

Analysis and evaluation of spatial carrying capacity of river-lake water shoreline driven by spatial planning and river(lake) chief system.

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Objectives

By analyzing the spatial relationship between 'three lines and one list' in spatial planning and water shoreline, as well as the requirements of river chief system on the spatial control of river and lake shoreline, this paper puts forward the rational development and utilization of shoreline resources, handles the relationship between protection and utilization, and ensures the healthy development of rivers.

Methods

Based on the delimitation of the water shoreline space of rivers, lakes and reservoirs, this study constructs the analysis and evaluation model of the water shoreline space carrying capacity by analyzing the natural, social and ecological attributes of the water shoreline space, coupled with social and economic development needs, ecological environmental constraints, flood control and water supply security, etc.

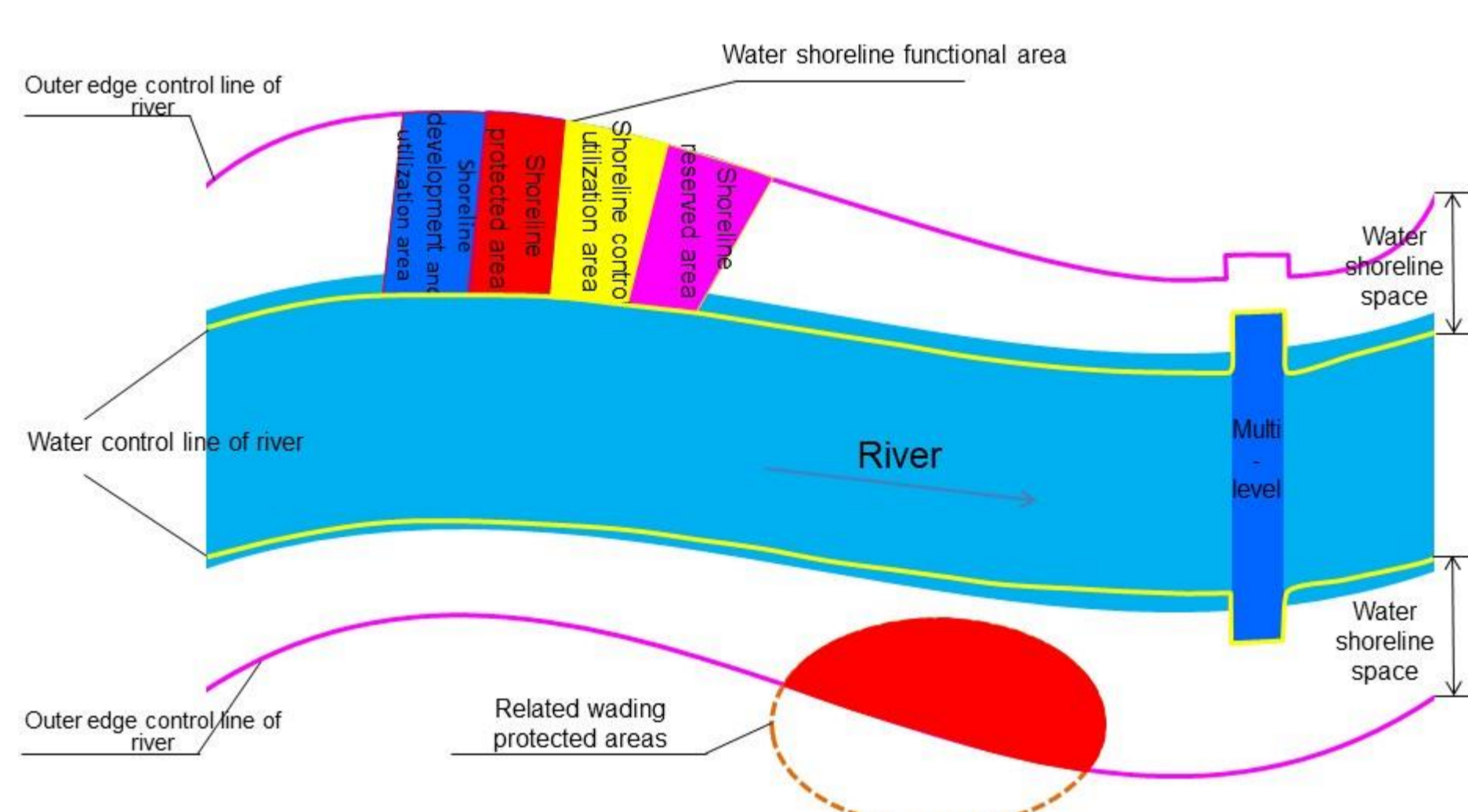


Figure 1 Water shoreline space diagram

Results

The current situation of the water shoreline space carrying capacity is quantitatively evaluated. Based on the analysis and evaluation results of the carrying capacity, the development and utilization mode of the water shoreline space is proposed, such as the development and utilization mode based on the positive list, the development and utilization mode based on the negative list, the development and utilization mode based on the resource and environmental constraints, the development and utilization mode based on the development needs, etc., and the development and utilization mode is concreted with relevant examples.

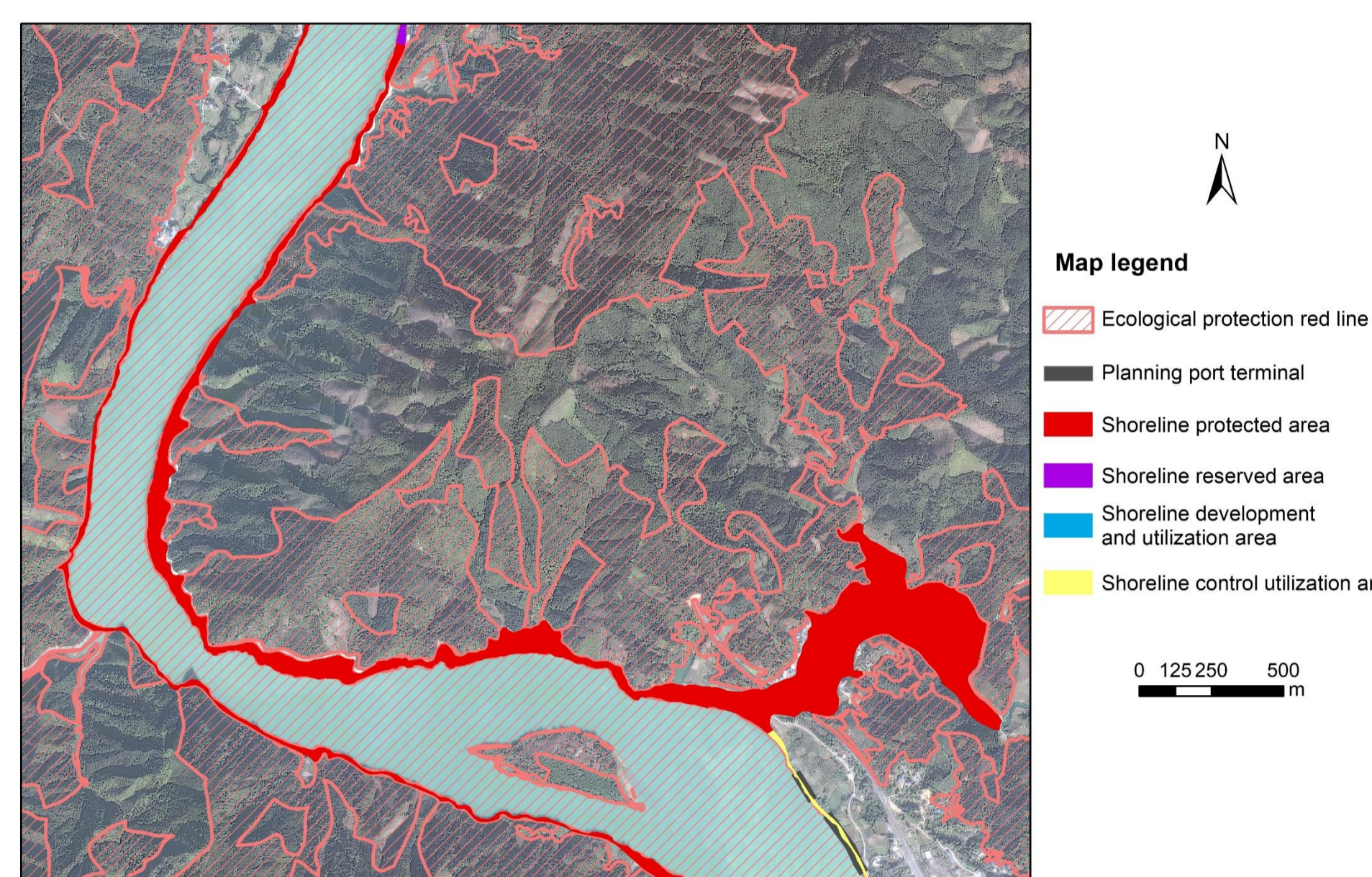


Figure2-1 Schematic diagram of development and utilization mode based on the positive list

