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

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Technical guideline for urban ecological risk evaluation

城市生态风险评价技术指南

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the National Environmental Management Standardization Technical Committee (SAC/TC207). This document was drafted by: Institute of Urban Environment, Chinese Academy of Sciences, Research Center for Ecology and Environment, Chinese Academy of Sciences, China Institute of Standardization, Beijing Normal University, Sichuan Environmental Policy Research and Planning Institute. The main drafters of this document. Tang Lina, Qian Yao, Zhao Jingzhu, Ouyang Zhiyun, Zhang Yan, Zhang Lijia, Ren Yufen, Li Qianyu, Chen Bin, Huang Jin, Wang Heng, Chen Dingkai, Qiu Quanyi, Shi Longyu, Zhao Yang, Wang Luyan, Ding Haifang, Hou Shan, Liu Dongmei, Li Cui.

The ecological risks faced by cities not only come from sudden environmental events such as natural disasters or toxic pollutant leaks. In the context of large-scale urbanization, human-made risk sources such as population growth, industrial development, and expansion of construction land are causing interference to urban ecosystems. It continues to intensify, gradually leading to the degradation of ecosystem structure and decline in ecosystem stability in most cities in my country, which is ultimately reflected in urban life. The degradation or loss of ecosystem service quality. How to prevent human social and economic activities such as urbanization construction in the process of promoting new urbanization The party and the country are increasingly paying attention to the ecological risks caused by turbulence and maintaining and improving urban ecosystem services. This document has been developed to provide Provinces, cities, and districts provide technical processes and important basis for urban ecological risk assessment and

prevention and control when formulating ecological protection plans, which provide the basis for my country's new cities. Provide technical support for ecological civilization construction and ecological environment management in the context of urbanization.

Technical Guidelines for Urban Ecological Risk Assessment

1 Scope

GB/T 43236-2023 is the technical guideline for urban ecological risk assessment. Ecological risk assessment was developed for a contaminated site or a discharge with an identifiable source and receptor; a city is neither, being a mosaic of many stressors - heat, impervious surface, fragmented habitat, air and water pollution, invasive species - acting on remnant ecosystems that are themselves altered, and the risk is cumulative and spatial rather than attributable. The standard sets the assessment process, the indicator system, the assessment methods and the application of the results in planning and management, with an informative annex giving the calculation method for single-factor ecological risk. It took effect on 1 January 2024.

This document provides guidelines for the urban ecological risk assessment process, indicator system, assessment methods, and application of assessment results. This document is suitable for evaluating ecological risks caused by human activities during urban construction and development.

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 3095 Ambient Air Quality Standard

GB 3838 Surface water environmental quality standards

GB 5085.7 General principles for identification of hazardous wastes

GB/T 14848 Groundwater Quality Standard

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

GB 16889 Pollution Control Standard for Domestic Waste Landfills

GB 18599 General industrial solid waste storage and landfill pollution control standards

GB 36600 Soil Environmental Quality Standard for Soil Pollution Risk Management and Control of Construction Land (Trial)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 ecological risk Possible damage to ecosystems and their components caused by uncertain events.

3.2 stressor Physical, chemical or biological entities and processes resulting from risk sources that can cause negative ecological effects.

3.3 stressor factor A quantitative description of stress.

Note. Stress that can be directly quantified.

3.4 risk receptor risk bearer.

Note. Refers to individuals, populations, communities or ecosystems exposed to stress.