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Technical guidelines for river ecological security assessment

江河生态安全评估技术指南

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Foreword

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Technical Guidelines for River Ecological Security Assessment

1 Scope

GB/T 43474-2023 sets out how to assess the ecological security of a river. It asks a different question from ecological health: health describes the present condition of a system, security asks whether that condition can be maintained against the pressures on it - abstraction, damming, channel modification, pollution loading and the changes in flow that climate brings. A river can be in good condition and insecure, because the margin between what it receives and what is taken from it has narrowed to nothing, and the failure when it comes is not gradual. Rivers make this harder than lakes: they are linear systems where an upstream decision determines a downstream outcome, and the assessment has to follow the whole course rather than sample a place. This document specifies the assessment principles and the assessment workflow for river ecological security. It applies to inland rivers, and excludes lakes and reservoirs, which are assessed separately. Under ICS 13.020.10 and CCS Z04, it is written for water resources and environmental authorities, for river basin management commissions, and for the consultancies and research institutes producing the assessments that inform abstraction and development decisions.

This document stipulates the assessment principles and assessment workflow for river ecological security: This document is applicable to the assessment of the ecological security status of inland rivers (excluding lakes and reservoirs): The relevant assessment work of local governments can refer to implement:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

The following terms and definitions apply to this document: 3:

1 Maintain the integrity of river ecosystems under the influence of multiple factors such as climate change and human activities, and stably provide ecological services and immunity to humans: Based on the state of ecological catastrophe, it is carried out through river ecological environment pressure, river ecosystem health, river ecological service functions, and river ecological risks: representation: 3:2 river ecological environment stress
rivereco-environmentstress Social and economic activities carried out by human beings in order to survive, develop and improve living standards can lead to a decline in the quality of the ecological environment of rivers: 3:

3 River ecosystems are in a stable and sustainable state, with the resistance and resilience to maintain their structural functions, self-regulation, and respond to stress: ability: 3:

4 The natural environmental conditions and effects provided by river ecosystems meet and maintain sustainable economic and social development: 3:

5 Risks to river ecosystems and their components, which can lead to damage to the structure and function of river ecosystems:

4 Evaluation Principles

1 Systematic Treat the river ecosystem as an organic whole of the natural-social-economic composite ecosystem, and systematically consider the impact on river ecosystems during the assessment process: elements of ecological security: