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Estimating Compensation for Damaged Vegetation Ecosystem in Shaanxi Province based on HEA

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This paper focuses on selection of the standards and methods for estimating the damage of ecosystem services and compensation of damaged vegetation, and establishing a scientific, precise, and feasible system for estimating ecosystem services compensation of damaged vegetation. On the basis of reviewing relevant papers and literature related to ecological vegetation restoration and ecosystem services, this paper finds out that relevant studies lack quantitative methods in estimating the degree of ecosystem services damage and compensation of damaged vegetation. This paper brings in the method of HEA, which is mainly utilized in the Natural Resources Damage Assessment (NRDA) in the USA. The characteristic of HEA is that it estimates natural resources damage based on the calculation of ecosystem services loss of damaged natural resources. Through adapting the methods of HEA, this paper applies Table of Indicators of Ecological Systems Service Functions in China to deduce the formulae of estimating ecosystem services damage and compensation of damaged vegetation. Based on the relevant statistical materials of Shaanxi Province and application of the formulae, this paper estimates the damage and compensation of ecosystem services of forests and grassland in Shaanxi Province. The results show that from 1986 to 2004, the level of ecosystem services of forests in Shaanxi Province increased by 1.7% annually, and the level of ecosystem services of grassland decreased by 3.0% annually. Furthermore, this paper calculates the scale of ecosystem services compensation and brings forward the countermeasures for compensating damaged grassland in Shaanxi Province.

【Key Words】 : **Compensation estimating HEA Ecosystem services Vegetation Shaanxi**

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