

COASTODIAN

A Newsletter from the New Jersey Sea Grant Consortium

Rip Current Awareness: A Shore Sign of Integrated Success

Despite the focused efforts and concern of so many New Jersey beach communities to create better public awareness about the serious danger of rip currents and prevent potential rip-current related drowning incidents, there were five such incidents this summer in New Jersey. While national events like Rip Current Awareness Week are effective, rip current outreach and education need to be ongoing.

The New Jersey Sea Grant Consortium (NJS GC), the Jersey Shore Partnership Foundation and the City of Asbury Park hosted a Rip Current Connections press event just before the July 4th holiday, one of the busiest times for beaches up and down the Jersey Shore.



Walter Drag, Meteorologist from the Mount Holly NOAA National Weather Service

by NJS GC all along the coast in Monmouth, Ocean, Atlantic and Cape May Counties. They also placed QR tags on the signs to help educate beachgoers to use their smart phones to learn more about rip current dangers and how to avoid them.

The Asbury Park event was also designed to update the press and public about the new tools being created and used by NJS GC, the National Weather Service and

others to connect and update



The event showcased a new program launched this summer by the Girl Scouts of the Jersey Shore. The unique grassroots project sponsored by The Jersey Shore Partnership Foundation and funded by JCP&L and TD Bank, had the girls scouting the coast to inventory posted rip current signs provided to towns



Dr. Jon Miller, NJ Sea Grant Consortium Coastal Processes Specialist

the media to rip current awareness activities and technology that help predict and warn beachgoers about rip current dangers and conditions.

Walter Drag, meteorologist from the Mount Holly NOAA National Weather Service, offered information on the commonalities of the New Jersey fatalities attributed to rip currents and the latest science about the way rip currents form near jetties, piers, groins, and on the beach.

Dr. Jon Miller, New Jersey Sea Grant Consortium Coastal Processes Specialist and Research Assistant Professor at Stevens Institute of Technology, provided an update on the rip current smart phone mobile app he introduced in June in partnership with a team of Stevens computer science senior students and discussed its potential national and international applications.

Although beach crowds will be thinning out as the summer weather and warm waters begin to wane, NJS GC will continue to develop strategies and resources to support its ongoing rip current awareness and outreach campaign.



2012 New Jersey Shore Shots Calendar Captures National Award

The New Jersey Sea Grant Consortium's (NJS GC) graphic designer Rory Joyce has received a national 2012 APEX Award for the New Jersey Shore Shots Calendar. The calendar was developed as an offshoot of a photo contest incorporated into NJS GC's *New Jersey Top Ten Beaches (NJTTB)* survey project. APEX Awards are based on excellence in graphic design, editorial content and the ability to achieve overall communications excellence. According to John De Lellis, Editor and Publisher for Virginia-based Communications Concepts, Inc, which presents the annual national APEX awards, this year's competition was exceptionally intense. "Close to 3,5000 entries were received in a number of categories and they all displayed an extraordinary level of quality," De Lellis said.

Visitors to the njtop10beaches.org web site were invited to submit photos celebrating and embracing the natural elements of the state's beaches and bays. A panel of judges consisting of three of the state's

most notable photographers rated and culled photos from the hundreds received and narrowed the final selection to 27 images. Those finalists were posted on the NJTTB web site where visitors voted their favorites and the top dozen were then used to create a novel small format, limited run 2012 calendar. The calendars were so popular, that thousands of hard copies printed were gone in a flash, so Joyce also created a package of downloadable desktop calendar files for people to enjoy the images and get a taste of what the calendar looked like on the NJS GC website at njseagrant.org/publications/shore-shots-calendar.



2013 Stew Tweed Scholarship Applications Available

The New Jersey Sea Grant Consortium (NJS GC) is now accepting applications for the 2013 Stew Tweed Fisheries and Aquaculture Scholarships. The scholarship was established six years ago in memory of Stew Tweed, a twenty-seven-year veteran of the New Jersey Sea Grant Marine Extension Service, who passed away in early 2007. The application deadline for this year's scholarships is March 29th, 2013.

The scholarship program attracts applicants from all over New Jersey. Graduating high school seniors as well as undergraduate- and graduate-level students pursuing studies, research or a career focused in fisheries or aquaculture are eligible. The program awards \$1,000 to a

graduating New Jersey high school senior. Undergraduate/graduate students who are New Jersey residents but who may or may not be studying out of state are awarded \$1,500. The scholarships are traditionally presented by Congressman Frank Pallone (6th District) at Ocean Fun Days, NJS GC's annual late spring outreach event at Sandy Hook.

Applicants can download the application forms and anyone interested in supporting the scholarship project can visit the Consortium's web site or go directly to StewTweed.org

RESEARCH

Student Scientist Helps Replenish Horseshoe Crab Stocks

The New Jersey Sea Grant Consortium (NJS GC) recently participated in The Horseshoe Crab Enhancement Initiative, a project led by scientists at Rutgers University in conjunction with several other partnership organizations to rebuild horseshoe crab stocks in Delaware Bay. The goal of the project is to better inform the public about how policy affects the horseshoe crab population in the Delaware Bay and to educate stakeholders and students about the importance of the species to the Delaware Bay ecosystem.

The project includes several modules, one of which directed partnership organizations to develop similar small-scale projects to engage students in culturing horseshoe crab eggs. Under the direction of Dr. Peter Rowe, NJS GC's director of research and extension, with assistance from Jessica Staats, the organization's education and outreach coordinator, a rising sophomore from the Marine Academy of Science and Technology (MAST) collected horseshoe crab eggs from Sandy Hook Bay in an attempt to test methods and learn best practices for raising horseshoe crabs.

