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**RESEARCH ON SPATIOTEMPORAL VARIATION OF WINTERING
SIBERIAN CRANE HABITAT IN POYANG LAKE WETLAND**

Master's Degree Thesis
Specialty 7-06-0532-03 Land Management, Cadasters, Geodesy and Geomatics

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ABSTRACT

Poyang Lake wetland is the world's largest wintering habitat for the endangered white crane. In recent years, continuous drought in autumn and winter has posed a serious threat to the habitat of the crane. The study of habitat spatial pattern of white crane in Poyang Lake in the past 30 years can not only provide scientific basis for regional sustainable development, but also provide scientific basis for regional ecological environment management and biodiversity conservation. Based on Landsat TM (Thematic Mapper) /OLI(Operational Land Imager) remote sensing image, thematic information has been collected from the overwintering crane's living habits, habitat preference and other information to obtain habitat information in different periods. Combined with GIS technology, landscape pattern of overwintering crane habitat is analyzed. Look for hot and cold spots in its distribution. Among the findings:

(1) From 1990 to 2020, the habitat area of overwintering cranes in Poyang Lake wetland showed a fluctuating trend over time; The average suitable habitat area for overwintering cranes is 1664.80km².

(2) As the main habitat types of white crane, the shallow water, ooze mud and grass flat are mainly distributed in the southern part of Poyang Lake wetland, while the shallow water and ooze mud are mainly distributed in the sub-lake area of Poyang Lake wetland. The grass flat occupies the largest proportion in the habitat of white crane.

(3) The habitat distribution of overwintering cranes in Poyang Lake wetland showed a positive spatial correlation at different periods, showing a spatial distribution pattern of aggregation.

(4) The distribution of hot spots in different periods of crane habitat changed significantly over time. The hotspot area of crane habitat is located in the south of Poyang Lake and tends to be scattered. The hot spots in the west of Poyang Lake showed a downward trend, while the hot spots in the southeast showed a patchy expansion trend.

Key words: Siberian crane; habitat; spatiotemporal variation; Poyang Lake; Geographic Information System.