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A Newsletter from the New Jersey Sea Grant Consortium

NJ Top Ten Beaches Adds Prize Package Drawings and Issues Poll to 2012 Survey

New Jersey residents and beach lovers will once again be asked to help rank the state's favorite shore destinations in the 5th Annual New Jersey Top Ten Beaches Poll. Voting officially opened at njtoptenbeaches.org on Tuesday, February 21, and will continue until April 30. The contest is run by the New Jersey Sea Grant Consortium (NJSGC) and the Richard Stockton College Coastal Research Center as a way of making people feel more connected to, and protective of, the state's 127-mile coastline.

This year visitors will also be invited to take part in a simple, single-question poll to select the issue they feel will have the biggest impact on the future of coastal New Jersey. NJSGC will take the number one issue from the mini-poll and develop a special product or event that focuses on that issue. It's all part of a NJSGC initiative to reach out to residents and specific segments of the state's population to see what they feel the important coastal issues and priorities are and use that input as a driving force to develop the organization's future research education and outreach projects.

They can also opt to enter a special drawing for one of four Jersey Coast Prize Packages that will celebrate not only New Jersey's beaches but other area attractions and activities to enjoy during their next visit "down the shore." Jersey Coast Prize Package sponsors will be donating merchandise, gift certificates and coupons for restaurants and iconic shore eateries, hotel or bed & breakfast establishments, amusement piers, a theme park, festival or aquarium passes, winery tour passes, and more! The Jersey Coast Prize Package drawings were added as a way of showcasing individual coastal tourism regions and thanking survey voters.

Winners will be announced just before Memorial Day weekend at the NJSGC's Annual State of the Shore Media Event on May 24 when the Top Ten Beaches for 2012 will also be revealed.

Stakeholder Forums Provide Programmatic Focus

The NJSGC recently held a series of meetings around the state to help identify the priority needs and issues facing New Jersey's marine and coastal environment.

The four stakeholder forums were hosted throughout February at NJSGC member institutions Montclair State University, Burlington County College, Monmouth University and Richard Stockton College.

At each forum, attendees were asked about the issues and concerns they would like to see NJSGC and the National Sea Grant Program address. Their input will help guide the development of the next strategic plan for the NJSGC and the National Sea Grant Program for 2014-2017. Forum participants also had the opportunity to meet NJSGC staff and researchers and learn how the NJSGC is contributing to the well-being of our state's coastal environment.

A survey was also distributed at the forums and set up online to gather additional information and opinions about the five primary focus areas for NJSGC and the National Sea Grant Program activities: Healthy Coastal Ecosystems; Sustainable Coastal Development; Hazard Resilience in Coastal Communities, Safe and Sustainable Seafood and Ocean Literacy/Education.

The stakeholder forums are just one component of NJSGC's current initiative to reach out to residents and specific segments of the state's population to see what they feel the important coastal issues and priorities are.

To find out more about the NJSGC's strategic plans and initiatives, visit njseagrant.org.

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Barrels Bid Good News for Art and the Environment

The Rutgers Cooperative Extension Water Resources Program is once again coordinating the "One Barrel at a Time Co-op," where artists beautify rain barrels to be auctioned off to the public. A rain barrel is a 55-gallon recycled food-grade container placed at the downspout of a roof to collect rain water. By engaging local artists, the project makes rain barrels more appealing to the general public and brings local art to a wider audience.

The ultimate goal of "One Barrel at a Time" is to help the environment. These uniquely painted barrels will both save water and reduce the amount of rain water that enters storm drain system which helps prevent flooding and pollution from entering New Jersey's lakes and streams.

Rutgers will partner with New Jersey artists that apply and are selected to paint rain barrels. Once rain barrels are painted and returned, they will be displayed at Rutgers Day, at Duke Farms and on the Rutgers Cooperative Extension Water Resources Program web site. The barrels will then be auctioned off to the highest bidder with the profit going back to the artist.

The painted barrels will be displayed at Rutgers Day on April 28 and at Duke Farms on April 30 and will be open for bidding on eBay through May 20. For more information visit water.rutgers.edu/Stormwater_Management/One_Barrel_Co-op.html.

Getting Smart about Rip Current Education and Data Collecting

Although rip currents are potentially one of the deadliest natural phenomena, they receive far less publicity than other natural hazards. One reason is that our understanding of rip currents is still somewhat limited. NJSGC's Coastal Processes Specialist Dr. Jon Miller hopes to change that by utilizing today's fast-paced, ever-evolving mobile device technology to collect and distribute rip current data and related information.

Miller and his colleagues at Stevens Institute of Technology and the National Weather Service (NWS) have developed a smartphone app for multiple platforms that could prove invaluable to local lifeguards and the NWS. The pilot project is designed to assist lifeguards with identifying and cataloguing rip current occurrences on their own beaches, and allow them to see what neighboring communities are experiencing in real time. The NWS can use the collected information to assist in evaluating their own rip current forecasts and potentially provide information for changing them on the spot, if necessary. From a research standpoint the information will help refine current understanding about when and where rip currents occur and under what conditions they are most prevalent.

