

Influence of diversion power stations on riparian plant communities along Dicun stream China

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Abstract

This article used three diversion power stations with different operating years along Dicun stream of the source of Jiulong River to study the riparian plant community and discussed the impact of power station development on riparian plants. The results showed that:(1)There were significant differences in the plant diversity of herbs, shrubs and trees among all sample plots in the study area ($P < 0.05$). (2) The species number of the second and third diversion power stations with longer operation time was larger than that of the fourth diversion power station with short operation time. (3) The water-borne plants were concentrated in the herb layer in the influence area of the diversion power station, and the Richness, Shannon- Wiener, Simpson and Pielou indexes of water-borne plants in the study area were significantly different ($P < 0.05$). (4) The appearance of diversion power station led to the change of environmental factors, and the river depth and flow rate had significant positive correlation with the diversity index of riparian plants and water water-borne plants ($P < 0.05$). In general, with the increase of the operation time of the power station, the surrounding riparian plant will form a new stable community.

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