

Researchers find key to saving the world's lakes

July 21 2008

After completing one of the longest running experiments ever done on a lake, researchers from the University of Alberta, University of Minnesota and the Freshwater Institute, contend that nitrogen control, in which the European Union and many other jurisdictions around the world are investing millions of dollars, is not effective and in fact, may actually increase the problem of cultural eutrophication.

The dramatic rise in cultural eutrophication—the addition of nutrients to a body of water due to human activity that often causes huge algal blooms, fish kills and other problems in lakes throughout the world—has resulted from increased deposits of nutrients to lakes, largely from human sewage and agricultural wastes.

For 37 years researchers looked at Lake 227, a small lake in the Canadian Shield at the Experimental Lakes Area (ELA) in Ontario, Canada, and examined the best ways to control the cultural eutrophication process of lakes by varying the levels of phosphorous and nitrogen added to the lake.

"What we found goes against the practices of the European Union and many scientists around the world," said David Schindler, professor of ecology at the University of Alberta and one of the leading water researchers in the world. "Controlling nitrogen does not correct the polluted lakes, and in fact, may actually aggravate the problem and make it worse."

A previous study, entitled, A Survey of the State of the World's Lakes, found that the cultural eutrophication of lakes has had a global effect. The continent percentage of lakes with cultural eutrophication were shown as:

- Asia: 54 per cent
- Europe: 53 per cent
- North America: 48 per cent
- South America: 41 per cent
- Africa: 28 per cent

"The damage to these lakes is a major concern for virtually every continent," said Schindler.

The impact on human society is immense he says, as cultural eutrophication severely reduces water quality, which not only kills and contaminates fish, shellfish and other animals, but also can become a health-related problem in humans once it begins to interfere with drinking water treatment.

This study appears in the journal *Proceedings of the National Academy of Sciences*.

Source: University of Alberta

Citation: Researchers find key to saving the world's lakes (2008, July 21) retrieved 26 April 2024 from <https://phys.org/news/2008-07-key-world-lakes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.