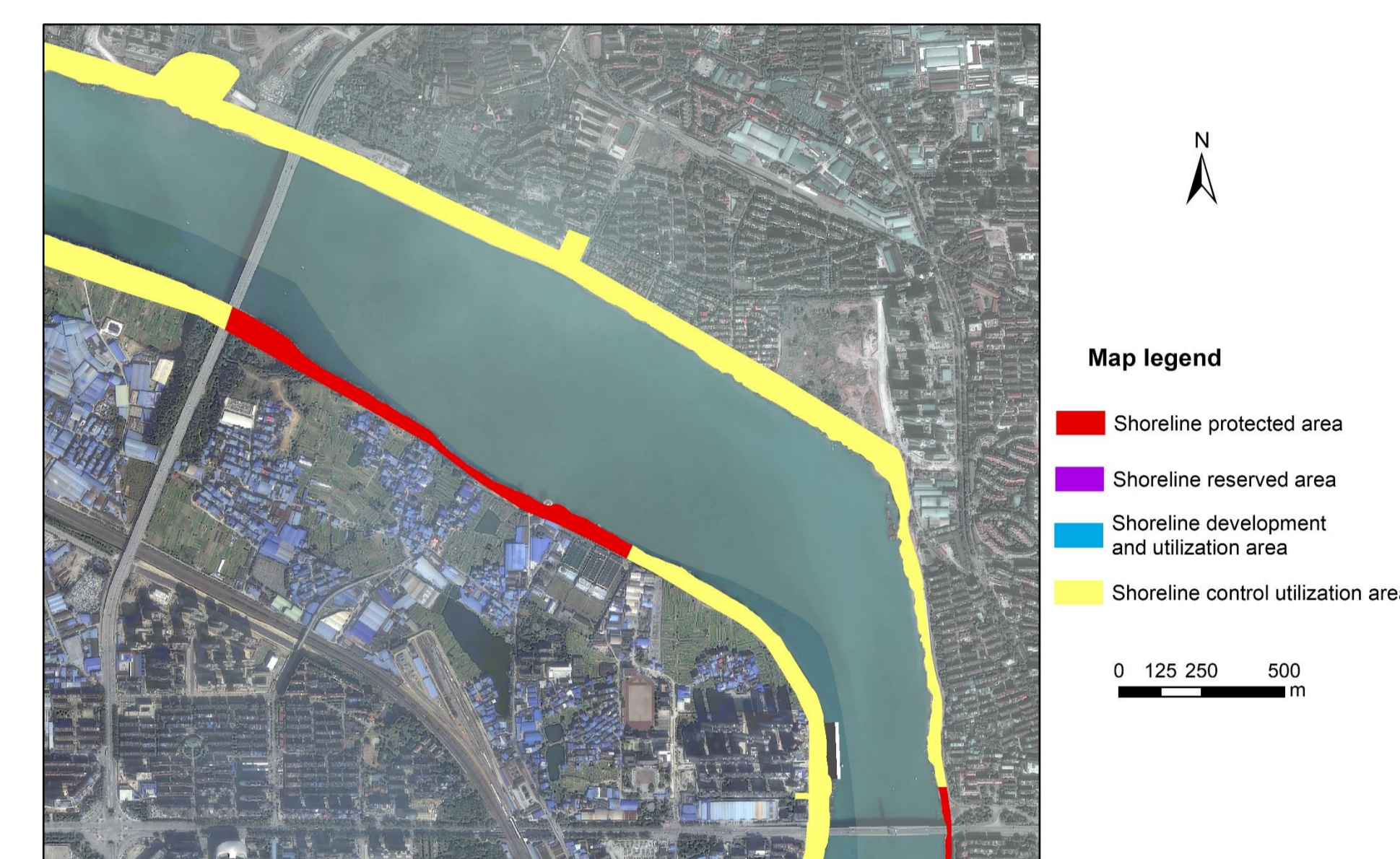


Figure2-2 Schematic diagram of development and utilization mode based on the negative list

