Effect of the Lower Kihansi Hydropower Project and post-project mitigation measures on wetland vegetation in Kihansi Gorge, Tanzania

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Abstract

Reduction in flow of the Lower Kihansi River, Tanzania, caused by implementation of a hydropower project in May 2000 has the potential to lead to changes in vegetation composition of spray maintained wetlands. These wetlands are the only known habitat for the Kihansi Spray Toad,Nectophrynoides asperginis. In this paper, change over time is assessed by comparing samples taken in 1998 before reduction in flow, with those taken in 2000 after reduction in flow, in 2001 following installation of a sprinkler system built to maintain the wetlands and in 2002 eighteen months after sprinkler installation. The vegetation was found to change markedly following initiation of the project, with marsh and stream side species dying back and weedy species entering the wetland. The wetland continued to change following installation of the sprinkler system and has not appeared to have reverted back towards the pre-project condition, although diversity and the proportion of marsh and stream side species are greater in 2002 than in 1998.