The two main components of the system are the mobile phone app for entering the information, and the creation of a secure web page that would allow registered users to view the information. The concept is fairly straightforward. A lifeguard in a participating community with a smartphone would walk the beach (or drive an ATV, etc.) and stop when a rip current is identified. Using the smartphone app, the location and some basic information about the rip current could be recorded (approximate size, strength, adjacent to a structure, etc). The location could either be entered manually, or the phone's GPS could be used. There will also be a mechanism for entering information via a web interface so that if a guard on a stand sees something, he or she could call it in and it could be entered without the Smartphone app. The proposed app/web interface could also be used to help keep track of rescues.

A drive-through demo of some of the capabilities of the smart phone end of the system has already been done and proven successful. Currently, the mobile optimized website allows authenticated users (lifeguards) to enter some basic information about the identified rip current. The application then populates a database, not only with the entered information, but also with some relevant data pulled from NOAA databases regarding the waves and tides at the time of the report. All of this is happens in real time and is searchable for other lifeguards, the NWS and the research community. A group of Stevens students who are also lifeguards have been providing project input and Miller expects to get the project piloted in one or two shore towns this summer. For additional information, contact Dr. Jon Miller (jmiller@stevens.edu) or Dr. Tom Herrington (therring@stevens.edu).

NJSGC and Industry Partner Pair to Promote Oyster Aquaculture

The eastern oyster, *Crassostrea virginica*, is a commercially and ecologically important species in the Delaware Bay but the Bay's current oyster fishery has declined to less than 10% of peak harvest levels in years past. This decline is largely attributed to the emergence of two oyster diseases that have caused significant losses of the resource. The increasing availability of disease resistant oyster seed creates an opportunity for sustainable and profitable aquaculture to occur in the face of disease.

New Jersey Sea Grant Aquaculture Program Coordinator, Lisa Calvo, is working with a small group of oystermen to evaluate the production potential of subtidal cage culture of disease resistant oyster stocks as a means to revitalize production on the largely abandoned leased planting grounds of Delaware Bay. Initial trials have produced promising results.

Barney Hollinger owner of Elder Point Oyster Company recently received a USDA Northeast Sustainable Agriculture Research and Education (SARE) Grant to help support these efforts. Calvo, serving as the technical advisor on the project, noted the project will improve handling and husbandry methods of the cage culture systems and demonstrate the tremendous potential of cage-culture as a means to increase Delaware Bay oyster production. The ultimate goal is to spur the economic growth of struggling bayshore communities and promote the sustainability of the Delaware Bay oyster resource, and its many economic and ecological benefits.

CURRENT EVENTS

Coastal Issues Caucuses Convened

The New Jersey Sea Grant Consortium recently launched an inaugural series of Coastal Issues Caucuses to collect feedback from municipal, county, and state representatives on selected extension programs. The meetings were hosted by and held in Asbury Park, Toms River, and Wildwood and provided perspectives from three different coastal regions in New Jersey. The meetings were designed as a way to bring together different community stakeholders to start a discussion on shore-related challenges and major issues. NJSGC received meaningful and informed feedback from the participants and their input will be used in the development of future programs and activities of the Consortium's Coastal Community Agent and other Extension staff.

The caucuses also proved to be an excellent way to simply spark dialogue about significant coastal issues and promote thoughtful consideration of some of the problems and solutions available to shore communities. Although participants from each region had issues that were specific to their own areas, in general people felt that stormwater, beach renourishment, dune management, and tourism and coastal heritage were the most important issues relevant to NJSGC's mission. The Consortium will pursue some of the project ideas that evolved from the meetings and plans to conduct similar caucuses in the future to promote continuing dialogue with its coastal constituents.

The Monmouth County Coastal Issues Caucus convened in Asbury Park.

RESEARCH

New Developments in Research

The New Jersey Sea Grant Consortium (NJSGC) recently named Dr. Louise Wootton, Professor and Director of Sustainability at Georgian Court University (GCU) and Dr. David Bushek, Associate Professor of Marine and Coastal Sciences and Director of Rutgers Haskin Shellfish Research Laboratory as the recipients of its 2012 Program Development Grants.

In addition to larger competitive research grants awarded on a two-year cycle, NJSGC offers modest grants for project opportunities or special needs that arise between the regular application periods. Many of these development projects form the basis of future competitive proposals. All Program Development Grant Proposals must address at least one of the National Sea Grant Programmatic Focus Areas of Sustainable Coastal Development, Safe and Sustainable Seafood Supply (Fisheries, Aquaculture, Seafood Technology), Hazard Resilience in Coastal Communities and Healthy Coastal Ecosystems.

