

Coast Watch...

Seining for fish in the Niagara River



A WWWeb of Lake Ontario Learning

After a week along Lake Ontario, the fifteen 4th – 10th grade teachers on this past summer's Centers for Ocean Sciences Education Excellence (COSEE) Great Lakes tour have learned a great deal. They've been all along New York's lakeshore, from seining on the Niagara River with Buffalo State College biologist **Dr. Randy Snyder** to experiencing the Salmon River and sand dunes of Black Pond Wildlife Management Area east of Oswego with New York Sea Grant (NYSG) Dune/River Steward Coordinator **Mary Penney**. Now back in the classroom, the educators are sharing this new wealth of hands-on knowledge with their students.

Most of the teachers came from the areas bordering Lake Ontario or Lake Erie, from schools near Buffalo, Rochester and Oswego. "This group of educators and the dedicated scientists and researchers made every moment of planning well worth the effort," said NYSG Coastal Education Specialist **Helen Domske**, leader of the exploration workshop.

On the final morning of their journey, the teachers gathered to discuss how they planned to incorporate their Great Lakes experiences into their curricula and to share some "wow" moments from along the way. NYSG's Web Content Manager **Paul Focazio** documented the journey in a blog at <http://coseegreatlakes.net/weblog>

(go to "2010 Lake Ontario Exploration Workshop").

"I want to give my students a better understanding of the Great Lakes based on my experiences and learning," said middle school teacher **Erik Bauerlein**, "from invasive species and how they are being managed to understanding the food chain in the Great Lakes and how humans have impacted it." Bauerlein will use this information to supplement the water unit in his classroom.

The round goby is just one of the invasives that has had a significant impact in the Great Lakes. SUNY College at Buffalo biologist **Dr. Christopher Pennuto**, whose graduate students met with the teachers at a stop in the Buffalo area, is the project leader for a recently-completed two-year NYSG project on the goby's ecological impact to tributary streams and how readily it will expand upstream. "Our assessment of round goby swimming performance should enable us to collaborate with engineers in developing fish passage designs to minimize the goby's impact," says Pennuto.

"I have taken these wonderful, inland seas for granted," said high school teacher **Eunice Reinhold**. "But, I now feel renewed from what I learned about the ecology and geology of the Great Lakes and I want to share this enthusiasm with my students."

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Photo by Paul C. Focazio

NYSG-funded researchers are studying alewives to, among other things, help improve fisheries managers' ability to optimize salmonid stocking rates.

For many of the teachers, the experience has been an ideal refresher course. "During this weeklong immersion in Great Lakes information, I've been surprised to find that my knowledge was out-of-date," said **Judy Gluchowski**, an enrichment specialist at a Rochester, NY elementary school. She's interested in connecting lessons on Lake Ontario to an existing fifth grade unit.

"In the fall, students begin their study of science with a unit on 'The Living Environment,' a New York State standard. During this unit, students study a pond or stream ecosystem on the school campus. But, because of this weeklong training, I'll build on that unit so that the students view our school's wetlands as part of Lake Ontario's watershed and, therefore, a larger ecosystem. My aim is that students walk away with a better understanding of ecosystems, an interest in science, and perhaps a grasp of the importance of stewardship for the Lake ecosystem."

"For me, the most memorable experience was seining in the Niagara River, said middle school teacher **Paulette Morein** (pictured center in large photo on page 1.). "It has been a life-long dream to don hip waders and collect fish from the open waters." Added **Claire Faulring**, a teacher in Erie County's Springville, NY (pictured on page 1 at far right in large photo and at right in insert alongside researcher Dr. Snyder), "From my experiences, I have gained a greater appreciation for what is in my backyard."

Researcher Snyder helped Morein and the other teachers identify the fish they caught in their weighted seine nets for study before

releasing them back in the Niagara River. These included: juvenile rock bass, juvenile gar, red horse sucker, smallmouth bass, and white sucker.

Snyder is the project leader for a two-year NYSG project designed to improve understanding and accurate forecasting of the condition and growth of alewives (pictured above), an important component of the Great Lakes food web. "They are a great forage fish for Lake Ontario's salmon population," he said during his talk prior to the seining activity, "but unfortunately, that's based on both an invasive (alewife) and an introduced, stocked species (Pacific salmon)."

For Morien, all this lake learning has her energized. "I currently have no lessons on the Great Lakes, but I plan on developing a unit of study for my classroom." A few of the "big ideas" she will incorporate: lessons on identifying and naming the Great Lakes, their size, volume and depth as well as native and invasive species and what students can do to "preserve the splendor of the Great Lakes."

"They shared the spirit and dedication of other educators," said Domske. "These teachers were inspired by each other's enthusiasm and zest for learning and they've made connections that will last for years to come."

—Paul C. Focazio



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