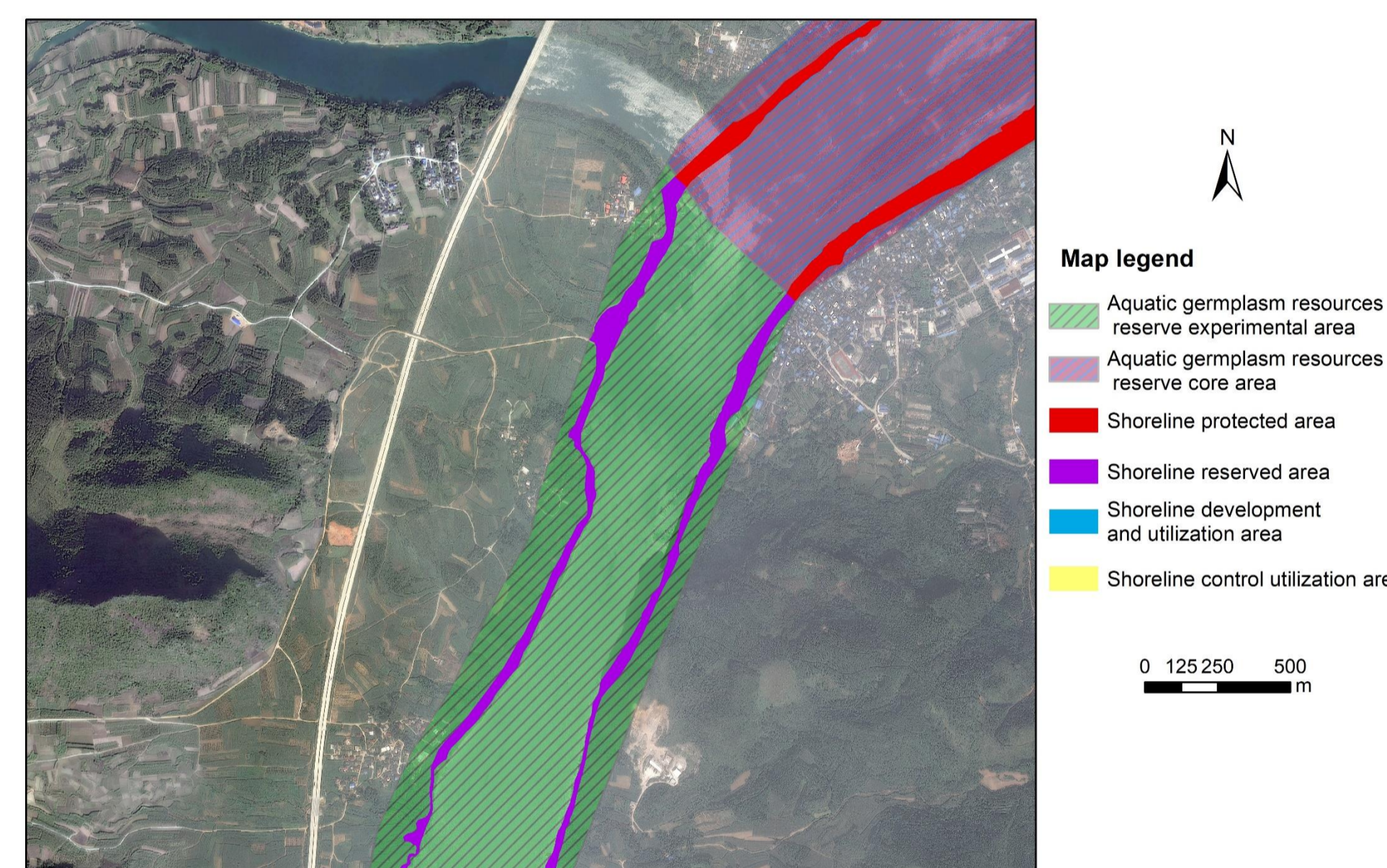


Figure2-3 Schematic diagram of development and utilization mode based on the resource and environmental constraints

