MEMBER PROFILE

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Describe your research.

My research is primarily focused on the transfer of energy, nutrients, and contaminants through Great Lakes food webs. Specific studies include primary production, factors regulating the relative abundance and composition in phytoplankton and zooplankton populations, harmful algal blooms, bioaccumulation of persistent chemicals, and identifying sources and energy transfer efficiencies required to support Great Lake's fisheries. Research is based on open lake systems as well as within areas with ongoing remedial action plans.

Describe how you engage with policy making.

Although my research has strongly been related to policy development, such as the use of primary production to identify the original phosphorus target loads in the Great Lakes, direct linkage to policy formulation is, at best, tenuous. I have served on committees such as the Science Advisory Board and Council of Great Lakes Research Managers, attended meetings of the Cooperative Science and Monitoring Initiative, and participated in the Detroit River Remedial Action Plan since implementation in 1986; however, these do not provide a strong linkage to forming or modifying environmental policies regarding the management of the Great Lakes ecosystem.

Research needs to inform policy

Research outcomes tend to come in small, discrete packets that make great, informative readings in the Journal of Great Lakes Research but are of limited use to policy makers who require much broader, integrated perspectives. The current systems of funding research in Canada and the United States tend to be project based and focused on specific issues or problems. Although this approach produces good science, it does not provide a framework for the research community to take a more integrative approach for the management of the Great Lakes. When attending meetings regarding major research challenges in the Great Lakes, the consistent message is the need for integration. The lack of integration has definitely limited the success of the ecosystem approach as recommended in the Great Lakes Water Quality Agreement.

During the 1970s, there was better communication between science and policy-making processes when dealing with a single issue, such as eutrophication. It was much easier then for the science community to deliver a clear, consistent message. Researchers today must consider the effect of multiple stressors and the many uncertainties associated with predicting lake responses in a highly variable environment. Instead of integrating research knowledge, our current funding systems set up a competition for resources within the science community to address priority research questions.

Challenges connecting research and policy

We need a new approach that integrates research knowledge and information in a timely and meaningful way for policy makers. To form a better connection between research and policy, we should consider the development of an International Integrated Ecosystem Management Program jointly funded by the United States and Canada. The goal of the framework would be to allow government agencies and universities to work together to provide accurate and timely advice to all levels of government. Basically the framework would result in the development of "boundary organizations" that link scientists and communicators to effectively synthesize knowledge and information to meet the needs of policy makers. These boundary organizations will require formal partnerships among agencies and universities that bring together the expertise required for knowledge integration and communication, and they will result in unique international training opportunities for future researchers. These organizations will not just provide a link between research and policy, but will also provide a corporate memory as to how and why specific environmental policies were derived.