

COASTtoday

A Newsletter from the New Jersey Sea Grant Consortium

Federal Funds Will Focus on Storm Warning Awareness

NOAA Sea Grant has awarded a total of \$1.8 million to the New Jersey, New York and Connecticut Sea Grant Programs to improve storm warning communications between the National Weather Service and citizens.

The Coastal Storms Awareness Program (CSAP) will carry out an integrated research and outreach program to improve coastal storm warnings and reduce loss of life and property. The three program partners have



coordinated a call for research proposals for projects that can help reduce the messaging gap among weather forecasters, emergency managers and affected coastal citizens.

The selected projects will examine how people responded to warnings associated with storms like Superstorm Sandy, what

influences the choices they made and how they can be reached more effectively in the future. The research conducted will link cutting edge risk communication science with targeted outreach for those who convey critical hazard information, enhance the effectiveness of risk messaging and help people choose their actions with a clear knowledge of the risks and consequences of their choices.

Damages and economic losses from Superstorm Sandy were estimated to be nearly \$37 billion in New Jersey. The New Jersey Sea Grant Consortium has been working with stakeholders for the past year to facilitate post-storm recovery, rebuilding and resiliency. In addition to the CSAP program, current efforts include projects that address community climate adaptation and support work to increase awareness and implementation of the best practices to nourish beaches and dunes.





Scouting for Sandy Hook Habitats

Led by the New Jersey Sea Grant Consortium's (NJS GC) Scout Program Coordinator Jody Sackett, a group of 19 scouts, some from as far away as Pennsylvania, discovered how much fun learning can be during a November Oceanography class developed by NJS GC. While seining in Sandy Hook Bay the catch-of-the-day included fish, shrimp, comb jellies, snails, pipefish, crabs and more in their nets. They also explored beach vegetation and dunes, collected plankton with hand-made nets, used a portable chemistry kit to check the oxygen, salinity and acidity levels of bay water, and took part in other activities all directed at earning the Boy Scout Oceanography Merit Badge.

Back in NJS GC's classroom, the group learned what causes waves and currents and conducted experiments to figure out why both salt water and cold water are dense. The scouts observed the plankton they had collected under microscopes along with sand from all over the world. They were also introduced to native fish, crabs and turtles NJS GC keeps in its Sandy Hook headquarters aquariums.

Following the program, the boys were required to submit a 500-word essay to Sackett about their experience as part of their badge requirement.

Sackett was recently hired to expand NJS GC's scout program. A new Boy Scout Environmental Science Merit Badge class will be added this spring and 14 new Girl Scout Merit Badge programs will be offered beginning in 2014. In addition there are five year-round



field trips available to help both boy and girl scouts explore the marine environment.

For details and descriptions about the NJS GC Scout Program visit www.njseagrant.org or contact Jody Sackett at 732-872-1300, ext. 20 or at jsackett@njseagrant.org.

PSEG Grant to Fund Jersey City Project



The New Jersey Sea Grant Consortium's (NJS GC) Education program has been awarded a grant from PSEG to provide professional development training and materials to the Jersey City School System to help integrate marine-related science, technology and engineering topics into their summer camp and afterschool programs.

NJS GC will develop and administer a STEM (science, technology, engineering and math) program for out-of-classroom time for Hudson County Schools of Technology's (HCST) Explore 2000 program. The program will utilize remotely operated vehicles and related scientific principles to engage students in the science of ocean exploration. The goal is to train the next generation of STEM professionals by establishing and implementing a program for middle school students that includes hand-on, inquiry-based activities in coastal ecology and estuarine research and technology. NJS GC will be developing curriculum and evaluation techniques and will provide professional development training for HCST staff along with on-site support, student mentoring and field experiences. The deliverables will be relevant to the students' curriculum while utilizing Jersey City's urban coastline and estuarine waterways.

Curriculum development will begin in January with professional development for teachers scheduled for June 2014. A summer camp for students will take place in July 2014 at James J. Braddock Park's Environmental Education Center (formerly North Hudson Environmental Academy) in North Bergen (Hudson County). Field trips are planned to Liberty State Park and Sandy Hook.

For more information contact Diana Burich at 732-872-1300, ext. 16 or at dburich@njseagrant.org.

Consumer Seafood Survey

This fall, the New Jersey Sea Grant Consortium, Rutgers Cooperative Extension and Sea Salt Community Supported Agriculture (CSA) collaborated on a post-season survey to gauge the satisfaction of participants in the second year of a program to help expand regional markets for local New Jersey seafood products.

The survey results will help assess the program's success among customers and identify areas for improvement next season. It primarily focused on product quality and quantity and the delivery process.

The program created a direct link between local commercial fishermen, aquaculturists and consumers. It offers CSA members the opportunity to enjoy fresh, responsibly harvested, locally-sourced seafood and simultaneously support the livelihoods of small-scale fishermen and aquaculturists. Both fish and land farmers receive financial support in advance of their harvests, allowing them to invest in their farms for the season.

Shareholders gain a better understanding of how their food is produced and know that they are supporting local economies while

reducing the environmental impacts associated with industrialized systems of agriculture production and consumption.

Results of the survey and updates on next season's CSA program will be featured in future *COASTodian* issues.



A Barrel of Fun

Through the partnership agreement between the New Jersey Sea Grant Consortium (NJS GC) and the Rutgers Cooperative Extension Water Resources Program, ten rain barrels have been donated for the 2014 Top Ten Beaches Rain Barrel Art Project which will feature iconic coastal, beach, bay, ocean and boardwalk scenes and images celebrating the Jersey Shore. Dozens of New Jersey artists will be vying for the chance to paint the containers and turn them into functional works of art.

