Explore Our Shore Like Never Before

The Stars Challenge at Monmouth University 2010

“In the end, we only conserve what we love. We will only love what we understand. We will only understand what we are taught.”

These words from Senegalese environmentalist Dr. Baba Dioum ring so true. What a wonderful semester it has been, having the opportunity to facilitate learning for these 7th grade “Stars”! My hope was to not only engage the students with a variety of thought-provoking experiences but to equip them with the tools that responsible young adults need to continue to become stewards of our environment.

Throughout our course we studied barrier beaches and salty marshes. We had sand blown in our faces and handled slimy, squirming animals. At each turn we explored diversity but in the end we learned that similar factors govern the ecological importance of all environments. Most of all, students realized that they play an integral part in the survival and sustainability of the marine ecosystem. It is my wish that your experiences with Star’s Challenge may bring you closer to a lifetime of enjoyment and discovery in the wonders of the world around us!

Fondly,
Diana Burich

Students simulated an oil-contaminated ecosystem as they explored the difficulties involved in oil spill clean-ups in a coastal environment. Megan holds Speedy, a diamondback terrapin, one of the main estuarine species that could be affected by an oil spill.


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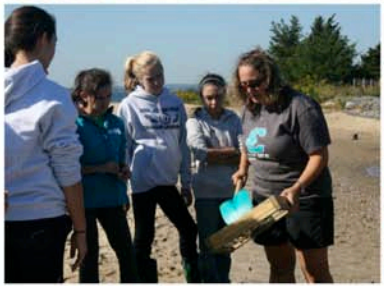
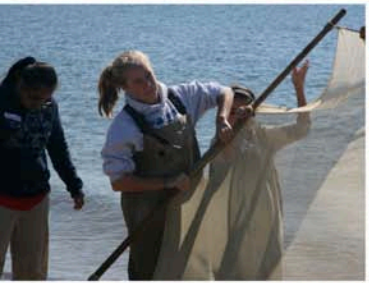
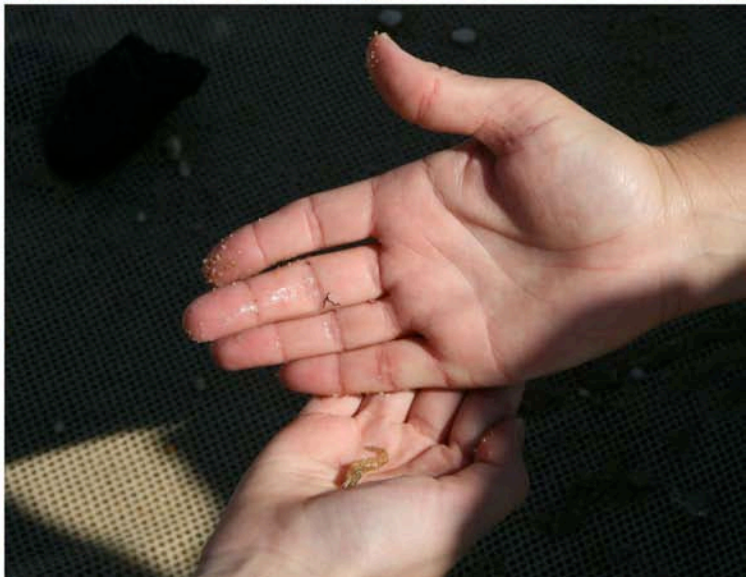
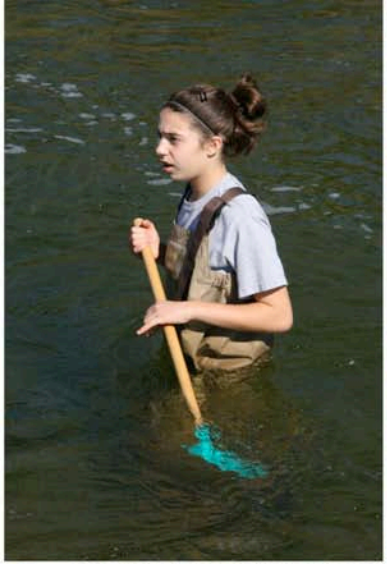
The first of 3 field trips designed to explore assortment and interconnectedness in Sandy Hook's ecosystems. Students studied the diversity of an estuary by sampling the nearshore and benthic communities, analyzing water chemistry, and surveying flora. Group photo at the Douglas-Halyburton Memorial on Sandy Hook.



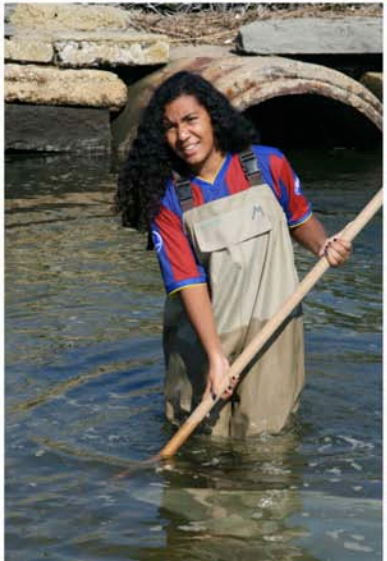


Madison helps Molly with her waders as they prepare to seine. Jon wades through the tide pool as (teaching assistant) Andrew “tests” the temperature of the water. The group surveys their catch on the seine net.







Back at New Jersey Sea Grant Consortium's teaching lab, the students observe and identify plankton collected at Horseshoe Cove.

Second field trip at Sandy Hook, where an invasive species study is undertaken by the class.

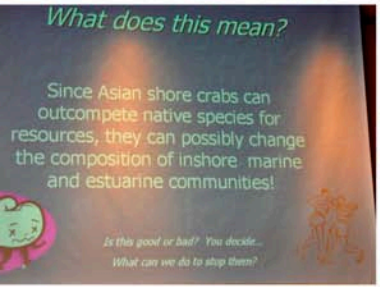
Using hula-hoops as quadrants (and for exercise!), students quantify Asian shore crabs, a species introduced to the U.S. in the late 1980s.

Species diversity at Horseshoe Cove. Nektonic organisms included mummichogs, silver sides, shrimp, hermit crabs, mud snails, comb jellies, and various types of seaweed.

Third field trip at Sandy Hook's North Beach area. By measuring the topographic surface of the beach, students are able to determine its "profile", or its morphology. Beach profiles change shape by adjusting to the forcing conditions of the ocean such as waves, tides, wind and nearshore currents.

Megan and Gina discuss the fine points of a moon snail shell, as the group collects specimens for their predator-prey study.


Nikon


What does this mean?
Since Asian shore crabs can outcompete native species for resources, they can possibly change the composition of inshore marine and estuarine communities!
Is this good or bad? You decide...
What can we do to stop them?

Sianin categorizes her prey objects (surf clam shells). Students explored the predator-prey relationship between moon snails and surf clams.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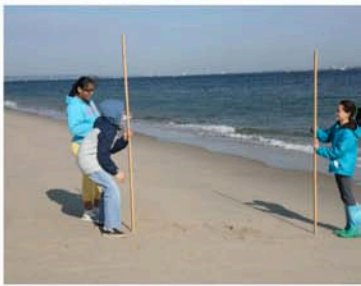



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