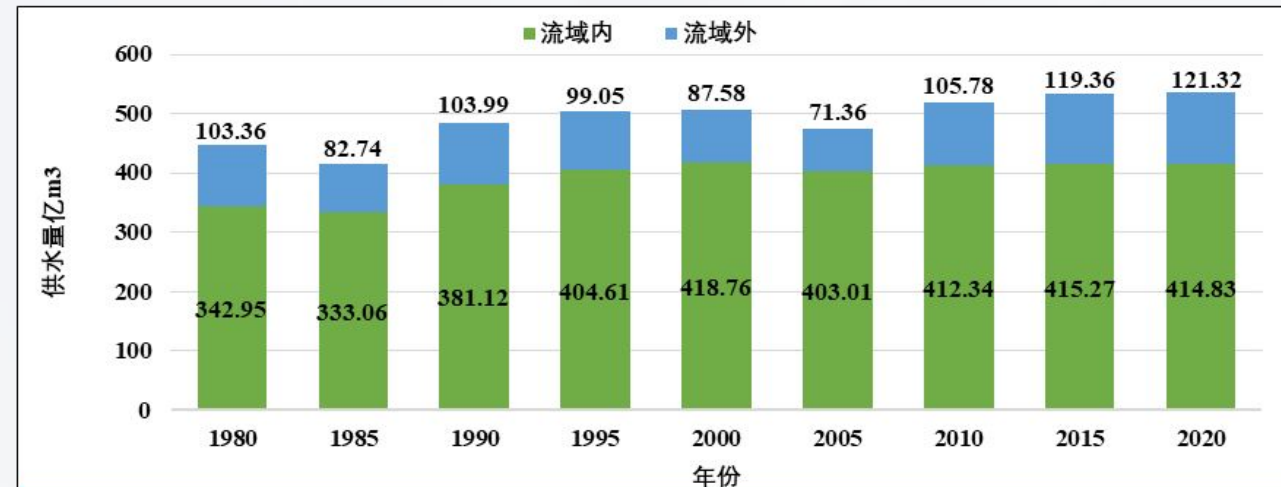
2. Challenges

(1) The situation of water resource security is grim

- The Yellow River Basin is mainly located in the arid and semi-arid regions, with an average annual precipitation of 446 mm.
- The total average annual water resources amount has decreased from 58.0 billion m^3 (1919–1975 series) to 49.0 billion m^3 (1956–2016 series).
- The average per capita water availability in the river basin is only 27% of that in China.
- The contradiction between supply and demand of water resources in the Yellow



The natural runoff of the Yellow River continues to decrease



Continuous growth of water demand inside and outside

2. Challenges

(2) The ecological environment is fragile

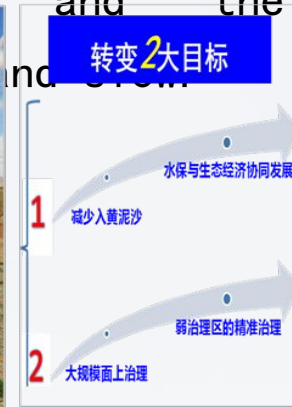
- The ecological background of the Yellow River Basin is poor, the ecological problems faced by the upstream, midstream, and downstream are significantly different yet interconnected.
- Under the dual stress of climate change and human activities, the ecosystem is highly susceptible to degradation and the

(3) The pollution of the main stream and tributaries is severe

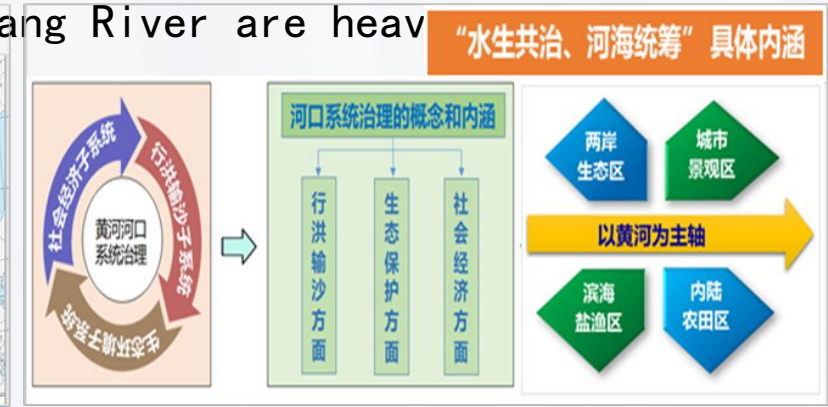
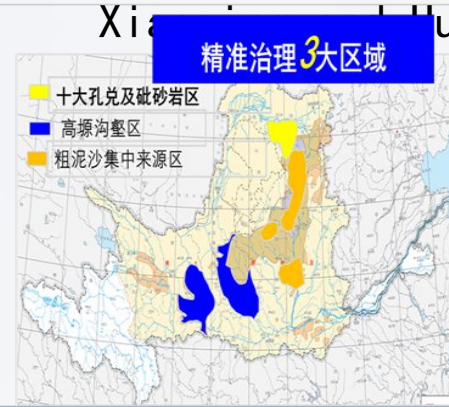
- With industrial development and the expansion of urban areas, the water quality of the main stream and important tributaries had deteriorated.
- The water quality near major cities such as Lanzhou, Xining, Taiyuan, Xi'an and Luoyang is poor, and some sections of important tributaries of the Yellow River such as the Fen, Wei, Yiluo, and the Xihe River and Huang River are heavily



