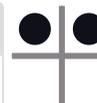




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Riparian forest on the Limpopo is shrinking

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According to Rudyard Kipling's story published at the turn of the previous century, the curious elephant's child ended up with a long trunk after trying to find out what the crocodile had for dinner. Elephant's child said, "I am going to the great grey-green, greasy Limpopo River, all set about with fever trees". The fever trees can still be found on the banks of the Limpopo River and belong to a rare forest type called Lowveld Riverine Forest. Large parts of these forests have been transformed in South Africa, but some fragments are still left in the Mapungubwe and Kruger National Parks. These pieces of forest, however, are shrinking.

Researchers from SANParks, the Organisation of Tropical Studies (OTS) and the South African Environmental Observation Network (SAEON) have been monitoring the large riverine canopy trees growing in Mapungubwe. The disappearance of large trees is often attributed to elephants. But monitoring of these trees started before elephants returned to Mapungubwe and Dr Tim O'Connor, currently at SAEON, found that drought stress, interactions with creepers and flooding contributed most to mortality, even when elephants were present in low numbers. Monitoring by SANParks and SAEON since these animals returned to Mapungubwe shows that although they do



Large parts of Lowveld Riverine Forest have been transformed. Photos: Benjamin Wigley

play a major role in the mortality of fever and ana trees, there is also a large proportion of various tree species dying without any sign of elephant damage. Monitoring by OTS has found almost no new riparian trees, even in areas where elephants are

excluded, and here smaller herbivores play a significant role.

The entire ecosystem functions differently now than when Kipling visited the river more than 100 years ago. Fever and ana trees are dependent on flooding events for



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recruitment. The flood regime has changed radically due to changed abstraction upriver and the river now stops flowing regularly. The long history of human settlement in Mapungubwe also influenced how elephants used the area historically. To complicate matters further, rainfall has been variable over time with a general trend of decreased rain over the past few centuries.

At this stage, SANParks is rethinking and redesigning the use of exclosures in the park to safeguard some pockets of riparian forest against elephants, and to provide further research opportunities regarding drivers of forest decline.