

# Life n the Edge

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Quarterly Newsletter of the Jacques Cousteau National Estuarine Research Reserve

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*This issue of the "Life on the Edge" newsletter contains information on current research, education and stewardship being performed by the JC NERR staff.*

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## Kennish Wins Top Award from Reserve System

Dr. Mike Kennish, Research Coordinator for the Jacques Cousteau National Estuarine Research Reserve and Research Professor at Rutgers University received the 2009 award from NOAA and the National Estuarine Research Reserve Association for his outstanding contributions to the National Estuarine Research Reserve System (NERRS). The award was presented to Dr. Kennish at the NERRS annual meeting held in San Diego in November, 2009. Also receiving the award was Kate Barba, former program manager for NOAA's Estuarine Reserves Division.

Mike was recognized for his research and public outreach on human impacts to coastal systems including watershed development, habitat loss and alteration, nutrient enrichment and eutrophication. Regional and national contributions were noted including ecosystem assessment and remediation for the Barnegat Bay, publication of several special issues of journals such as the Journal of Coastal Research devoted to estuarine ecosystem studies, and his efforts to develop new measures of assessment for estuarine and marine waters with state and federal resource management agencies.

Mike has made it his mission to ensure the effects of global climate change and the eutrophication of the Barnegat Bay are recognized and mitigated through changes in environmental policy and better planning in the communities surrounding the Bay and its tributaries.

The focus for this year's annual meeting hosted by the Tijuana River Reserve in San Diego County, CA, was "The Human Touch on Natural Systems," which addressed both the negative impacts of human activities as well as the positive effects of conservation and restoration efforts.

Meeting attendees participated in a field trip to Mexico to tour the watershed of the Tijuana River, most of which lies in Mexico. This area is heavily populated with little in the way of controls on sedimentation and other effects on the estuary. About 150 participants toured a neighborhood in Los Laureles Canyon where Tijuana Reserve staff members have worked with Mexican officials to provide sanitary infrastructure and education for residents.



(L to R) Laurie McGilvray, Estuarine Reserve Division, Chief; Mike Kennish, JC NERR Research Coordinator; and Jaime Kooser outgoing NERRA President.

*Congratulations Mike on your stellar achievement!*

**Staff**

Michael De Luca  
*Reserve Manager*

Michael Kennish  
*Research Coordinator*

Lisa Auermuller  
*Watershed/CTP  
Coordinator*

Melanie Reding  
*Education Coordinator*

Lisa Calvo  
*Watershed Coordinator  
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*Interpretive Coordinator*

Gregg Sakowicz  
*SWMP Coordinator*

Scott Haag  
*GIS Coordinator*

Gina Petruzzelli  
*Public Outreach  
Coordinator*

## From the Edge Mike De Luca, Reserve Manager

As we embark on a new year, I'd like to take a moment to thank the staff, volunteers, partners and friends of the Cousteau Reserve for their stellar contributions and achievements in 2009. From the research to the coastal training, stewardship and education programs, your efforts have made a difference in the health and vitality of New Jersey's coastal and estuarine systems, and have enriched the lives of many environmental stakeholders.

Notable accomplishments include novel efforts to mitigate nonpoint pollution in Barnegat Bay, innovative education programs that help prepare our youth to be informed environmental stewards, and a sentinel effort to help coastal communities prepare to address the effects of sea level rise. These and many other programs are the creative work of a very talented staff which received state and national recognition in 2009 for their creativity, excellence and innovation at the state and national levels.

**Congratulations and thank you!**

**Regards,**

*Mike De Luca*

## Habitat Specific Professional Development Workshops Offered

Three one-day habitat specific workshops based on Reserve research and monitoring are being offered for formal and non-formal educators. These workshops combine classroom and field experiences related to local marine habitats such as wetlands, shallow bays, and open ocean.

Educators who attend these workshops will increase their confidence with habitat-based science content and will enjoy inquiry-based activities and practice a variety of teaching strategies. Participants will receive high-quality resource materials to facilitate their science teaching. Professional development opportunities will also include the *Teaching the NJ Pinelands* course to be held on March 16, 2010. Additional workshops will highlight Marine Technologies - Remote and Autonomous Underwater Vehicles, the Pine Barrens and Climate Change.

