

## **Soil erosion under different land uses in the riparian zone of the Three Gorges Reservoir, China**

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**Abstract** Different land use and management practices have varying impacts on soil erosion. There are few reports concerning the land-use effects on soil erosion for the riparian zone of the Three Gorges Reservoir (TGR). The present study investigated soil erosion rates in artificial grassland, natural grassland, cropland, and bare land at the riparian zone in the middle reach of the TGR during 2008–2012. Fifteen experimental plots with different land use were set up to observe soil erosion rates with erosion pins. The results show that the maximum soil erosion rate was 94 887 t km<sup>-2</sup> year<sup>-1</sup> in the conventional tillage farmland, followed by 92 423 t km<sup>-2</sup> year<sup>-1</sup> in the bare land, 64 670 t km<sup>-2</sup> year<sup>-1</sup> in the bunch planting farmland, 37 794 t km<sup>-2</sup> year<sup>-1</sup> in the natural grassland, and the minimum soil erosion rate was 21 340 t km<sup>-2</sup> year<sup>-1</sup> in the artificial grassland.

**Key words** Three Gorges Reservoir; riparian zone; land uses; soil erosion

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