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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 39792.2-2020

**Technical Guidelines for Identification and Assessment of
Eco-environmental Damage Environmental Elements - Part 2:
Surface Water and Sediments**

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1 Scope of application

This standard specifies the content, working procedures, methods and technical requirements of the assessment and evaluation of ecological environmental damage involving surface water and sediments.

This standard applies to the identification and assessment of environmental damage involving surface water and sediments caused by environmental pollution or ecological damage.

This standard is not applicable to the identification and assessment of ecological environmental damage involving surface water and sediments caused by nuclear and radiation.

2 Normative references

This standard refers to the following documents or their clauses. For dated reference documents, only the dated version applies to this standard.

For undated references, the latest version (including all amendments) applies to this standard.

GB 3838 Environmental Quality Standard for Surface Water

GB 5084 Farmland Irrigation Water Quality Standard

GB 8978 Integrated Wastewater Discharge Standard

GB 11607 Fishery Water Quality Standard

GB 13690 General Rules for Classification and Hazardous Publicity of Chemicals

GB 50286 Code for Design of Embankment Engineering

GB 50707 River Regulation Design Code

GB/T 14551 Determination of biological quality of BHC and DDT by gas chromatography

GB/T 21678 Calculation method of economic loss in fishery pollution accident

GB/T 21814 Test method for industrial wastewater, fish acute toxicity test

GB/T 22234 GHS-based chemical label specification

GB/T 39791.1 General Outline and Key Links of Technical Guidelines for Ecological and Environmental Damage Appraisal Assessment Part 1.General Outline

GB/T 39791.2 General outline and key links of technical guidelines for ecological and environmental damage assessment and assessment Part 2.Damage investigation

GB/T 39792.1 Technical Guidelines for Assessment and Assessment of Ecological Environmental Damage Environmental Elements Part 1.Soil and Groundwater

GB/T 39793.2 Ecological Environment Damage Appraisal and Assessment Technical Guide

Basic Methods Part 2.Virtual Treatment Cost of Surface Water Pollution HJ 2.3 Technical

Guidelines for Environmental Impact Assessment Surface Water Environment HJ 91.1

Technical Specification for Wastewater Monitoring HJ 194 Technical specification for manual monitoring of ambient air quality HJ 493 Technical Regulations for Storage and

Management of Water Quality Sampling Samples HJ 494 Technical Guide for Water Quality

Sampling HJ 495 Technical Regulations for Water Quality Sampling Scheme Design HJ 589

Technical Specification for Emergency Monitoring of Environmental Emergency HJ 630

Technical Guidelines for Environmental Monitoring Quality Management HJ 710.4

Biodiversity Observation Technical Guidelines for Birds HJ 710.6 Technical Guidelines for

Biodiversity Observation Amphibians HJ 710.7 Technical Guidelines for Biodiversity

Observation, Inland Water Fish HJ 710.8 Biodiversity Observation Technical Guidelines for

Freshwater Benthic Macroinvertebrates HJ 710.12 Technical Guidelines for Biodiversity

Observation, Aquatic Vascular Plants HJ 831 Technical Guidelines for the Establishment of

Water Quality Standards for Freshwater Aquatic Organisms HJ 837 Technical Guidelines for

the Establishment of Human Health Water Quality Benchmarks HJ 838 Technical Guidelines for the Establishment of Lake Nutrient Standards HJ/T 91 Technical specification for surface water and sewage monitoring HJ/T 164 Technical Specification for Groundwater Environmental Monitoring HJ/T 166 Technical Specification for Soil Environmental Monitoring HY/T 078 Marine biological quality monitoring technical regulations SC/T 9401 Technical Regulations for Proliferation and Release of Aquatic Organisms SC/T 9402 Technical Specification for Freshwater Plankton Survey SL 386 Slope design code for hydraulic engineering DB43/T 432 Technical Specification for Freshwater Biological Resources Investigation Detailed Rules for the Verification of Direct Economic Losses in the Emergency Response Stage of Emergent Ecological Environmental Incidents (Huan Emergency [2020] No. 28)

Recommended methods for environmental damage assessment in the emergency response phase of environmental emergencies (Huanban [2014] No. 118)

Investigation method for polluted dead fish (fresh water) (Nongyu Han [1996] No. 62)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Surface water There are various forms of water bodies on the land surface, including various rivers (including canals, channels), lakes and reservoirs.

The current state of water management also includes freshwater estuaries.

3.2 Sediment Any substance that can be carried by the surface water body and eventually settle at the bottom of the water body to form a sediment-like substance. Usually clay, sand, The mixture of organic matter and various minerals is deposited on the bottom of the water body after a long time of physical, chemical, biological and other effects and water body transmission.

3.3 Water function zone In order to meet the needs of rational development, utilization, conservation and protection of water resources, according to the natural conditions of the water source and the current development and utilization Comprehensive planning, water resources protection and economic and social development requirements, according to its leading functions to delineate the scope and implement the corresponding water environment quality standards.

area.

3.4 Surface water environmental incidents Refers to the entry of pollutants into the water environment due to human activities or various emergencies, or due to illegal fishing, illegal sand mining, or illegal projects Ecological destruction such as construction, occupation, reclamation, and species invasion have caused the environmental quality of surface water and sediments to decline, and the water ecological service function is greatly weakened.

To the event of loss. According to the different causes of the event, it is divided into water environment pollution events and water ecological damage events.

3.5 Surface water environmental damage Environmental factors such as surface water, sediments, and biological factors such as aquatic organisms are adversely changed due to environmental pollution and ecological destruction, and The degradation of water ecological functions and the reduction of services constituted by the aforementioned elements.

4 Working procedures

With reference to GB/T 39791.1, the work procedures for the identification and assessment of surface water ecological environmental damage include.

- a) Work plan formulation. Grasp the basic situation and main characteristics of surface water and sediment ecological environment damage, and determine the ecological environment damage The content, scope and methods of the appraisal and evaluation of damages, and the preparation of appraisal and evaluation work plans.
- b) Damage investigation and confirmation. Carry out surveys on the environmental conditions of surface water and sediments and water ecological service functions, and carry out hydrological and landform surveys when necessary Investigate, determine the environmental quality of surface water and sediments and the baseline of water ecological service functions, and determine the ecological environment of surface water and sediments Whether it was damaged, determine the type of damage.
- c) Causality analysis. Analyze environmental pollution or ecological damage and surface water and sediment environment, aquatic organisms, and aquatic ecosystems Whether there is a causal relationship between the damage to the ecosystem and aquatic ecosystem services, homology analysis, exposure assessment, etc. can be used as needed Analytical method.
- d) Physical quantification of surface water ecological environmental damage. Screen and determine the assessment indicators of surface water ecological environment damage, compare the assessment indicators Status and baseline, determine the environmental damage of surface water such as pollutant concentration, biomass, biodiversity, water ecological service function, etc.

Calculate the physical amount of surface water ecological environment damage.

- e) Determination of the restoration plan for surface water ecological environment damage. Analyze the feasibility of restoring the damaged surface water ecological environment, based on the principle of equivalence, Select surface water, sediment environmental quality or key species of aquatic ecology as restoration targets, formulate basic restoration plans, and calculate During the period of damage to the ecological environment of surface water and sediment, formulate a compensatory restoration plan, and screen and determine the