

研究报告

## 区域生态服务价值对土地利用变化的响应——以重庆市沙坪坝区为例

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**摘要** 土地利用通过生态进程与服务间的相互作用影响生态系统提供的产品与服务.本研究以重庆市沙坪坝区为例,采用GIS与实地调查,运用Costanza等提出的生态服务价值系数,结合敏感度分析,探讨了区域生态服务价值对土地利用变化的响应.结果表明,重庆市沙坪坝区在1992~2002年间生态服务价值从 $1.74 \times 10^7$  \$降低到 $1.68 \times 10^7$  \$,净损失 $5.40 \times 10^5$  \$,平均土地净损失生态服务价值 $13.62$  \$·hm<sup>-2</sup>;赋予各种土地利用类型生态服务价值系数的大小对区域总的生态服务价值变化影响不明显,其变化趋于相对稳定;耕地、林地和园地生物量生态服务价值系数总和接近于区域真实值,水域生态服务价值系数偏大,调整30%为每年 $5\ 667$  \$·hm<sup>-2</sup>,更接近于真实值;运用现状数据库、变更数据库和Costanza模型估算区域土地利用变化导致生态服务价值变化切实可行,可为区域土地利用效益评价及土地利用规划提供借鉴.

**关键词** [生态服务价值](#) [土地利用变化](#) [响应](#) [沙坪坝区](#)

分类号

## Responses of regional ecological service value to land use change: A case study of Shapingba County in Chongqing

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### Abstract

Land use has significant effects on the products and services provided by ecosystem, through its interaction with ecosystem processes and services. Taking Shapingba County in Chongqing as an example, and by the Costanza method and ecological sensitivity analysis, this paper analyzed the effects of land use change on ecological service value. The results indicated that from 1992 to 2002, the ecological service value of this County was from \$  $1.74 \times 10^7$  to \$  $16.8 \times 10^7$ , *i.e.*, \$  $0.54 \times 10^5$  was lost. Accordingly, each hectare land suffered an average loss of \$13.62. The ecological service value coefficient assigned to different categories of land use had little effects on the total ecological service value, and the total change of ecological service value was inelastic. The summation of the ecological service value coefficients assigned to cultivated land, forestland and garden land was very close to regional actualities. But, the ecological service value coefficient assigned to the waters was higher than the actual value, while rectifying 30 percent of the previous coefficient by  $5\ 667$  \$·hm<sup>-2</sup>·yr<sup>-1</sup> would be very close to the actual one. Applying Costanza method to estimate the change of regional ecological service value was practicable, and would make a reference for the evaluation of land use benefits and the organization of land use planning.

**Key words** [Ecological service value](#) [Land use change](#) [Shapingba County](#)

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