Past participants reported applying workshop skills in their classrooms and recommended these workshops to colleagues. Professional development workshops can also be tailored to specific school needs and held as an in-service.



Teachers in the field during workshop.

## NJAFM Award Given



Lisa Auermuller, JC NERR Watershed Coordinator accepted the 2009 Outstanding Floodplain Management Award on behalf of the JC NERR at the Annual New Jersey Association for Flood Plan Management Annual Meeting. NJAFM honors those who have made exemplary contributions to floodplain management in New Jersey. Lisa was

honored for her efforts in fostering relationships and providing training that supports informed decision-making on coastal issues and floodplain management in New Jersey.

## Prepare for Climate Change

To address concerns regarding the impacts of climate change in the coastal communities in Monmouth, Ocean and Atlantic counties, the Jacques Cousteau National Estuarine Research Reserve has joined with several partners to sponsor the *Preparing Your Communities for a Changing Climate* Workshop. Scheduled for February 11, 2010. The conference will provide an opportunity for state, county and local leaders, scientists, resource managers, and engineers, to discuss science-based information, highest priority needs and next steps. The conference will include panels on sea level rise in New Jersey, sea level rise adaptation. Also included will be a session on barriers to adaptation.

For more information and to register on line visit: [www.jcnerr.org/education/coastaltraining](http://www.jcnerr.org/education/coastaltraining).

Co-sponsors include the Barnegat Bay National Estuary Program, NJ Coastal Management Office and Urban Coast Institute at Monmouth University.

## From the Interpreter's Corner - *Life on the Edge*

To many of us, being outside in the fall is the *Season of mists and mellow fruitfulness*- John Keats. However for many children today, outdoor play time is vanishing. Youngsters are often banned from building tree houses, riding their bikes and other adventurous play by parents who are worried that they might get hurt, be harmed by strangers or break park regulations. This lack of direct discovery learning is according to Robert Michael Pyle "an extinction of experience." Playing hide and seek in the woods is as important as studying about the environment in the classroom. How can we prepare the next generation to inherit the earth, if the next generation has no personal relationship with the earth?

Today, the ability for the young to grow and acquire essential environmental values is hampered when children must be cloistered from a perceived unsafe world. This disconnect from the outdoors, prevents them from feeling a sense of awe and wonder in their world. Allowing children to explore their world helps children strengthen a bond with the environment. In addition, children need to experience challenging outdoor unorganized play in order to develop important life skills and to better manage risk and challenge in their daily lives".

We all take our childhood memories across time and space. These experiences, which draw from nature, help us find the deepest truth; "The world is wide; but within us, it is as deep as the sea"- Rilke. My own environmental values were taught to me at a young age in many ways, by my mother – Margaret Boyden Rasumny- naturalist and poet.

### To My Daughter

If you must learn to love a countryside  
 Unblessed by hills and stripped of timber stands:  
 Less beautiful than those un-crowded lands  
 In which your fore-bearers took unmeasured pride;  
 If you will never leap along beside  
 Swift mountain streams or pick with wanton hands  
 The Lady's slipper or the fragrant strands  
 Of pink arbutus which in forests hide;  
 If you will never hear the hermit thrush  
 Answering the veery as the shadows start  
 Up the great mountainsides or if the lush,  
 Green meadows never beckon you apart –  
 It will not matter since no memories rush  
 To break the very casements of your heart.

# Cousteau Center at Bridgeton

## Jersey Roots Science in South Jersey Seminar Series Serves up Some Oyster Fishery Activities for Kids



Students try “catching” oysters.

It’s been a busy fall at the Cousteau Center in Bridgeton with the initiation of the Center’s first seminar series and ongoing K-12 education programs. The Center is hosting a series of seminars that offer area residents an opportunity to meet Rutgers scientists and learn about their efforts to address locally important issues. The seminar series entitled *Jersey Roots, Global Reach—Rutgers University Science in South Jersey* focuses on research occurring throughout southern New Jersey’s agricultural and marine centers.

The opening seminar highlighted research and education programs of the Cousteau Center at Bridgeton. The seminar entitled *The Cousteau Center at Bridgeton—Promoting Responsible Use of Our Rivers and Bays through Research, Education, and Stewardship* was presented by Mike De Luca, JC NERR Manager and Lisa Calvo, Watershed Coordinator at the JC NERR.

