

A new era for the Experimental Lakes

BY SCOTT VAUGHAN, OTTAWA CITIZEN SEPTEMBER 3, 2013

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One of the best-kept secrets in Canada's long tradition of scientific research is the Ontario-based Experimental Lakes Area. For more than four decades, this unique area of 58 freshwater lakes in northwestern Ontario has been in the forefront of scientific inquiry and discovery. Through its research, ELA has improved our health and quality of life by protecting freshwater quality through precise scientific diagnosis of both existing and emerging stress factors on freshwater lakes and ecosystems.

Since its creation in 1968, ELA has pioneered scientific analysis of environmental pressures on lakes, and helped develop solutions that make a difference in protecting clean water. ELA is the only place in the world where whole lake research is undertaken. It invites scientists from around the world to conduct carefully calibrated experiments in a natural environment. Clearly, the behaviour of an intricate and complex ecosystem cannot be simulated in a laboratory.

The International Institute for Sustainable Development announced this week it has signed an agreement with the governments of Ontario and Canada to ensure that four decades of lake monitoring continues uninterrupted and plans are in place for the 2014 research season.

Both the premiers of Ontario and Manitoba have underscored the importance they place in ensuring ELA's work continues with funding support to IISD. We are now working on a permanent arrangement with the goal of having IISD assume operation of this important research area, a development which, I believe, will give the valuable work of ELA an exciting and innovative thrust.

Working with research scientists at universities around the world, ELA's record of achievements is a long one. Two studies in particular have directly contributed to improving the state of the environment. Research conducted at ELA in the 1960s provided the crucial evidence needed to understand the impact of phosphorous additives used in household cleaning products, leading to their control and phase-out. And in the 1980s, work on the impact of acid rain led to Canada taking a leadership position in tightening air pollution standards for the major causes of acid rain, nitrogen oxide and sulphur dioxide. Other countries quickly followed.

ELA has helped us understand the impacts of aquaculture on freshwater ecosystems, observe how reservoir development affects water tables, and evaluate how various contaminants — including cadmium, endocrine-disrupting chemicals and flame retardants — affect lakes, and identify solutions to safeguard water quality. The results of ELA experiments have produced an exceptional data-series of water quality monitoring for over 45 years, helping to provide the lab testing parameters that can be verified in nature.

In recent years, as the global scientific community grapples with the impacts on climate change, ELA has been conducting controlled experiments to observe the effects of changing water levels and flows induced by climate-related extreme weather events. It has also continued work on eutrophication caused by nutrient run-off and the impact of mercury from coal-fired power plants located thousands of kilometres away.

IISD has agreed to take over operations of ELA with the assistance of the governments of Ontario and Manitoba, with the co-operation of the federal government.

Although this is a new venture for the institute and a challenge for a small non-profit such as ours, the marriage with ELA brings together different but complementary skills sets.

Since it was established by the federal and Manitoba governments in 1990, Winnipeg-based IISD has become a leader in establishing practical approaches and policies for sustainable development. From the start, integrated water resource management has been a priority at IISD, working on projects in Canada and countries as diverse as Ghana, Honduras and Tajikistan.

Combining ELA's vast scientific knowledge base with the institute's experience in integrated management practices represents a unique opportunity to bridge applied science with on-the-ground sustainability policy solutions.

Taking on the management of the ELA is a big undertaking for the institute, but also presents us with an unprecedented opportunity to help us identify lasting, sustainable solutions to protecting fresh water.

We intend to continue the tradition of applied research and monitoring that has made ELA respected worldwide. Moving ELA from a government department to the institute will broaden the scope of its freshwater research and allow it to identify clear links to management solutions and strategies. The institute also intends make the work of ELA more transparent and accessible to Canadians, sparking a renewed national debate about the state and fate of Canada's treasured freshwater ecosystems.

It is time that the best-kept secret in Canadian applied water sciences is told, and that Canada continues its proud tradition of worldwide scientific leadership.

Scott Vaughan is the president of the International Institute for Sustainable Development.

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