

# Saving the Serengeti–Masai Mara

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## Can ecohydrology rescue a key East African ecosystem?

**O**n a map of the African continent, a tiny depression—a mere dot—in the landscape appears within the outlines of northern Kenya. On the ground, this sunken watery enclave is hidden from view, surrounded by reeds and forest. Within these 13 acres, called Enapuiyapui Swamp, lies the future of the Serengeti–Masai Mara ecosystem.

Two rivulets emanate from Enapuiyapui, gathering strength as they flow across the land. The streams become the Nyangores and the Amala Rivers, eventually forming the 395-kilometer-long Mara. The Mara is an important waterway connecting Kenya's famed Masai Mara with Tanzania's Serengeti, fusing them into one ecosystem. The Mara River basin is shared by Kenya (65 percent) and Tanzania (35 percent).

At its end in Tanzania, the river is enfolded by Enapuiyapui's counterpart, the Mara Swamp. Along the way, the Mara brings critical drinking water to wildlife, livestock, and people, first in the Mau Forest, then to rangelands, through the Masai Mara National Reserve and Serengeti National Park protected areas, and finally to Lake Victoria, its waters lapping the shores of Kenya, Tanzania, and Uganda. But now, Enapuiyapui—and everything downstream—is in trouble: A drying Mara River wends along exposed ledges on its bottom and between crumbling escarpments on its sides.

### Between a rock and a hard place

The problems begin in a dense indigenous woodland, the Mau Forest, which surrounds Enapuiyapui. The Mau is the largest montane forest in East Africa. With Kenya's highest levels of rainfall, the Mau is also the country's largest water catchment. Rainwater percolates



*A thin ribbon of green lines the Mara River in Kenya. The river sustains the Serengeti–Masai Mara ecosystem, bringing life to riparian vegetation, wildlife species from lions to wildebeest to hippos, and people who use—and overuse—it for the irrigation of their crops. Photograph: Ryan Harvey.*

through the dense canopy into the soil and ultimately into the seeps and springs that form the Nyangores and Amala Rivers. The trees are being harvested for timber, however, baring Enapuiyapui to the intense equatorial sun. A changing climate and less dependable rainfall have further depleted the swamp's waters.

“Enapuiyapui is a microcatchment, collecting water mostly during heavy rains,” said John Nyangena of the World Wildlife Fund (WWF)'s East Africa Office. “Were Enapuiyapui to die, so would the Mara.”

The Serengeti–Masai Mara would be left between a rock and hard place. Enapuiyapui is surrounded by the Kiptunga portion of the Mau Forest. Without Enapuiyapui and Kiptunga, the Mara River would be a hardened riverbed. “In some seasons, it already is,” said Brian Heath, director of the Mara Conservancy. The conservancy, which manages the Mara Triangle area of the Masai Mara, is a public–private partnership between land managers and the local Maasai community.

The Serengeti–Mara ecosystem as a whole is drained by three main rivers: the Mara, the Grumeti, and the Mbalageti, all of which flow westward to Lake Victoria. The Mara River funnels rainwater from a 10,300-square-kilometer (km<sup>2</sup>) watershed in Kenya; the Grumeti drains 11,600 km<sup>2</sup> of hilly and wooded savanna in the central and