Future seminars will focus on a variety of topics including berry research, oyster restoration, living shorelines, and water quality. The series is being held monthly through June 2010. For more information about the Jersey Roots Science Series please contact the Cousteau Center at Bridgeton, David Sheppard House, 31 W. Commerce Street, Bridgeton, phone (856) 575-5580 or visit the JC NERR webpage at [www.jcnerr.org](http://www.jcnerr.org).

For a younger audience, the Cousteau Center at Bridgeton staff traveled to the banks of the Maurice River to assist the Bayshore Discovery Project with a two-day program for Cumberland County fifth graders. *Kids About the Bay*, a feature program of BDP, introduced 500 students to various aspects of life on the bay. Students visiting the

Cousteau Center station learned about the Delaware Bay oyster fishery and current efforts to restore oyster populations. They also had the opportunity to test their skill and muscle at “catching” oysters using hand tongs, a difficult task indeed.

## Cousteau Center at Bridgeton Seminar Series Jersey Roots, Global Reach—Rutgers University Science in South Jersey

January 11 - *Rutgers Food Innovation Center—Partners for Growth From Concept to Commercialization* presented by Louis Cooperhouse, Food Innovation Center.

February 8 - *Financial Management for the Farm* presented by David Lee, Salem County Cooperative Extension.

March 8 - *The Status of the Oyster Stock in Delaware Bay: Management, Climate Change, and Disease* presented by Eric Powell, Haskin Shellfish Research Laboratory.

April 5- *Living Shorelines—A Natural Alternative to Shoreline Protection* presented by David Bushek, Haskin Shellfish Research Laboratory.

April 19 - *Water Quality of Streams and Lakes in Cumberland County, and the Role of Agriculture in a Watershed* presented by Salvatore Mangiafico, Cooperative Extension of Salem County.

May 10- *A History of the Rutgers Agricultural Research and Extension Center of Upper Deerfield* presented by Jerry Ghidui, Rutgers Agricultural Research and Extension Ctr. Upper Deerfield.

June 7- *Rutgers Agricultural Research and Extension Center Programs and Projects* presented by Brad Majek, Rutgers Agricultural Research and Extension Center of Upper Deerfield.

# Cousteau at Sandy Hook

## Sea-Level Rise a Real Concern in the Raritan Bayshore

There is a growing concern regarding the impacts global warming and sea-level rise will have on many elements of the Monmouth County Raritan Bayshore Community. In response to this emergent the Jacques Cousteau National Estuarine Research Reserve at Sandy Hook, the Gateway National Recreation Area-National Park Service and the American Littoral joined forces to host the *Adaptation to the Impacts of Sea-Level Rise at the Monmouth County Raritan Bayshore Workshop*.



Back Row(L to R): Darlene Finch, Tim Dillingham, Eric Anderson, Barry Sullivan Mike DeLuca. Front Row (L to R): Norb Psuty, Kim Tripp, Sarah Newkirk.

The main goal of the workshop was to provide community decision makers with a better understanding of New Jersey's bayshore dynamics, and to promote a collective approach to adaptation to the impacts of sea-level rise in the Raritan area. Results of this workshop will help the planning and zoning boards, environmental commissions, and engineering offices prepare for adaptation, develop initiatives to reduce coastal hazard risks, establish a system to address local concerns and improve the resilience of coastal communities.

The Raritan Bayshore is home to over 120,000 residents. This area is a mix of developed communities, wetlands, micro-estuaries, and beach systems. The area is close to local mean sea level. The erosion of the estuarine beaches and dunes, along with absolute sea-level rise, impacts the built and natural environments. The projected climate change impacts for this region are an increased rate of sea level rise, displacement of natural features related to sea level position, increased frequency of flooding, fixed infrastructure, and increased vulnerability to inundation caused by storms.

Barry Sullivan, Superintendent of Gateway

National Recreation Area compared observed and predicted changes and identified key problem areas for the park including wetland loss, flooding, erosion and damage to existing structures due to climate change.

Dr. Norbert Psuty, Director of Sandy Hook Cooperative Research Programs at Rutgers University presented data showing sea level rise and climate change in the Bayshore Region. Digital Elevation Models were used to show how sea level rise will affect sections of Spermaceti Cove, Sandy Hook and Jamaica Bay, NY.