The NJS GC's 2014 Top Ten Beaches Rain Barrel Art Project will be showcased at its 12th Annual State of the Shore



Media Event on May 22. The beautified rain barrels will then roll out on tour around the state throughout the summer and be displayed at selected New Jersey beach communities and special events. They will be offered by auction or raffle to the public after Labor Day. This unique program and tie-in with the popular New Jersey's Top Ten Beaches project will promote environmental awareness and stewardship of our coastal and water resources.

For more information about this project, contact Jessica Brown at jess@envsci.rutgers.edu.

Helping Marinas Prep for Possible Climate Change Effects

The New Jersey Sea Grant Consortium Marine Recreation Agent Mike Danko recently coordinated a survey of marina owners and operators to determine their need for outreach and technical materials related to climate change. The potential effects of climate change

include the frequency and intensity of extreme weather events and sea level rise.

The survey was initiated in September 2013 and closed in mid-October and utilized an electronic survey tool to collect the data. HDR Engineering assisted with the design of the survey and is currently conducting the data analysis. The response rate was approximately 13%. A preliminary look at the results shows that Superstorm Sandy caused the majority of the respondents to take some sort of action to minimize damage from future storms. A more thorough analysis of the data will help develop appropriate outreach materials and identify other target audiences for these materials. A final report on the survey and collected data is expected to be released in early 2014.

For additional information about the survey or to reserve a copy of the report contact Mike Danko at 732-872-1300, ext. 29 or at mdanko@njseagrant.org.



New Knauss Fellow



ANNA HERMES

Rutgers University Graduate Research Assistant Anna Hermes has been selected as the first New Jersey finalist for the Knauss Fellowship since 2009. Hermes is a biogeochemist whose research has already led to important advances in the understanding of organic carbon processing in estuaries. Her master's research, conducted in Delaware Bay demonstrated that wetlands are significant contributors of land-derived carbon to the estuary, which suggests that lateral transport processes connect estuarine carbon pools, and further, that wetland rejuvenation efforts are likely to affect estuarine

carbon fluxes. Hermes' placement assignment for the fellowship program is with the Office of Laboratories and Cooperative Institutes and the NOAA Advisory Board.

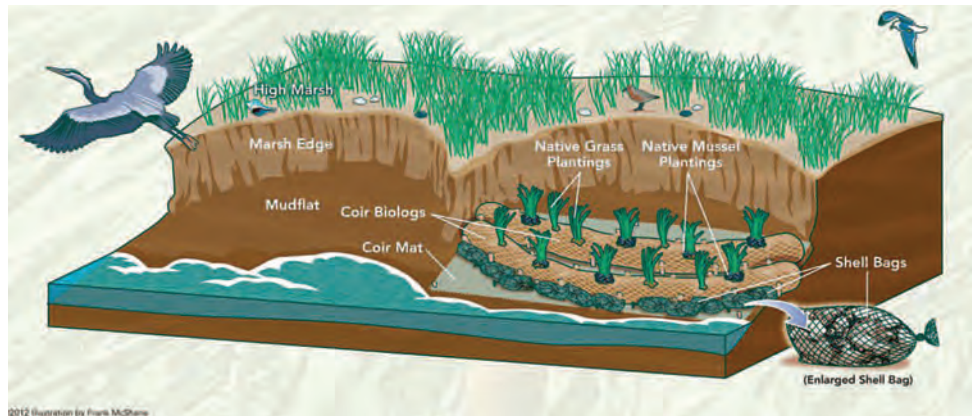
She hopes the Knauss Fellowship can help to turn her master's work into feasible policy. She envisions a career path involving a position at a state, federal, or non-profit agency, conducting research and engaging in water resource policy and management.

The Knauss Fellowship Program was instituted in 1979 as a Sea Grant vehicle to match marine science-interested graduate students with "hosts" in the legislative and executive branches of government. Each year graduate students from across the country apply for the prestigious fellowship.

Living Shorelines

Shorelines are often stabilized with hardened structures, such as bulkheads, revetments, and concrete seawalls. Ironically, these structures can increase the rate of coastal erosion, remove the ability of the shoreline to carry out natural processes, and provide little habitat for estuarine species. The New Jersey Sea Grant Consortium (NJSJC) is currently working with NOAA and other partners to implement a more natural bank stabilization technique called "living shorelines." This approach uses plants, sand, and limited use of rock to provide shoreline protection and maintain valuable habitat. The benefits of living shorelines include stabilization of the shoreline, protection of surrounding environment, improvement of water quality through filtration of upland run-off, and creation of habitat for aquatic and terrestrial species.

NJSJC previously funded the research of Danielle Kreeger (Partnership for the Delaware Estuary) and David Bushek (Rutgers-Haskins Shellfish Lab) which led to one of the first living shoreline



2012 Illustration by Frank McDermott

demonstration projects in the state. Lessons learned during that project were used to help design a living shorelines general permit for the state created to encourage similar projects. The general permit was nearly complete when Superstorm Sandy struck. In the wake of Sandy, the general permit was adopted in July 2013.

NJSJC Coastal Processes Specialist Dr. Jon Miller is currently working with the NJDEP to develop engineering guidelines to support the newly adopted general permit. The guidelines are intended to ensure that an appropriate amount of engineering goes into the design of living shorelines projects, and to provide a common base from which both the engineering and regulatory communities can draw. As a part of this research several demonstration projects are being considered to illustrate the application of the proposed guidelines. Dr. Miller has been invited to speak at the Mid-Atlantic Living Shorelines Summit in Cambridge, Maryland in December and serve on a committee tasked with devising a research plan for advancing the understanding of potential green shoreline infrastructure strategies for New York City.



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