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

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**Technical guidelines for biodiversity monitoring butterflies
(English Translation)**

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Foreword

To implement the "People's Republic of China Environmental Protection Law", "People's Republic of China Wild Animal Protection Law" to regulate Our observations of biological diversity, the development of this standard.

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

The Standard Appendix A, B, C, D, E, F 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, Shaanxi Province, Xi'an Botanical Garden.

This standard MEP October 31, 2014 for approval.

This standard since January 1, 2015 implementation.

The standard explanation by the Ministry of Environmental Protection.

1 Observation techniques guide the butterfly biodiversity

1 Scope

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

This standard applies to the observation within the scope of People's Republic of China

butterfly 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/T 7714 after bibliographic references packet rules HJ 623 regional evaluation standards Biodiversity HJ 628 genetic resources collection technical specification (Trial)

3 Terms and Definitions

The following terms and definitions apply to this standard.

Line transect line transect it refers to the observer at the observation plots the selected route. Observer records appear along the route within the scope of a space Kinds of information.

Like segment section Refers to subparagraph sample line division, in the ideal case, every segment of equal length, each with the same kind of habitat types within the segment.

Butterfly fauna Flora it refers to the total butterfly species and ecological conditions exist in the modern history of the formation of the development process.

Dominant species dominant species it refers to the formation of community structure and community environments have significant control effect species. They are usually more than the number of those individuals, High biomass, strong viability of the species.

4.1 Scientific Principles

Observation plots and observing the object should be representative, can fully reflect the observation area butterfly community overall condition; should be used Unified, standardized methods of observation can be observed butterfly species and their population trends dynamic.

4.2 Operability principles

Observing programs should be considered owned by the human, financial and logistical support and other conditions, the observation plots should have some traffic and Working conditions. Based on systematic investigation, take full account of the status of butterfly resources, conservation status and observation purposes, choose together Appropriate observation area and observation objects.

4.3 principles of sustainability, Observations should meet the needs of biodiversity conservation and management, energy conservation and management of biodiversity and play a guiding the role of early warning. Observation plots, line transect observation time

and frequency is determined, not free to change.

24.4 Principle of protection

Observation process should minimize interference with organisms and their habitats, and carry out non-invasive sampling, to avoid exceeding the objective needs of Frequent observation.

4.5 Security Principles Observation has certain characteristics of field work, the observer should receive professional training, good security measures.

5 Methods of Observation

5.1 Observations ready 5.1.1 determine observation target Butterfly observation objectives include. To investigate the species composition of the observed region of butterflies, population dynamics and geographic distribution; Health Analysis Effect of environmental change, environmental pollution, climate change and other environmental factors on the diversity of butterflies; butterfly or evaluate protective measures and the effectiveness of policies and proposed adaptive management measures.

5.1.2 Selecting objects observation OK observation target based on the observation target. Observation object can be all butterfly species in a region to be of a or certain groups of species (endangered species, protected species, invasive alien species, widely distributed species, indicator species, etc.) into Line observation.

5.1.3 determine the observation area Target selection based on observations observation areas, such as assessing the effectiveness of measures and policies to protect the butterfly, choose Nature Reserve and other observations.

5.1.4 Background Investigation resources If the situation is not clear observation area butterfly diversity can conduct a background investigation resources for the development of the observation program be prepared.

5.1.5 develop observation program Observing programs include. the purpose of observation, objects, plots and settings like line, observation method, observation and finger content Standard, time and frequency of observation, data processing, quality control and safety management.

5.1.6 Observer training Before the implementation of the scheme to deal with observer moth classification and identification of knowledge, practices and methods of observation, field security, etc.

Training to enable the observer to accurately identify butterfly species in the wild, mastering butterfly observation techniques and safety precautions.

5.1.7 Prepare observation equipment and instruments Including insect net, collection boxes, observation boxes, pens, cameras, global positioning system (GPS) device, the

triangle paper bags, butterfly Butterfly identification manuals and other books, records lists.

5.2 Setting the observation plots 5.2.1 using systematic sampling or stratified random sampling method, based on objective observations and observational requirements, sample size calculation, set Observation plots.

5.2.2 When using stratified random sampling can be stratified according to the type of habitat, climate, altitude, land use types and other factors.

5.3 Line transect

5.3.1 In the selected plots, set a number of transects along roads, paths, trails. Transects should cover all plots within the habitat type 3 type, each habitat type sample line should be more than two. Each sample length 1 ~ 2 km is appropriate, according to the characteristics of the ecosystem Appropriate adjustments. Dividing the sample into the sample line segment, every paragraph tag number, length should be equal, within each sample segment habitat types or the same land use patterns.

5.3.2 selected sample lines, with a GPS locator location coordinates, in 1: 10000 map marked transect line.

5.3.3 Observations before slowly along the transect line uniform speed 1 ~ 1.5 km/h. Record sample line about 2.5 m, the top 5 m, before See record in square 5 m range seen all butterfly species and quantities (Figure 1), the observed data, Appendix A, B, C and D. Not only repeat count of the same individuals and behind the butterfly. In the cliffs or the water's edge, along transects recording side width 5 m Fan Data around inside, outside observation area to see the type, can be written in the remarks column.

5.3.4 If the number is too large butterfly, estimates may be registered or after use camera count.

5.3.5 For the type can not be determined, after netting was identified after the release of species in situ determination; on the spot can not determine the type, HJ 628 were in accordance with a small amount of netting and numbers back to the laboratory identification, statistical records.

5.3.6 When observing a group of 2 people is appropriate, one survey observations, and the other one for recording and netting (for the type can not be determined).

5.3.7 The selected sample line after the first year of observation to determine if inappropriate, can change, but then should remain unchanged.

Unit. m

Figure 1 a schematic line transect observation area

6 observations contents and index

6.1 Observations should include. butterfly species composition, floristic distribution,