For almost three months this summer, Tessa Vande Creek raised a

small population of the animals at the NJS GC's headquarters on Sandy Hook, ultimately re-releasing the juveniles into the bay at Horseshoe Cove. She also had an opportunity to visit the large-scale horseshoe crab culturing operation at Rutgers' Aquaculture Innovation Center in Cape May to learn more about the procedures involved in aquaculturing this important species. Vande Creek plans to base her senior year project at MAST on what she learned and saw during her participation in the program.

For more information about The Horseshoe Crab Enhancement Initiative or to learn how to get involved in the project, contact Dr. Peter Rowe at prowe@njseagrant.org.



Baby horseshoe crabs compared in size to a penny.

EDUCATION



SCIENCE - NJSGC's Jessica Staats (center) introduces a summer flounder to teachers during an August professional development workshop on NOAA's R/V Nauvoo.



TECHNOLOGY - A Kinematic Global Positioning System (GPS) used to collect beach topography data is demonstrated to a group of educators and administrators from Red Bank, New Jersey.



Helping students and teachers get excited about **STEM** or science, technology, engineering and mathematics while exploring the wonders of Sandy Hook's bays and beaches was an on-going theme this summer at the NJSGC. Because marine science is interdisciplinary, studying it allows each learner to put into practice what he or she learned in their physics, geology, mathematics, chemistry, biology, technology and engineering classes to better understand and appreciate New Jersey's marine and coastal environment.

SCIENCE - A group of middle school students from Ripley Ohio examines a horseshoe crab during a one-week stay with the NJSGC. The program is part of a two-year STEM education study funded by the National Science Foundation.



ENGINEERING - During a Sandy Hook field trip, students from Red Bank's summer enrichment program design, build and test remote operating underwater vehicles or ROVs with NJSGC's K-12 Coordinator Diana Burich.

MATHEMATICS - Three K-12 educators enrolled in a master's degree program in STEM education go to the water's edge to gather beach elevation data. The data was later graphed to show the slope of Sandy Hook's terrain.



SCIENCE - Dissecting a squid proves fascinating to this young scientist participating in NJSGC's marine science summer camp.

NJSGC Field Instructor Selected for NOAA Scientific Cruise

Rob Eckstein of Locust will ship out on the NOAA Fisheries Service vessel *Henry B. Bigelow* in late September to work on a bottom trawl survey alongside NOAA scientists. Eckstein, who has worked as a seasonal marine science field instructor NJSGC for the past four years was accepted as part of the volunteer crew departing Newport, Rhode Island on September 24th and returning October 5th.



ROB ECKSTEIN

Eckstein will join the crew of the *Bigelow* during the second leg of the fall Mid-Atlantic survey collecting data on

abundance, distribution, feeding ecology, size and age composition of stocks of economically and ecologically important species.

"So much is at stake now that climate change, acidification and overfishing are affecting our ocean habitats. The importance of the data provided by these surveys is more vital than ever and I'm very excited about being a part of this survey," noted Eckstein.

Eckstein will be sharing his experience on-board with his fellow field instructors and others via the organization's social media pages. Post-cruise plans include a seminar hosted by NJSGC during which Rob will share his adventure.

Rip Current Mobile App Makes National Waves

NJSGC Coastal Processes Specialist Jon Miller served up the latest news about his rip current mobile app project as part of the Sea Grant Brown Bag Lecture Series in late July.



Miller attended a special meeting called by the NOAA-National Weather Service after the agency had been approached by the National Sea Grant Office (NSGO) to see if there was interest in collaborating with the New Jersey Sea Grant/Stevens Institute of Technology on Miller's recently released rip current smartphone application. The NOAA/NWS discovered similar high-tech efforts were being developed within the Weather Service and decided both parties should meet to discuss all the work being done and see if there are ways to synchronize efforts.

Following the morning meeting, Miller led a brown bag seminar in the NOAA Library to present highlights of the RipCur smartphone mobile app. It provides a way for lifeguards to communicate with one another in real-time and relay rip current information to interested parties including the NWS and the US Coast Guard. Once input, the rip occurrence becomes a part of a fully searchable active dataset. This allows lifeguard administrators and researchers the ability to identify the rip currents occurring at specific times or during specific



Dr. Jon Miller, right, and his team from Stevens Institute of Technology who helped develop the mobile phone app.

conditions. The pilot version launched this summer was used by more than a dozen beach patrols in New Jersey and interest in the app has come from as far away as Israel and Australia.

Our 2011 activities & accomplishments are just a click away in our current online Annual Report. Visit njseagrant.org, take the plunge and read about what we've been up to and what's next at the New Jersey Sea Grant Consortium.



Clean Vessel Act Partners Launch NJBoating.org



The New Jersey Clean Vessel Act (CVA) Steering Committee has charted a new course for providing recreational boaters with easy access to current and useful information about best boating practices, fishing regulations and much more. It recently launched NJBoating.org a comprehensive easy-to-use, interactive website that links visitors to the best of boating in New Jersey. The site offers information boaters need to know when heading out for a day on the water including a mapping feature to locate boat ramps and

pumpout facilities throughout the state.

According to NJSGC's Mike Danko who is the chairman of the New Jersey Clean Vessel Act Program Steering Committee, vessel generated sewage impacts people and wildlife and can cause the closure of shellfish beds and swimming beaches. Boaters can play a major role in protecting water quality by always pumping out their boats' holding tanks at a marina facility or into a pumpout boat. The CVA is counting on the new website to help make it easier for boaters to find places to pumpout and encourage them to do the right thing for the environment.