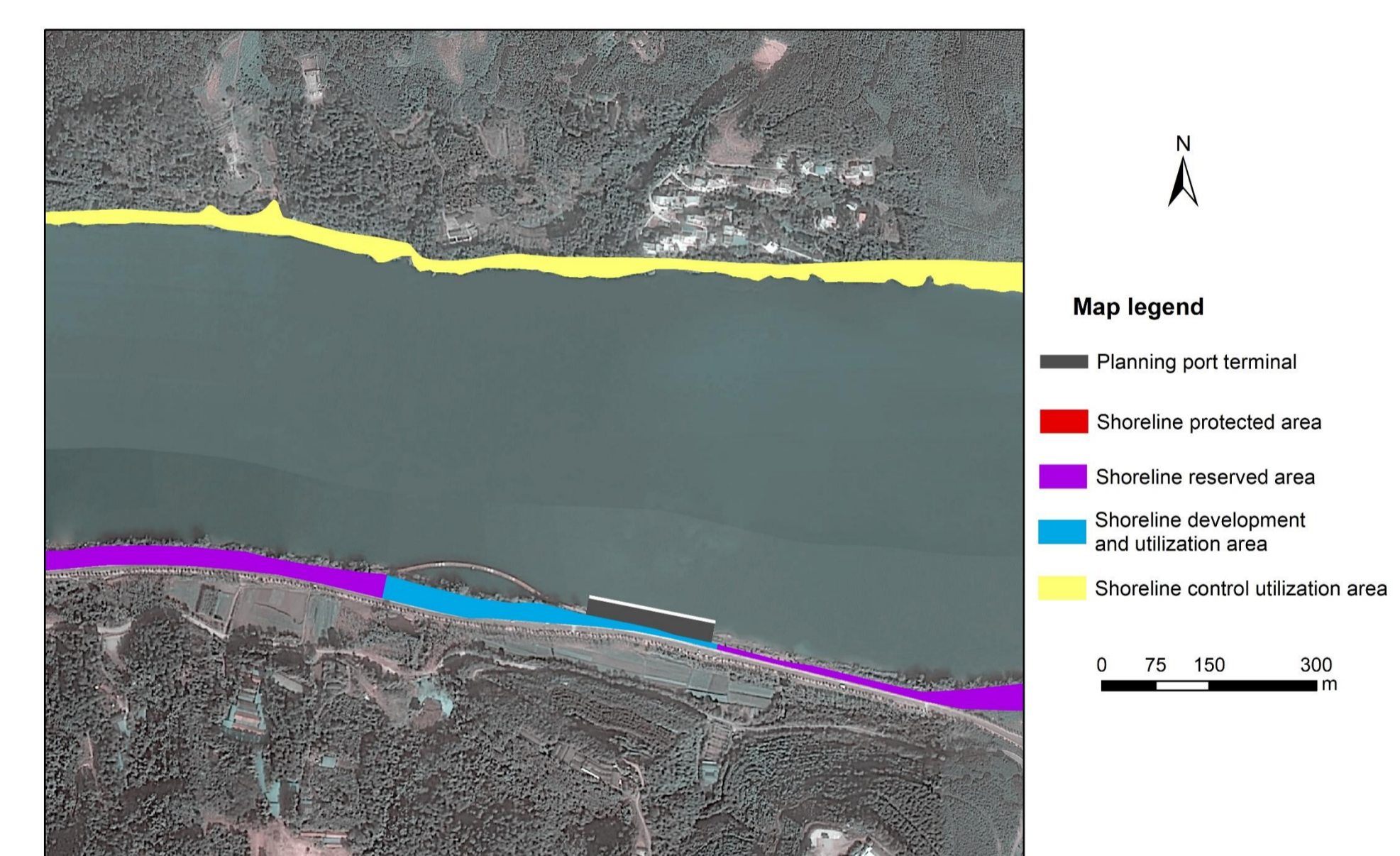


Figure2-4 Schematic diagram of development and utilization mode based on the development needs

Conclusions

"Opinion on Comprehensively Promoting the River Chief System" and Strengthening the management and protection of the water shoreline of rivers, lakes and reservoirs is one of the six major tasks of the river head system. The scientific and rational protection and utilization of the water shoreline space is an important practice to thoroughly implement the idea of ecological civilization and maintain national water security, and an important starting point to promote the transformation of the river head system from "famous" to "practical". It is also important for ensuring flood control, water supply, water environment and ecological security, It is of great significance to promote the sustainable development of economy and society and the construction of ecological civilization.