Mentoring Workshops Help Teachers Explore the Sound with their Students
by Nancy Balcom and Diana Payne, Connecticut Sea Grant

“I am 100% confident I can bring students here.” “You have helped me inspire, inform and manage my students.” “This workshop was absolutely fantastic…a wonderful day of learning and exploration! I will be getting my students into the field next month.”

These quotes are from educators who participated in a Long Island Sound (LIS) mentor teacher workshop offered by the dynamic team of Donna Rand and Donna DuBaldo. Donna and Donna, as we refer to them, are teachers of science and physical education, respectively at the Capitol Region Education Council’s Glastonbury-East Hartford Elementary Magnet School. More importantly to us, they are long-standing mentor teachers in a professional development program initiated by Connecticut Sea Grant and supported by the EPA Long Island Sound Study (LISS). Since 2002 the Long Island Sound Mentor Teacher (LISMT) Program has recruited teams of top notch, highly respected educators to create and hold one-day workshops for their peers, to assist them in bringing Long Island Sound content into their curricula. All workshop activities tie into state and national science standards, so they are not an added program to fit into an already busy schedule but an enhancement of what is already being taught. In 2010, New York Sea Grant and EPA brought the LISMT Program into New York.

“The goal of our workshop is to help teachers feel comfortable with the logistics of bringing their own students to the Long Island Sound coast and providing an authentic learning experience for them,” says Rand. The teachers have brought their own students to Hammonasset Beach State Park in Madison for many years; for some students, it is the first time in their lives they are exposed to a saltwater environment. “We want our students to work as scientists, ask questions about the ocean environment, and find out what lives there. By encouraging other teachers to take their students to the shore twice a year, they too may be able to find evidence of changes over seasons and years,” she continues. DuBaldo adds, “When the teachers then go back and involve their own students in a study of the Sound that is not just hands-on but activates the whole body and mind, they gain an appreciation for Long Island Sound and a sense of environmental stewardship that can stay with them their whole lives.”

In Connecticut and New York, mentor teachers have teamed up to offer 37 LISMT workshops for 501 formal and informal K-12 educators; the workshop participants in turn teach more than 26,050 students annually in 74 Connecticut and 69 New York cities, towns, and regional school districts. With oversight by Connecticut Sea Grant Education Coordinator Diana Payne, teams of mentor teachers develop a workshop highlighting a theme of their choice, identify appropriate resources and equipment to share with workshop participants, and conduct the workshop at the location(s) of their choosing.

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Nancy Balcom is the associate director and Diana Payne is the education coordinator at Connecticut Sea Grant.
choice. The workshops emphasize “learn by doing” participation so teachers can experience all of the activities firsthand. EPA financial support covers the cost of the workshop resources and “start up” field equipment given to the participants and provides modest stipends for the mentors.

Targeting formal and informal educators of grades 4–12, Rand and DuBaldo run them through a series of field activities that address different science disciplines. They focus on how to find out what’s there, and how to collect meaningful data and even evidence that things are or are not changing over time. When the teachers return with their own students to the field site and then follow up with additional classroom activities, they are helping students forge a personal connection to the ocean environment. To help make this happen long after the workshop participation “happy glow” fades, Rand and DuBaldo summarized what they have learned about running a successful field experience in “Science Lessons at a LIS Field Site,” a section of Sea Grant’s Long Island Sound Curricular Resource Guide.

Developed for educators interested in teaching about the Sound, the guide is a composite of activities and lesson plans, background information and resources contributed by mentor teachers and Sea Grant staff. Also available in Spanish, “Science Lessons” breaks down tried and true logistical stations in a way that enables parents and teachers with limited science / ocean backgrounds to work with a standardized protocol to lead a group of students and focus their attention on, for example, the exploration of a rocky beach. “We encourage teachers of art, music, technology and other disciplines to take the workshop so they can guide the students doing the work at each station, and at the same time share their own unique spin,” says Rand.

She adds, “If students look at field guides, they might expect to find all sorts of marine life on the rocky coast, but in reality now they will likely only find the invasive Asian shore crab. This leads to discussions of how we determine if a species is considered invasive, and how do scientists collect that information.”

Preparing and giving a mentor teacher workshop is a lot of extra work, so what brings back mentor teachers like Rand and DuBaldo, and Ken Fusco and Leanne Nolan of Plainville High School back year after year? “For me,” says Rand, “the reward is seeing teachers who have taken the workshop at the beach with their own students. It’s rare not to see one of our workshop “graduates” with students at Hammonassett on the same day that we’re holding the mentor teacher workshop. One science coordinator took the workshop, and then returned the following year with several science teachers who participated. In the third year, those same teachers brought their own students to Hammonassett while their student teachers took the workshop the same day.” DuBaldo adds, “It’s great to see the results, the effectiveness of what we are doing.”

Rand and DuBaldo also note that all learning is two-way in the workshops; they learn from their peers as all share expertise and perspective, and exchange ideas.

“The Sea Grant / LISS workshop gives teachers the tools to get started,” says Rand. “We provide each teacher with a seine, minnow trap, field guides and other resources. We get them in the water using waders and the equipment, so teachers feel comfortable leading the field experience themselves, reducing costs and perhaps enabling them to take their students more often.”

“From our own student trips, we have learned how to rotate the time spent on the rocky beach and sandy beach,” says Rand. “We might be measuring the particle size of tiny sand crystals but we also include time to look up and around at the overall environment. We try to make sure there is something for everyone while keeping it geared to our goal of addressing what we want students to learn from the curricula and standards. We immerse them in the environment in a substantive way, capturing squirming life in a seine net, looking at them under a microscope and then putting them back.”
The LISMT Program and the myriad of resources developed through Connecticut and New York Sea Grant’s extensive and productive relationship with the EPA LISS will continue to ensure that the relevant science is properly translated and utilized by citizens of all ages in the Long Island Sound watershed. With the finalization of the Next Generation Science Standards, the successful LISMT Program is even more critical and relevant. Unlike current state and previous national science standards which are nearly devoid of marine and aquatic science content, educators will now incorporate Earth systems science (which includes ocean, coastal and climate change topics) into K-12 curricula. The LISMT Program will help ensure that current science-based content is utilized by mentor teachers and participants during the transition to new standards and frameworks.

“Students can learn about the ocean in a lab setting or even virtually, but you can’t really duplicate the experience of being in the field looking through hand lenses, peering under rocks, smelling the salty air, and checking weather conditions,” says DuBaldo. “After completing a station where lots of Asian shore crabs were collected from under the rocks, measured and gender determined, one student commented ‘If this was a sport – I’d like it better than football!’ How can you beat that?” She adds, “The success of these workshops began with Diana Payne’s vision for how they should be structured around peer-to-peer teaching. Participants in our latest workshop had the added benefit of meeting Sea Grant Communications Director Peg Van Patten, author of The Seaweeds of Long Island Sound, one of the resources we handed out. Peg added a layer of expertise as an author and scientist to the workshop, talking about seaweed as food source and a new commercial sea vegetable industry. It’s really a privilege to do this workshop year after year and work with teachers willing to step out a bit and guide their students. Thanks for keeping us on board.”

Mentor teacher Ken Fusco (right) shows teachers how to use elevation sticks to determine the beach profile during a LIS mentor teacher workshop. Photo credit: Diana Payne