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

HJ 710.2-2014

**Technical specification for monitoring and
assessment of lichens and
bryophyte**

(English Translation)

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Foreword

To implement the "People's Republic of China Environmental Protection Law", "People's Republic of China Regulations on Protection of Wild Plants", specifications Our observations of biological diversity, the development of this standard.

This standard specifies the main content of lichen and moss diversity of observation, technical requirements and methods.

The Standard Appendix A, B, C, D, E, F, G are informative appendix.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

This standard is mainly drafted by. Environmental Protection Department of the Nanjing Institute of Environmental Sciences.

This standard MEP October 31, 2014 for approval.

This standard since January 1, 2015 implementation.

The standard explanation by the Ministry of Environmental Protection.

Observing the technical guide biodiversity lichens and mosses

1 Scope

This standard specifies the main content of lichen and moss diversity of observations, technical requirements and methods.

This standard applies to the range other than the People's Republic of China terrestrial ocean, observation of water lichen and moss diversity.

2 Normative references

This standard refers to the contents of the following documents or the terms. For undated references, the latest edition of to this standard.

GB 10111 using random numbers dice random sampling method GB/T 7714 after bibliographic references packet rules GB/T 8170 repair value expressed about the rules and limit values and judgment HJ 623 regional evaluation standards Biodiversity

3 Terms and Definitions

The following terms and definitions apply to this standard.

Lichen

Lichens are symbiotic association of fungi and algae (and or) composed of cyanobacteria, the nature of the fungus, also known as lichen type Fungi.

Moss bryophyte

Moss is a small group of multicellular green plants, in addition to the distribution of most marine terrestrial and aquatic environment, with clear Significant generational change, a common plant is the gametophyte, sporophyte parasitic on the gametophyte.

Stone lichen and moss epilithic lichen and bryophyte Clinging to grow on the surface of the rock lichens and mosses.

Native (FLOOR) lichens and mosses floor lichen and bryophyte Clinging to grow on the ground and the soil surface lichen and moss.

Epiphytic lichens and mosses epiphytic lichen and bryophyte it refers to the growth of the trees and their residues of lichen and moss.

Leaf lichen and moss foliicolous lichen and bryophyte Clinging to grow on other trees leaf lichens and mosses.

Water lichen and moss aquatic lichen and bryophyte it refers to the growth of lichen and moss in water.

Sporophyte Plant generational life cycle, produce spores and having twice the number of chromosomes from the fertilized egg (zygote) developed from Plant.

Gametophyte Plant generational life cycle, produce haploid gametes and a plant chromosome.

3.10

Biomass

It refers to the total mass per unit area on lichen or moss.

4.1 Scientific Principles

Observation plots and observing the object should be representative, can fully reflect the overall situation of the observation area lichens and moss; Cherrie Unified, standardized methods of observation, can observe the dynamic changes of lichen and moss diversity.

4.2 Operability principles

Observing programs should be considered owned by the human, financial and logistical support and other conditions, make full use of existing data and results, Li Foot existing observation equipment and personnel conditions should be high efficiency, low cost methods of observation.

4.3 principles of sustainability, Observations should meet the needs of biodiversity conservation and management, and is able to biodiversity conservation and management play a guiding and early warning. Observation plots, plots and samples, once established, can not be altered arbitrarily.

4.4 Principle of protection

Insist on the protection of the first, except for species identification and determination of biomass need to collect a small amount of an individual, but to minimize sample Collection, avoid long-term observations of lichens and moss damage.

4.5 Security Principles

Observation has certain characteristics of field work. Observers should receive professional training, good protective measures.

5.1.1 Objective observation and observation area

Observations objectives. to master the kind intended observation region of the mainland clothing and moss, population, distribution pattern and dynamic changes;

Or to analyze the impact of various threats to lichens and moss diversity of; or evaluation lichens and moss and political protection Policy effectiveness, and adaptive management measures proposed. Observation area is determined based on the observation target.

5.1.2 Data collection and observation programs

According to the observation objectives and requirements, collect as observation area topographic maps, vegetation maps, climate, hydrology, soil, etc.

Basic information, observation and formulate plans. Observations plan should include. sample plots, plots settings, field observation method, observation Contents and indexes, time and frequency of observation, data analysis and reporting, quality control and safety management.

5.1.3 Observation equipment and instruments

Including the collection of knives, a small shovel or bamboo shovel, tweezers, collecting bags, sample bags, plastic bottles, paper clips, pruning shears, having Water effects toilet paper, corrugated cardboard, global positioning system (GPS) locator, compass, long tape measure, steel tape measure, hammer hands, Nails, stakes (length 1.5 m, 50 mm coarse of PVC pipes or other materials), plastic rope, 20 cm x 20 cm or 50 cm x 50 cm square iron screen (with 121 filaments were divided into small cells, a total of 100 filaments box intersection), thin, with a macro lens Head of digital cameras, recording sheet, labels, professional reference books.

5.1.4 Observation Training

Conducting training observation methods and practices and other aspects of the observer, organize observation team.

5.2 Sample set

5.2.1

different base coat and moss observation target observation area and habitats, a simple random sampling or systematic sampling Sets plot.

5.2.2

Simple random sampling method. Large scale topographic maps in the observation area will be divided into several grids, each grid is assigned a number, After determining the number of samples be randomly selected to a predetermined number of samples. Random