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

LY/T 3190-2020

**Specification for demarcation and marking of national park
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the Qilian Mountain National Park Administration.

This standard is under the jurisdiction of the National Standardization Technical Committee for National Parks and Nature Reserves.

1 Scope

This standard specifies the technical requirements for demarcation, marking, quality inspection and archives of national parks, as well as park monuments, boundary monuments, the shape, size, color, material, text content, coding, positioning, etc. of boundary stakes, district stakes, forest (grass) class stakes and signs, etc.

Embedding and other requirements.

This standard is applicable to the demarcation of national parks and mark establishment and subsequent maintenance, updating and supplementation.

2 Normative references

The following documents are indispensable for the quotation of this document. For dated reference documents, only the dated version Applies to this document. For undated

references, the latest version (including all amendments) applies to this document.

GB/T 15566 Principles and Requirements for Public Information Orientation System Setting
GB/T 20501 Design Principles and Requirements of Guiding Elements of Public
Information Guidance System LY/T 1953 Nature Reserve Facilities Marking Specification
GB/T 18314 Global Positioning System (GPS) Measurement Specification GB/T 20257
National Basic Scale Map Illustration GB/T 19710 Geographic Information Metadata
CH/T.2009 Global Positioning System Real-time Kinematics (RTK) Technical Specification

3 Terms and definitions

The following terms and definitions apply to this standard.

National Park Marker National park markers. Mainly show the establishment time, geographical location, coordinates, area, management subject and Other basic conditions.

Boundary Marker

A boundary marker, an indicative marker of the location and direction of the boundary of a national park or the inflection point of the boundary line. The size is generally large.

Boundary Post

A type of boundary marker, a marker of the boundary of a national park, generally small in size.

Pile in Control Zone on-site markers on the boundaries of national park control areas. National park control areas are divided into core protection areas and general control areas.

Compartment Post

Local identification of the business area. The business zoning system should be consistent with the business scope or the administrative boundary.

Level divisions are divided into forest (grass) classes. Forest (grass) class division adopts natural division or comprehensive division, and the terrain points are not obvious such as flat terrain the area can be divided manually, the area is generally 100~1000 hectares. The division of forest (grass) classes is relatively fixed, without special features Special circumstances should not be changed.

Mark

In order to enhance the visual effect, the indicator plates in this standard refer to the boundaries of national parks, control areas, and business areas.

And the markers for warning and publicity are set up in areas with intensive human activities or major intersections.

4.1 Setup requirements

- 1) Park monuments are generally set up at the intersection of main roads in national parks and areas with frequent human activities.
- 2) Boundary markers are generally set up at important turning points of national park boundaries and at the intersection of major roads.
- 3) The maximum spacing of boundary piles should be 1000 meters, with steep ridges, and the spacing can be appropriately widened when entering difficult areas;

In areas with inconspicuous shapes and more human activities, one block is set every 300 to 500 meters.

- 4) Area piles are generally set up at the boundary line of each control area, the maximum distance should be 1000 meters, steep ridges, and the distance can be appropriately widened when entering difficult areas; in areas where the natural terrain is not obvious and there are more human activities, 1 shall be set every 300 to 500 meters.

Piece. In addition, set one block at the turning point of the boundary of the control area.

- 5) Forest (grass) squad piles are buried at the intersection of forest (grass) squad lines.

4.2 Accuracy requirements

(1) Plane accuracy

--The error in the position of the stele and stake relative to the adjacent control point should not be greater than ± 2 meters, and the error in special areas such as cliffs the difference should not be greater than ± 5 meters.

--The error in the position of the preset monument, stake and boundary point relative to the adjacent control points should not be greater than ± 0.3 mm on the map, the error of the special area should not be greater than ± 0.5 mm.

--Longitude and latitude measurement records are in decimal system and kept to 0.0001 second.

(2) Elevation accuracy

--The elevation error of the stele and the stake point relative to the adjacent control point. the provincial geodetic leveling is used to calculate the elevation anomaly the error should not be greater than ± 2 meters, and the national quasi-geoid is used to calculate the elevation abnormal value, and the error should not be greater than ± 5 meters.

--The error in elevation of preset monuments, stakes and boundary points relative to adjacent control points should not be greater than 1/3 of the basic contour on the map distance.

5.1.1 Drawings

Prepare a 1:10000 topographic map with the best current situation, using the 2000 national geodetic coordinate system, and 1985 national elevation base Standards, and the latest zoning maps for land, forest, grassland, and wetland surveys.

5.1.2 High-resolution remote sensing images

The latest high-resolution remote sensing image data with orthorectified time phase, with an accuracy of not less than 1:10000.

degree.

5.1.3 Instruments

Differential GPS, compass, tape measure, laser rangefinder, etc.

5.2 Make a working base map

- (1) Implement various boundaries on the work base map, including provincial boundaries, national park boundaries, regulatory boundaries, forest (grass) boundaries Wait.
- (2) Preset points on the standard topographic map and review them. To facilitate the review, the high-resolution remote sensing image should also be Preset point.

5.3 Implement Stakeout

Locate and re-check on the spot according to the preset points.

5.4 Measurement

- (1) The coordinates and elevation of the stele pile point generally require actual measurement.
- (2) The plane coordinates of the stele point are determined by the satellite positioning system positioning measurement method. Specific measurement technical requirements According to GB/T 18314 and CH/T.2009.
- (3) The elevation of the stele point is measured by the satellite positioning system, and the provincial or national quasi-geoid Calculate the elevation abnormal value to obtain the normal height.
- (4) In special areas, photoelectric distance measurement attached wires, photoelectric distance measurement branch wires, edge measurement and angle measurement intersection, level measurement, Triangular elevation and other methods are used for measurement. Specific measurement technical requirements are in accordance with GB/T 18314, CH/T.2009, CJJ/T 8-2011 carried out.