Dr. Wootton's project, *Developing the Sampling Protocols and Competencies Needed to Monitor Effectiveness of a Rain Garden Designed for Nitrogen Removal* will make use of a unique rain garden recently installed on the GCU campus. This rain garden, utilizing a plastic liner, under drain pipes, and gravel layers holds the stormwater runoff in an anaerobic environment for an extended period of time and is expected to enhance the removal of nitrogen. That rain garden will be used to develop and fine tune the methodology needed to assess the effectiveness of this type of rain garden in removing nutrients, particularly nitrogen, from storm water runoff. The results from these analyses will then be used to develop Best Management Practices for smaller, rain garden-sized stormwater management projects throughout New Jersey and beyond.

Dr. Bushek's project is a *Comparative Analysis of Bivalve Clearance Rates for Restoration Management*. This study aims to determine how much food (i.e. phytoplankton) a grouping of multiple bivalve species can consume versus the food consumption of one species. Using mussels, clams, and oysters, the organisms will be placed in a series of tanks with water from the estuary flowing over the organisms. The level of food entering and exiting the tanks will be assessed to determine the removal rates (clearance rates) of the single species and multispecies experiments. In the short-term, the research will provide a test of the methods, which can be altered over the winter, before another summer of testing. Ultimately, these results will be used to guide shellfish restoration within Barnegat Bay, by showing which individual or group of species produces the greatest benefit of phytoplankton removal.

Oceans to Go!

When winter and cold weather make it impractical for the NJSGC's team of educators to conduct field trips at their Sandy Hook location, they take to the road, bringing the ocean and marine environment statewide to schools and other community-based settings. This past winter, on-site presentations were made at dozens of New Jersey's schools and offered as an ongoing series in Linden where the NJSGC *Oceans-To-Go!* program provided hands-on marine science programs to many of the district's elementary schoolchildren and their parents.

In addition to sessions during the school day, the NJSGC was a frequent participant in Linden's Family Science Nights. During these special after-school programs, students returned to school with their parents, caregivers and siblings to participate in science learning experiences together. The goal is to increase students' confidence in their ability to do science and increase parental involvement in science education.

Popular Family Science Night activities included NJSGC's *Sand Lab* where staff set out microscopes, hand lenses, high intensity lights and dozens of sand samples, challenging families to work together to inspect sand from near and far to discover grain shape, size and composition.

The equally popular *Estuaries and Oil Spills* program helped families learn about the importance of estuaries and how to protect them. The program included a simulated oil spill with family groups challenged to work together to use their knowledge and scientific skills to clean it up.

For more information on *Oceans to Go!* and the NJSGC's other education programs, go to njseagrant.org and click on education.

Marine Science for the Whole Family

This spring, the NJSGC will offer two programs specifically for family groups. The first is a new offering, called *Earth Day at the Bay* designed to help families learn about marine debris, its effect on the coastal environment and what they can do to help maintain a clean and healthy coastal environment.

The second program is the popular *Happiness is a Horseshoe Crab, Evening Edition.* Now in its eighth year, this program gives participants a unique hands-on experience. During a twilight walk on the bay beaches of Sandy Hook, NJSGC instructors will offer insights about the amazing horseshoe crab and its special connection to the tides, moon and other coastal creatures.

Both programs include indoor and outdoor activities.

Earth Day at the Bay will be held on April 21 from 2-4pm (rain date, April 22, 2-4pm) and *Happiness is a Horseshoe Crab* will be held on June 2 from 6:30-8:30pm (rain date June 3, 6:30-8:30pm). Both require advance registration and are nominally fee-based.

For more information or to reserve space, call Jessica Staats at 732-872-1300 ext. 20 or email her at jstaats@njseagrant.org.

Ocean Fun Days 2012 Expects Record Turnouts

Ocean Fun Days, scheduled for May 19 at Island Beach State Park and May 20 at Sandy Hook, is gearing up to draw record exhibitors and crowds. The annual family-oriented coastal education event is sponsored by New Jersey Natural Gas, the NJSGC, NJDEP Division of Parks and Forestry and the Asbury Park Press. Admission is free.

The Sandy Hook event, based at NJSGC's Fort Hancock headquarters, will showcase dozens of exhibitors, offer tours of most of the historic sites located within the park, and provide access to the US Coast Guard station and vessels. The NOAA/James J. Howard Marine Fisheries Laboratory will be open to the public for tours and the chance to meet and talk to NOAA scientists. Trolley service around Sandy Hook will be provided courtesy of the Sandy Hook Foundation.

Congressman Frank Pallone (6th District) is scheduled to attend for the third year to announce the student recipients of the NJSGC's Stew Tweed Fisheries and Aquaculture Scholarship.

For more information about Ocean Fun Days activities go to njseagrant.org/education/special-events/ocean-fun-days or contact Rosemary Higgins at 732-872-1300 ext. 19.

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