New threat to Lake Victoria?

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Two hydroelectricity dams appear to be threatening the health of Lake Victoria – and of the people living along its shores who depend on the lake for food. A new study[1] suggests that the dams' systematic overuse of water has decreased the lake level by at least two meters between 2000 and 2006 – and that this drop was not influenced by weather. The study by Yustina Kiwango of Tanzania National Parks and Eric Wolanski of James Cook University in Australia was published online this week in the Springer journal *Wetlands Ecology and Management*.

The two dams, both located at the outlet of Lake Victoria in Uganda, have been using water at a rate of 20 to 50 percent above the allowable discharge agreed by Uganda and Egypt in 1957. Meanwhile, the dramatic drop in water level has dried the papyrus wetlands fringing the lake, resulting in an 80 percent collapse in tilapia fisheries recruitment - the juvenile fish using the wetlands as a refuge.

A key staple of the local population living along the lake's shores, this loss of the tilapia fish threatens the food security of people depending on the lake in Uganda, Kenya and Tanzania. In the long term, the commercially fished Nile Perch, which feeds on smaller fish such as tilapia, could also be affected.

Additional impacts of the drop in water level include increased eutrophication[2] and algal blooms. When submerged, the surrounding papyrus wetlands previously buffered the lake from excess levels of nitrogen and phosphorus; they could absorb about half of the nitrogen, and a quarter of the phosphorus, which flows into the lake. With the

wetland now much drier, much of this function has been lost.

If overdrawing of water leads to permanent drying of these wetlands, the implications could be far-reaching, with large-scale eutrophication of the lake, exacerbation of invasion by the non-native water hyacinth, and accelerated global warming as the dried papyrus and its peat are burned to claim land for agriculture, duplicating the disastrous forest and peat fires in Indonesia.

In the authors' view, "the future of Lake Victoria and its people is very closely related to the future of its papyrus wetlands." They are calling on the states along the lakeshores, Kenya, Uganda and Tanzania, to urgently address the issue of managing the lake level in a way that involves all stakeholders.

Source: Springer