Various GIS resources within Monmouth County were identified. Data is available from federal, state and local and non-profit sources including the U.S. Army Corps of Engineers and the NJ Geographic Information Network.

An online Coastal Resilience tool was presented. This project gives complete information to natural resource and land use managers, enabling them to move towards socioeconomic and ecological resilience. Data layers include wetlands, population density,



Flooding that would occur under 3ft. Sea level rise.

economic value of property and possible future impacts.

Eco-Tips brochures that include topics such as dune protection and restoration are available from the Monmouth County Planning Board .

Workshop participants were given time to express their concerns and suggestions. Concerns were made regarding conflicting policies between agencies, lack of funding, lack of leadership and homeowner conflicts. Attendees would like to see a county wide climate change task force, increased funding and training using Coastal Services Center tools.

## JC NERR Partners

National Oceanic and Atmospheric Administration, NOAA, Estuarine Reserve Division [www.noaa.gov](http://www.noaa.gov)

NOAA Coastal Services Center  
[www.csc.noaa.gov](http://www.csc.noaa.gov)

Rutgers, The State University of New Jersey  
[www.rutgers.edu](http://www.rutgers.edu)

Institute of Marine and Coastal Sciences  
[www.imcs.rutgers.edu](http://www.imcs.rutgers.edu)

New Jersey Audubon Society's Nature Center of Cape May [www.njaudubon.org](http://www.njaudubon.org)

New Jersey Department of Environmental Protection [www.state.nj.us/dep](http://www.state.nj.us/dep)

New Jersey Pinelands Commission  
[www.state.nj.us/pinelands](http://www.state.nj.us/pinelands)

The Edwin B. Forsythe National Wildlife Refuge [www.fws.gov/northeast/forsythe](http://www.fws.gov/northeast/forsythe)

The Richard Stockton College of New Jersey  
[www.stockton.edu](http://www.stockton.edu)

The Tuckerton Seaport  
[www.tuckertonseaport.org](http://www.tuckertonseaport.org)

The Cooperative Institute of Coastal and Estuarine Environmental Technology  
[www.ciceet.unh.edu](http://www.ciceet.unh.edu)

# RUTGERS

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*"You are always upstream or downstream from somewhere else."*

**The JC NERR promotes informed use and management of the Mullica River—Great Bay Estuary through scientific research, education, and stewardship.**

## Life n the Edge

### Volunteer Opportunities

Become a volunteer and assist researchers and educators with bridge sampling and specimen sorting, equipment handling, educational programs, interpretation at the *Life on the Edge* and administrative support.

Our friendly, dedicated staff will train volunteers on estuarine environments and current coastal issues.

For additional information Contact Pat Corson at 609-812-0649, ext. 203 or email [corson@marine.rutgers.edu](mailto:corson@marine.rutgers.edu).

Volunteers are always needed. Please consider joining us!

**"Service to others is the rent you pay for your room here on Earth."**

--Muhammad Ali

### Reserve Programs in Tuckerton, NJ

#### *Lunch n' Learn*

To register call the Tuckerton Seaport at 609-296-8868. Programs begin at 12:30 pm and are held at the Seaport in the Marshelders Building.

January 13 - Pinelands Influence on Barnegat Bay  
February 10 - Protecting Barnegat Bay  
March 10 - A Kayak Voyage from Florida to Maine  
April 14 - Living with Black Bears

#### *Public Programs, Festivals and Professional Development*

To register and for times call Melanie at 609-812-0649 ext. 206

January 27 - Whoopee in the Water  
February 26 - Polar Bears of Churchill  
March 16 - Teach the NJ Pinelands  
March 25 - Offshore Wind Turbines

#### *CTP Workshops*

To register call Lisa at 609-812-0649 ext. 204

January 27 - NJ DEP Division of Land Use Regulations: Navigating Your Clients through Bulkhead & Dock Installation & Repair  
February 2-3 - Certified Floodplain Management Refresher  
February 11 - Preparing Communities In the Face of a Changing Climate  
February 17-18 - Planning for Meaningful Evaluation  
February 25 - Flood Hazards Control Act webinar