Ecological degradation in the source area



Water and soil loss on the Loess Plateau

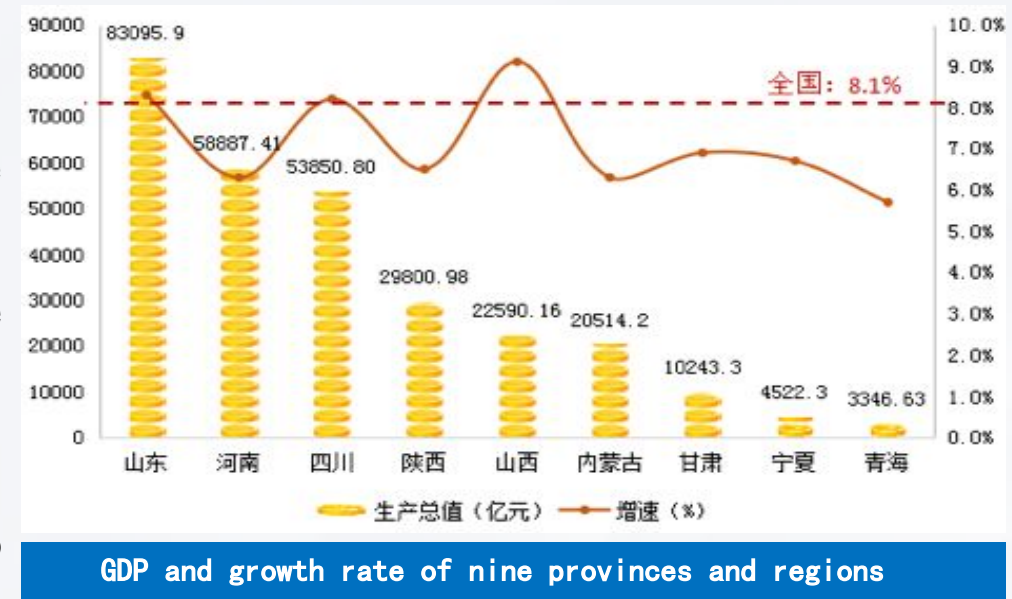


The quality of ecosystems in the downstream river course and estuary areas need to be improved

2. Challenges

(4) The development of the Yellow River Basin is unbalanced

- Affected by the severe shortage of water resources, the overall economic development level of the nine provinces (regions) along the Yellow River is not high and the unbalance is significant.
- In particular, provinces such as Gansu, Ningxia, and Qinghai have a significant economic disparity compared to other provinces.



The goals of ecological protection in the Yellow River Basin

- In 2019, the "ecological protection and high-quality development of the Yellow River basin" was elevated to a major national strategy.
- In 2021, the "Outline of the Yellow River Basin's Ecological Protection and High-quality Development Plan" was issued, outlining specific goals by 2030 for the ecological protection of the Yellow River basin.

3. Practices

(1) Strengthen the rigid constraints on water resources, continuously enhance the unified dispatching and management of water resources

- The unified water resource dispatching area has been extended from part of the main stream to the whole stream and important tributaries, ensure the flows continuously for 25 years.
- Supplied more than 125.1 billion m³ of water in the past five years, fully guaranteeing the water demand along the Yellow River.

(2) Ensure ecological water for rivers and lakes, carry out ecological water replenishment projects

- Strengthen the supervision of ecological flows, the ecological flow of the main stream and 20 important sections of 9 key tributaries met the standards.
- Since 2019, a total of 10.5 billion m³ of water has been replenished to the upstream desert areas, Wuliangsu Hai Lake, the over-exploited groundwater areas in North China, and the wetlands in the Yellow River Delta.



