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**Technical guidelines for evaluation of the aquatic ecological
health**

水生态健康评价技术指南

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Foreword

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Xiaodong, Fang Fei, Wang Zichao, Liu Fufeng, Wang Pengju, Chen Wenlong, Yin Chengqi, Hou Kesuo, Ren Xiaozhou, Chen Yan, Huang Jin, Wu Shengchun, Wei Jun, Feng Xiandao, Guo Yali, Fang Ning, Qi Yongzhi, Ren Yunchu, Xu Xiuping: Technical Guidelines for Aquatic Ecological Health Assessment

1 Scope

GB/T 43476-2023 sets out how to judge whether a freshwater ecosystem is healthy. Water quality monitoring answers a narrower question than it appears to: it measures the chemistry at the moment the sample was taken, and a river can meet every chemical limit while its fish, invertebrates and plants tell a different story - because habitat has been lost, flow has been altered, or a pollution event happened between sampling dates and left its mark on the community rather than in the water. Ecological assessment reads the biology, which integrates conditions over time and cannot be fixed by a good sampling day. What it needs is a defined indicator system, otherwise each assessment picks its own measures and no two are comparable. This document specifies the evaluation principles, the work process, the evaluation objects, the indicator system and the evaluation methods for aquatic ecological health assessment. It applies to the assessment of the health status of freshwater ecosystems. Under ICS 13.020.10 and CCS Z04, it is written for environmental monitoring stations and water authorities, for the river and lake restoration programmes that have to demonstrate results, and for the consultancies producing ecological assessments.

This document stipulates the evaluation principles, work processes, evaluation objects and indicator systems and evaluation methods for aquatic ecological health evaluation: This document is applicable to the health status assessment of freshwater ecosystems such as rivers (excluding estuaries), lakes, and reservoirs:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB 3838-2002 Surface water environmental quality standards

GB 15618-2018 Soil Environmental Quality Agricultural Land Soil Pollution Risk Management and Control Standards (Trial)

3 Terms and definitions

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

1 The aquatic ecosystem is in a stable and sustainable state, with the ability to maintain its structural function, self-regulation, and the resistance and resilience to cope with stress: ability: 3:2 A numerical value representing the health of aquatic ecology formed by the weighted summation of individual assignments of physical, chemical and biological indicators of the evaluation object:

4 Evaluation Principles

- 1 Systematic The selection of evaluation indicators should reflect the health status of the aquatic ecosystem from physical, chemical, and biological dimensions: 4:
- 2 Scientificity Evaluation indicators should objectively and truly reflect the health of water ecology, with clear indicator meanings and standardized statistical and calculation methods: 4:
- 3 Operability Indicators should be selected based on indicators within the existing monitoring system or indicators that can be obtained using reasonable technical means, and the calculation method is simple: Easy to do:

5 Workflow

The work flow of water ecological health assessment includes determining the assessment objects, clarifying the assessment indicator system, calculating and assigning assessment indicator values, calculating water