

Center for Community-Based Resource Management (CBRM)

Natural Resources Institute, University of Manitoba

CBRM Database

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Case Study Name:	Hiking Trails and Tourism Impact Assessment in Protected Areas: Jiuzhaigou Biosphere Reserve, China		
Author:	Li, W., Ge, X., Liu, C.		
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Region:	Central and Eastern Asia		
Country:	China		
Ecosystem Type:	Other (Temperate Woodland)		
Social Characteristics:	Community Inside Protected Area		
Scale of Study:	Protected Area		
Resource Type:	Tourism/Ecotourism		
Type of Initiative:	Research-Driven Project		
Community- Based Work:	Environmental Assessment		
Keywords:	Circularity, Connectivity, Protected Area, Recreation and Tourism, Trail, Trampling Problem		
Summary:	More and more visitors are attracted to protected areas nowadays, which not only bring about economic increase but also seriously adverse impacts on the ecological environment. In protected areas, trails are linkage between visitors and natural ecosystem, so they concentrate most of the adverse impacts caused by visitors. The		

trampling problems on the trails have been received attentions in the tremendous researches. However, few of them have correlated the environmental impacts to trail spatial patterns. In this project, the trails were selected as assessment objective, the trampling problems trail widening, multiple trail, and root exposure were taken as assessment indicators to assess ecological impacts in the case study area Jiuzhaigou Biosphere Reserve, and two spatial index, connectivity and circularity, were taken to indicate the trail network spatial patterns. The research results showed that the appearing frequency of the trampling problems had inverse correlation with the circularity and connectivity of the trail network, while the problem extent had no correlation with the spatial pattern. Comparing with the pristine trails, the artificial maintenance for the trails such as wooden trails and flagstone trails could prohibit vegetation root from exposure effectively. The research finds will be useful for the future trail design and tourism management.