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Road construction and landscape fragmentation in China

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The landscape fragmentation caused by road construction has many direct and indirect impacts on wildlife and ecosystems. By using the GIS and statistic software of fragmentation computation, a comprehensive index, road-induced landscape fragmentation index (RLFI), is proposed to quantify the degree of landscape fragmentation resulting from different levels of road constructions. The results show that road-induced fragmentation index in China ranges from 0.987 to 3.357, with a mean of 1.846 in 2002. The regional differences of landscape fragmentation are obvious and scoring sequence is: North China (2.65) > East China (2.62) > Central China (2.60) > South China (2.51) > Southwest China (2.34) > Northeast China (2.19) > Inner Mongolia (1.88) > Northwest China (1.67) > Qinghai-Tibet Plateau (1.65). The anisotropic analysis indicates that the variation of fragmentation index in east-west direction is larger than that in south-north direction.

Paper (PDF)

关键词: landscape fragmentation; road construction; China