

Preparing Teachers to Engage Students in Great Lakes Education

New York Sea Grant (NYSG) extends science and research through professional development training for teachers, empowering them to increase the coastal literacy of youth in New York’s Great Lakes region. Utilizing the “teach-the-teacher” approach, NYSG engages teachers in experiential learning and provides them with information and classroom-tested curriculum developed by Sea Grant and NOAA.

In NYSG-led professional development workshops in 2017, teachers from coastal counties across the state learned about aquatic science, Great Lakes stewardship, and STEM (science, technology, engineering and math) topics. The workshops focused on place-based, experiential learning to enable teachers to energize students and increase their concern for the environment.

Educators and researchers worked side-by-side, learning how to facilitate the transfer of science into classrooms and informal learning settings. These interactions build beneficial relationships between educators and the research community.

In August 2017, teachers spent two days with NYSG at the University at Buffalo conducting

lab experiments to learn about water quality, pollution and eDNA (DNA found in aquatic environments). Educators can replicate the experiments to foster a deeper understanding of science by integrating knowledge and research skills in their own classrooms.

Great Lakes Basin Bins, created by NYSG in 2017, contain educational materials, curricula, information and preserved specimens. The Basin Bins, available at no expense, equip educators to efficiently infuse Great Lakes science into existing teaching plans. A loan program provides the Bins to all NY coastal counties.

In the spring of 2017, NYSG helped organize Science Exploration Day, bringing more than 1,100 students from nearby school districts to the University at Buffalo to learn first-hand about science and research. Students interacted with scientists, visited laboratories and “clean rooms,” and learned about cutting-edge

Dr. Ning Dai of the University of Buffalo School of Engineering and Applied Sciences discusses water treatment processes with teachers from Western NY at a NYSG “teach-the-teacher” workshop in 2017. Photo: Helen Domske, NYSG



research related to STEM careers. More than 300 of the students were from inner-city schools, receiving unique science education exposure for often underserved youth.

NYSG actively supports Great Lakes education in

schools through activities, in-school presentations, and curriculum/resource development to

prepare teachers to develop their students as environmental stewards.

Partners:

- Center for Great Lakes Literacy
- NYS Department of Environmental Conservation
- US EPA
- University at Buffalo

NYSG continued its commitment to educating the next generations of Great Lakes citizens by working with more than 125 teachers and 15,000 students in 2017.

The Sea Grant Focus Area for this project is Environmental Literacy & Workforce Development

New York Sea Grant is a joint program of Cornell University, the State University of New York, and NOAA.

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