



# Chesapeake Bay

# Highlights 2009

# National Estuarine Research Reserve in Virginia

## Location:

In order to incorporate the diversity of habitats found within the southern Chesapeake Bay, CBNERR maintains a multi-component system along the salinity gradient of the York River estuary. Components include Sweet Hall Marsh, Taskinas Creek, Catlett Islands and Goodwin Islands.

Designated: 1991

Total Acreage: 3072

## Lead State Agency:

Virginia Institute of Marine Science,  
College of William and Mary

## Reserve Web Site:

<http://vims.edu/cbnerr>

## National Program Web Site:

<http://nerrs.noaa.gov>

## Contact Information:

### CBNERR

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## Program Coordinators:

### Reserve Director:

William Reay Ph.D.

### Reserve Research Coordinator:

Kenneth Moore Ph.D.

### Reserve Education Coordinator:

Sarah McGuire

### Reserve CTP Coordinator:

Sandra Erdle

### Reserve Stewardship Coordinator:

Scott Lerberg

### Business Manager:

Carolyn Gardner

Dear Friends of the Chesapeake Bay Research Reserve,

As part of 27 protected areas that make up the NOAA's National Estuarine Research Reserve System (NERRS), the Chesapeake Bay Research Reserve was established for long-term research, education and stewardship in support informed management of our Nation's estuaries and coastal habitats. As with most years, 2009 presented it's own distinctive set of opportunities and challenges. Guided by our recently completed management plan, the Reserve was able to build upon past efforts and show significant progress on new initiatives. Along the way, the Reserve has attempted to integrate its Research, Education and Stewardship programs in selected focus areas that include:

- Functions and linkages of land-margin ecosystems;
- Ecosystem vulnerability to climate and human-induced stressors;
- Water quality and aquatic stressors; and
- Integrated ocean and coastal observing systems.

These focus areas represent high priority science and education needs for coastal managers and communities at local, regional and national levels. Below are highlighted some of our accomplishments in 2009 and we look forward to improving coastal management, advancing estuarine research, and educating current and future coastal stewards in 2010.

## Administration

- Received final NOAA approval of the Reserve's 2008-2012 Management Plan that provides the framework for direction and evaluation of Reserve programs.
- Published the Reserve's Site Profile as a Special Issue in the Journal of Coastal Research (SI 57) entitled "The Chesapeake Bay NERR in Virginia: A Profile of the York River Ecosystem".
- Received competitive funds from NOAA for the continued fee simple acquisition of the Catlett Island component of the Reserve.
- Continued to integrate and demonstrate residential 'green building' practices and technologies at Reserve Headquarters.

## Research and Monitoring

- Fully implemented the NERRS and Chesapeake Bay Program's shallow water quality monitoring program to assess water quality conditions in the York, Rappahannock and James Rivers.
- Continued biological monitoring of emergent wetlands and underwater grasses in support of the NERRS Sentinel Site Initiative for detecting and understanding the effects of climate change on critical Bay habitats.

## Research and Monitoring - cont

- Continued operations of the Virginia Estuarine and Coastal Observing System (VECOS; [www.vims.edu/vecos](http://www.vims.edu/vecos)), which provides web accessible near and real-time, quality assured environmental data, and support of the Chesapeake Bay Observing System (CBOS).
- Provided field and numerical modeling assessments for Total Maximum Daily Load (TMDL) reduction strategies in selected Virginia Beach-Lynnhaven shallow water systems.
- Enhanced research opportunities for over 25 externally funded research and monitoring projects within Reserve boundaries.

## Education and Outreach

- Approximately 3,000 students from local school districts were reached in school programs that involved classroom visits and meaningful watershed education experiences through hands-on investigations both in the lab and field.
- Professional development workshops provided teachers with new insight into Bay ecosystems through topics such as water quality, habitat restoration and Estuaries 101 curriculum training.
- Over 15 public outreach programs, including the monthly Discovery Labs that provide an opportunity for family-friendly learning, reached 500 life-long learners.
- Summer programs, offered to students in grades 1-8, provided a week-long focus on a variety of themes including Bay habitats, ocean-related technologies, and principles of resource stewardship.

## Professional Training - 'Coastal Training Program'

- Training opportunities were provided to over 250 coastal decision-makers to support their efforts as related to wetlands and perennial streams, water quality protection, sea level rise and climate change planning, docks and piers, and the management of near and offshore uses.
- The monthly Reserve sponsored 'After Hours Seminar Series' reached approximately 450 persons with timely topics presented by experts in offshore oil and wind energy options, climate change and the Bay, state of the Blue crab and American oyster, and human health aspects as related to Bay water quality.

## Stewardship

- In order to facilitate studies on the impacts of climate change to tidal wetlands, Reserve staff and NOAA partners (National Geodetic Survey and Center for Operational Oceanographic Products and Services) began to create local vertical control networks within Reserve boundaries by installing geodetic benchmarks and conducting high-accuracy surveys to reference essential monitoring infrastructure to these benchmarks.
- Along with four other NERRS, the Reserve helped establish monitoring protocols and collected comparative information from restored and natural reference salt marshes that will support a national evaluation of wetland restoration efforts by NOAA's Restoration Center.

## Advisory Service

- Reserve staff continued to provide a high-level of advisory service to the Commonwealth, regional government Bay-wide programs, nongovernmental organizations and professional societies; service included membership and participation in over 25 committees.