

EDUCATION

Sea Grant supports teachers and students to

INCREASE ENVIRONMENTAL LITERACY



Photo: New Jersey Sea Grant



In a coastal field setting, a Sea Grant educator teaches students about water quality and how it impacts the habitat they are studying.



900 undergraduate students supported by Sea Grant in an average year

1000 graduate students supported by Sea Grant in an average year



1,100

early professionals have completed the John A. Knauss Marine Policy Fellowship since 1979

SEA GRANT MODEL: RESEARCH, OUTREACH, AND EDUCATION

The Sea Grant model of integrating research, outreach, and education uniquely positions Sea Grant Educators to bring ocean, coastal, and Great Lakes science literacy to the U.S. population, beginning with preschool students and continuing through lifelong learners. Educators' backgrounds and expertise in both technical

science and education, as well as Sea Grant's strong affiliation with research universities, results in an education network unequalled in its ability to obtain and deliver current ocean, coastal, and Great Lakes science to students of all ages. Through continued production of high-quality materials, curricula, and programs based on national

and state standards, Sea Grant Educators have emerged as national leaders, providing exemplary, science-based teacher preparation and professional development opportunities on a range of ocean, coastal, and Great Lakes education topics.

URBAN STUDENTS CONNECT WITH NATURE IN CALIFORNIA

California Sea Grant's Research and Education for Students and Teachers about the Ormond Beach Restoration (RESTOR) outdoor education program has increased science literacy for 4,000 grade school students. In the urbanized, predominantly low-income City of Oxnard, California, access to natural areas is difficult. Since 2008, the RESTOR outdoor education program has provided underserved students grades 4-9 and their teachers with the opportunity to physically and

intellectually access this local natural refuge. Student pre- and post-tests indicated increased student understanding of watersheds and wetlands. Sixty teachers have been trained to teach water quality monitoring and have developed spinoff projects including creation of an educational trail at the Ormond Pointe Native Plant Nursery site and a wetland restoration project initiated in 2011 at the Ormond Pointe facility. California Sea Grant published program results in

the Journal of Marine Education in 2015, and the program will conclude in 2016.



Photo: CA Sea Grant

RESEARCHERS STUDY ENVIRONMENTAL LITERACY AMONG ETHNIC GROUPS

North Carolina Sea Grant-funded researchers studied the potential differences in environmental literacy among students of various ethnic groups. Data analyses looked at several attributes of teachers and students and determined that time outside, the level and experience of teachers, and the use of published Environmental Education

curriculum, were strong indicators of students' environmental literacy. The effect was stronger in minority students than in white students. The results related to the ethnicity effect were published in PLOS ONE, and the research was subsequently picked up by the media, resulting in ten popular press articles including print, web-based, and radio outlets.

The article on the PLOS ONE site has had nearly 4,000 views in two years, significantly more than other articles in this field, highlighting the impact of these findings. North Carolina now has the baseline data that is critical to implement and measure outcomes from the state's Environmental Literacy Plan.

METRIC TOOLS HELPS ENVIRONMENTAL EDUCATORS MEASURE IMPACTS

A new tool developed by Illinois-Indiana Sea Grant provides a novel approach to quantitatively measure the outcome of place-based education. The tool empowers Sea Grant programs across the nation to assess a meaningful, outcome-based metric that is statistically and quantitatively defensible. The effort sets a new standard for

evaluation, inspiring programs to look beyond traditional, less effective measures. The tool helps programs to demonstrate how their work with students and other audiences helps foster a sense of place for natural areas. Social scientists with Sea Grant developed the tool, which incorporates metrics grounded in social science theory and

literature. The new tool has an accompanying guidance document. This work was presented to nationally to the Social Science Community of Practice and regionally to the Great Lakes Sea Grant Network.



NOAA Sea Grant
seagrant.noaa.gov



JANUARY 2017