

The Siscowette

Profiling women in science in the Great Lakes

FEATURED RESEARCH

Dobiesz, N.E. and Lester, N.P. 2009. Changes in mid-summer water temperature and clarity across the Great Lakes between 1968 and 2002. *Journal of Great Lakes Research* 35:371-384.

Norine Dobiesz and her colleague examined data from more than 15,000 sites across Lakes Huron, Erie, and Ontario and documented significant changes in water temperature and clarity between

1968 and 2002. Surface water temperature in August rose by 2.9°C in Lake Huron and 1.6°C in Lake Ontario, and water clarity increased in all three lakes by 2 to 3 meters. Norine identified three important contributors to these changes: 1) warmer climate, 2) reduced phosphorus loading, and 3) invasion by zebra and quagga mussels. These changes have the potential to alter lake mixing and may inhibit nutrient

and oxygen exchange, modify photosynthesis rates that drive the lakes' food webs, and change fish distribution and growth.

Norine received a dual Ph.D. in Fisheries and Wildlife and Ecology, Evolutionary Biology, and Behavior from Michigan State University in 2003. She is currently a Research Associate with the Large Lakes Observatory at the University of Minnesota Du-



luth where her work focuses on identifying metrics of ecosystem health for global large lakes.



Carol Stepien with a walleye

FEATURED PROFESSIONAL

Carol Stepien is the Director of the Lake Erie Research Center and Professor of Environmental Studies at the University of Toledo. Carol spent much of her childhood collecting salamanders and trilobite fossils in her hometown of Cleveland, Ohio, and there formed a lasting passion for aquatic ecology and evolution. She pursued her interests in marine biology by doing graduate and postdoctoral work in California, before returning to the Great Lakes region.

As director of the Lake Erie Center, Carol's goal is to build a think-tank for applied environmental research with the ultimate goal of improving environmental and public health in the Great Lakes region. Her busy lab at the university focuses on the conservation genetics of native fishes and the invasion genetics of dreissenid mussels, gobies, and ruffe. Carol enjoys mentoring her students, all of whom are outstanding, and is currently looking for new Ph.D. student applicants.

Projects on the horizon include field trips to the Baltic Sea to work on Great Lakes invaders in their native range and to Australia to work on kelpfishes.

In addition to research, Carol is actively involved in outreach and high school education activities. Carol is the mother of Andrew and Anna, and her hobbies are SCUBA diving (she has logged over 1000 research dives), underwater photography, bicycling, and snow-skiing.

FEATURED STUDENT OR POSTDOC

Nicola Lower is a post-doc at the University of Guelph, where she is carrying out research on the sea lamprey. Nicola is from England but came to Canada in 2007 on a Canadian Commonwealth Fellowship Program. After completing a BSc at the University of Nottingham and an MSc in Natural Resource Management at the University of Leicester, Nicola started work for the UK Government Agency CEFAS (The Centre for Environment, Fisheries

and Aquaculture Science). Nicola was a researcher and project manager in the Salmon and Freshwater Fisheries Team and was involved in a number of projects investigating the factors affecting freshwater fisheries in England and Wales. During this time she completed a part-time PhD (University of Portsmouth) on the impacts of environmental contaminants on different life cycle stages of the Atlantic salmon.

Nicola's research on sea lampreys focuses on their use of daytime refuge sites during the upstream spawning migration. This cryptic behaviour is largely uncharacterized. Knowledge of this behaviour could help improve the effectiveness of control techniques, such as portable trapping, throughout the Great Lakes. Nicola is enjoying her time in Canada, particularly fieldwork in some of the streams of Lake Ontario.



Nicola Lower with a sea lamprey

Contributions Edited by Yolanda Morbey, University of Western Ontario, ymorbey@uwo.ca

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