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

GB/T 39791.1-2020

**Technical guidelines for identification and assessment of
environmental damage - General principles and key
components - Part 1: General principles**

生态环境损害鉴定评估技术指南 总纲和关键环节 第1部分：总纲

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1 Scope of application

GB/T 39791.1-2020 is Part 1 of the Chinese technical guidelines for identifying and assessing ecological and environmental damage, and sets the general principles. China created a legal right of action for ecological damage, under which the state can sue a polluter for the harm done to the environment itself rather than only for the harm to people and property, and the whole regime depends on a defensible method for saying that damage occurred, that this defendant caused it, how much of it there was, and what it costs to put right. The standard sets the general provisions, the determination that ecological damage has occurred, the analysis of causation, the physical quantification of the damage, the quantification of its value and the evaluation of restoration, with informative annexes on the compilation of the assessment report, on equivalency analysis, on comparing and choosing restoration plans, and on the common environmental valuation methods. It excludes damage from nuclear and radiological causes and took effect on 1 January 2021.

This standard stipulates the general principles, procedures, content and methods of ecological environmental damage assessment. This standard is applicable to the identification and assessment of environmental damage caused by environmental pollution or ecological destruction. This standard does not apply to the identification and assessment of ecological and environmental damage 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. Notice of the Ministry of Justice on Issuing the Format of Judicial Authentication Documents (Sifatong [2016] No. 112)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Environmental damage Environmental air, surface water, sediments, soil, groundwater, sea water and other environmental elements and plants caused by environmental pollution and ecological destruction Unfavorable changes in biological elements such as animals and microorganisms, as well as the degradation and service reduction of the ecosystem composed of these elements.

3.2 Ecological functions In the process of material circulation and energy conversion that sustain life, the ecosystem provides various benefits to humans and organisms, usually including supply Service, adjustment service, cultural service and support function.

3.3 Survey area In order to determine the type, scope and extent of ecological environmental damage, the areas that need to be surveyed, monitored, observed, observed, investigated, and measured, Including the areas where environmental pollution or ecological damage occurs, possible impact areas, damage areas, and control areas.

3.4 Assessment area The investigation found that adverse changes in environmental quality, degradation of ecological service functions, etc., need to be carried out to identify, analyze and confirm ecological environmental damage. Recognized area.

3.5 Baseline The state of the ecological environment and its service functions in the assessment area when environmental pollution or ecological destruction has not occurred.

3.6 Interim damage From the occurrence of ecological environmental damage to the restoration to the baseline period, the ecosystem service function is lost or reduced.

3.7 Pollution clean-up The process of using engineering and technical means to block, control, remove, transfer, fix and dispose of pollutants in the ecological environment.

3.8 Environmental remediation After the pollution removal is completed, in order to further reduce the concentration of pollutants in the environment, engineering and management methods are used to reduce the human body caused by environmental pollution. The process of reducing health or ecological risks to acceptable risk levels.

3.9 Ecological restoration Take necessary and reasonable measures to restore the damaged ecological environment and its service functions to the baseline and compensate for the damage during the period, including the environment Restoration and restoration of ecological service functions. According to different restoration goals and stages, ecological environment restoration can be divided into basic restoration, compensatory restoration and Supplementary recovery.

3.10 Primary restoration The process of taking necessary and reasonable natural or artificial measures to restore the damaged ecological environment and its service functions

to the baseline.

3.11 Compensatory restoration The process of taking necessary and reasonable measures to compensate for the damage to the ecological environment during the period.

3.12 Complementary restoration When basic restoration cannot fully restore the damaged ecological environment and its service functions, or compensatory restoration cannot compensate for the damage during the period, the amount External and remedial measures to further restore the damaged ecological environment and its service functions and compensate for the process of damage during the period.

3.13 Permanent damage The damaged ecological environment and its ecological service functions are difficult to restore, and its ability to provide services to humans or other ecosystems is completely lost.

4.1 Principles of Appraisal and Evaluation

4.1.1 Principles of legal compliance Appraisal and evaluation work shall comply with relevant national and local laws, regulations and technical specifications. Forgery of data and fraud are prohibited.

4.1.2 The principle of scientific rationality The appraisal and evaluation work shall formulate a scientific, reasonable and operable work plan. Appraisal and evaluation work plan should include strict quality control And quality assurance measures.

4.1.3 The principle of independence and objectivity The appraisal agency and appraisers shall use professional knowledge and practical experience to independently and objectively carry out appraisal The influence of stakeholders.

4.2 Appraisal and evaluation technical standard system composition The technical standard system for identification and assessment of ecological environmental damage consists of four categories. general outline and key links, environmental elements, ecosystems and basic methods. Technical guide composition. The general outline and technical guidelines for key links stipulate the general principles, procedures, content and methods of ecological environmental damage assessment law. The Technical Guide for Environmental Factors focuses on environmental factors such as surface water, sediment, soil, groundwater, seawater and other environmental damage caused by environmental pollution Identification and evaluation. Ecosystem technology guide focuses on forests, grasslands, wetlands, oceans and other ecosystems and their ecological services due to ecological damage Identification and evaluation of functional impairment. The technical guidelines for basic methods stipulate the key technical methods used in the identification and assessment of ecological environmental damage. In practice, the technical guidelines for environmental elements and ecosystems should be the main focus, and the general outline, key links, and technical guidelines for basic methods should be referred to. To carry out ecological and environmental damage identification and assessment.

4.3 Appraisal and evaluation content According to the needs of appraisal and assessment, the content of ecological environment damage appraisal and assessment includes.

- a) Investigate the facts of environmental pollution or ecological damage;
- b) Determine the facts and types of ecological environmental damage;
- c) Analyze the causal relationship between environmental pollution or ecological damage and ecological environmental damage;
- d) Determine the temporal and spatial scope and extent of ecological environmental damage;
- e) Evaluate the possibility of restoration of the ecological environment and formulate a restoration plan;
- f) Quantify the value of ecological environment damage;
- g) Evaluate the effect of ecological environment restoration.

4.4 Scope of appraisal The time range of ecological environmental damage identification and assessment is based on the occurrence of environmental pollution or ecological damage, and the damaged ecological environment and its The service function is restored to the baseline as the end point; the spatial scope should be comprehensively used on-site investigation, environmental monitoring, remote sensing analysis, and model prediction. It is determined according to the scope of the migration and diffusion of pollutants or the influence scope of ecological damage.

4.5 Appraisal and evaluation procedures The procedures for identification and assessment of ecological damage include.

5 Determination of ecological environmental damage

5.1 Ecological environmental damage investigation Through data collection and analysis, personnel interviews, site surveys, environmental monitoring, questionnaire surveys, ecological surveys, remote sensing image analysis, etc., Grasp the facts of environmental pollution or ecological damage, investigate and assess the ecological environment quality of the area and the current status and baseline of its service functions. base on needs, The content of ecological environment damage investigation may include.

- a) The time and place of the environmental pollution behavior, the distribution of pollution sources (such as quantity and location), the types of characteristic pollutants and their emission Release conditions (such as emission method, emission destination, emission frequency, emission concentration and total amount, etc.);
- b) The time, place, method of damage, objects of damage, scope of damage, and land use or vegetation coverage of ecological damage Type changes, etc.;