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Research on the Conservation Strategy of Territorial Landscape Based on Characteristics: The Case of Fujian, China

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Abstract : Territorial landscapes have experienced a gradual loss of their typical characteristics during long-term human activities. In order to protect the integrity of regional landscapes, it is necessary to characterize, evaluate and protect them in a graded manner. The study takes Fujian, China, as an example and classifies the landscape characters of the site at the regional scale, middle scale, and detailed scale. A multi-scale approach combining parametric and holistic approaches is used to classify and partition the landscape character types (LCTs) and landscape character areas (LCAs) at different scales, and a multi-element landscape assessment approach is adopted to explore the conservation strategies of the landscape character. Firstly, multiple fields and multiple elements of geography, nature and humanities were selected as the basis of assessment according to the scales. Secondly, the study takes a parametric approach to the classification and partitioning of landscape character, Principal Component Analysis, and two-stage cluster analysis (K-means and GMM) in MATLAB software to obtain LCTs, combines with Canny Operator Edge Detection Algorithm to obtain landscape character contours and corrects LCTs and LCAs by field survey and manual identification methods. Finally, the study adopts the Landscape Sensitivity Assessment method to perform landscape character conservation analysis and formulates five strategies for different LCAs: conservation, enhancement, restoration, creation, and combination. This multi-scale identification approach can efficiently integrate multiple types of landscape character elements, reduce the difficulty of broad-scale operations in the process of landscape character conservation, and provide a basis for landscape character conservation strategies. Based on the natural background and the restoration of regional characteristics, the results of landscape character assessment are scientific and objective and can provide a strong reference in regional and national scale territorial spatial planning.

Keywords : parameterization, multi-scale, landscape character identify, landscape character assessment
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