3. Practices

(3) Improve the capacity of water conservation in the source area of the YR, strengthen the treatment of desert areas in the upper reaches

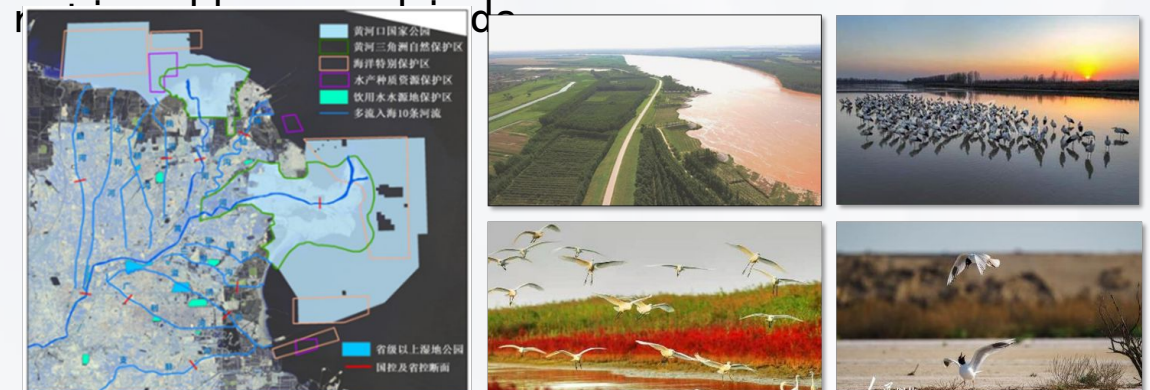
- In the source area, through returning grazing land to grassland and wetland restoration, to improve the water conservation capacity.
- In the "Jiziwan" area, through constructing windbreak and sand-fixation projects, desert green edge projects, achieving the



Implementation of ecological restoration and windbreak and sand-fixation technologies

(4) Promote wetland protection and ecological governance in the lower reaches and Delta

- An ecological landscape line of 1,371 km has been built relying on the lower Yellow River dikes.
- The first national park with integrated land and sea management has been established in the Delta.
- The number of bird species in the Yellow River Estuary has increased from 187 in 1992 to 371, including 25 species of nationally first-class protected birds, 65 species of nationally second-class protected birds, and 90 species of



With the implementation of the construction of Yellow River Estuary National Park, the number of birds has increased

3. Practices

(5) Strengthen water and soil conservation

- A total of 38,000 km² of soil erosion area have been controlled;
- 3.08 million ha sloping land comprehensive improved;
- 2,627 silt dams newly built.
- Changed from "yellow" to "green", and the water and soil conservation rate increased from 42% in 1990 to 68% in 2023.

(6) Strengthen the control of waste water outlets

- Carry out pollution prevention and control continuously, and initially curb the agricultural non-point source pollution.
- Deepen the special action for the investigation and remediation of waste water and industrial polluted water outlets into rivers.
- Carry out routine and emergency monitoring of water quality at various sections.
- Shandong and Henan provinces have established an ecological compensation mechanism based on water quality.
- The water quality of the main stream of the Yellow River reached Class II in 2022 and 2023.



Terraces



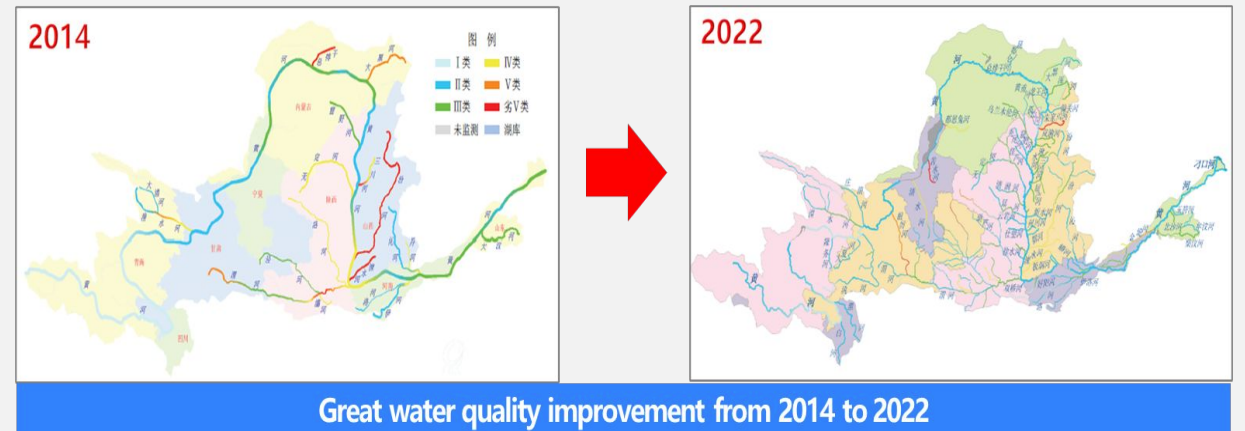
Water and soil conservation forest



Silt dam



Small watershed comprehensive treatment projects



The ecological protection of the Yellow River basin still faces many challenges. We sincerely hope that all experts present here will pay attention to the Yellow River, and give us suggestions to help us do a good job in ecological protection of the Yellow River Basin.

Thanks!



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