

PEP Talk

The Newsletter of the Peconic Estuary Program

Volume 4, Issue 3.....Fall 2008

We Came, We Pulled, And We Conquered!!

The results of the 2008 invasive *Ludwigia* removal season are in... Due to early detection and rapid response, we have nearly fully eradicated the invasive aquatic plant, *Ludwigia peploides*, from the Peconic River!

Ludwigia peploides, more commonly known as water primrose, is a South American species that was first detected in the Peconic River in 2003. This aquatic non-native, which grows/floats primarily on the waters



Photo by: Laura Stephenson NYSDEC/PEP
(*Ludwigia* Eradication event in July 2008)

surface spreads rapidly in warm weather months and can often take over entire slow-flowing waterbodies. *Ludwigia* poses a major threat to the Peconic River as it acts as unsuitable fish habitat, out competes native plants, reduces biodiversity, blocks sunlight to oxygen producing submerged plants, and severely impedes recreational uses of the river.

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One Creek at a Time

Stormwater runoff is the leading contributor of pathogens to the Peconic Estuary. In fact 25 waterbodies in the Peconic Estuary are closed for shellfish harvesting, at least seasonally, due to pathogen impairments, and all 25 waterbodies are addressed in the September 2006 Peconic Bay Pathogens Total Maximum Daily Load (TMDL).

How do we fix the problem? The Peconic Estuary Program believes that part of the solution will require intense structural and non structural subwatershed stormwater management efforts. By concentrating efforts and resources on the subwatershed scale, the possibility of achieving significant water quality improvements and restoring beneficial uses, such as shellfishing, are drastically increased.

In 2006, with the assistance of a contractor, the Peconic Estuary Program developed four (4) Subwatershed Management Plans (Hashamomuck Pond, Reeves Bay, West Neck Bay and Meetinghouse Creek) which identify site-specific best management practices and recommendations for reducing pollutant loadings. PEP has partnered with the towns of Southold and Southampton and successfully secured funding to fully implement the Hashamomuck Pond and Reeves Bay Plans, respectively.

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EPA gives PEP “Thumbs Up”!

The Peconic Estuary Program (PEP) recently received the results of its 2008 Program Evaluation (PE) conducted by the programs' sponsoring agency, the United States Environmental Protection Agency (USEPA). Overall, it was determined by the review team that “the PEP both continues to make significant progress in implementing its Comprehensive Conservation and Management Plan and very effectively contributes to local water quality improvement and ecosystem protection and restoration.” We are pleased to report the PEP effectively passed the 2008 PE and as a result will continue to be eligible to receive funding under Section 320 of the Clean Water Act.

The PE Team commended the PEP's strengths. Of the strengths noted in the PE results letter, the Team made note of: (1) The unique, invaluable role played by the PEP in advancing protection and restoration of the Peconic Estuary system, and (2) Suffolk County's leadership and expertise in conducting comprehensive surface and groundwater quality monitoring analysis. Other stand out accomplishments were identified as eelgrass restoration and protection efforts; research on the causes of brown tide; a strong local commitment to reducing nutrient pollution; and habitat



*Photo by: Laura Stephenson NYSDEC/PEP
Location: Suffolk County Marine Environmental
Learning Center - Cedar Beach, Southold, NY.*

restoration activities in the form of invasive species removal and fish passage structure installation. The PE Team identified several opportunities for improvement as well including expediting contracting procedure and funding draw down; developing updated Economic Valuation and Environmental Indicator reports; and collaborating with neighboring National Estuary Programs to monitor indicators of climate change. Efforts are currently underway to ensure the PEP can accomplish such things in time for the next Program Evaluation in 2012. The full 2008 Program Evaluation Package and results letter are available at: <http://peconice.ipower.com/PEP-Program-Evaluation-2008.pdf>.

~Kim Paulsen/SCDHS

We'd like to take an opportunity to thank our partners for participating in the review, and hosting our PE team over the course of the on-site visit.


PEP Talk is published by the Peconic Estuary Program (PEP), a partnership of governments, environmental groups, businesses, industries, academic institutions, and citizens. The PEP's mission is to protect and restore the Peconic Estuary system. Learn more at www.peconicestuary.org.



PEP Talk is produced and printed by the Suffolk County Department of Health Services, in cooperation with the U.S. Environmental Protection Agency under agreement CE-992002. The viewpoints expressed here do not necessarily represent those of the SCDHS. Visit EPA at www.epa.gov.



For a free subscription, contact: PEP Talk, SCDHS-Office of Ecology, 360 Yaphank Avenue, Suite 2B, Yaphank, NY 11980, 631-852-5750, peptalk@peconicestuary.org

 Printed on 100% post-consumer recycled paper with soy based ink.

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PEP has since partnered with the Town of Southold to successfully secure funds to develop additional Watershed Management Plans for the Town/Jockey, Goose, and Richmond Creek Complexes; all identified as priority waterbodies through the PEP Impacted Shellfishing Waters Management Initiative.

By focusing efforts in and around pathogen impaired waters with approved TMDLs and stressed shellfish growing areas (SGAs), PEP anticipates improving water quality, reopening closed SGAs and preventing additional closures, enhancing critical habitat, and fostering community awareness of nonpoint source and stormwater pollution. Future water quality monitoring will help assess the level of success of highly concentrated efforts in meeting water quality restoration goals and restoring beneficial uses in the Peconic Estuary. ~Laura Stephenson, NYSDEC/PEP

Salt Marsh Response to Sea Level Rise: Marsh Elevation & Sediment Accretion Project

The Nature Conservancy(TNC) has initiated an exciting new project to assess whether salt marshes in Peconic Bay are keeping up with sea level rise. Healthy sustainable salt marshes respond to sea level rise by growing vertically (accumulating mineral and organic sediment to build peat) and migrating landward where they are not obstructed. When the vertical growth rate of marshes falls below the rate of sea level rise,



*Photo by: Nicole Mahr/
TNC (installed SET head
in the marsh)*

marshes become wetter; the species of vegetation shift to those more tolerant of water logged soils and eventually convert to un-vegetated mudflat.

TNC has installed elevation benchmarks called Surface Elevation Tables (SETs). Used in conjunction with the SETs are marker horizons, these measure vertical accretion which predominantly incorporates surface processes such as, sediment deposition and sediment erosion. SETs were placed in three marshes in Peconic Bay: Bass Creek in Shelter Island, Accabonac Harbor in East Hampton, and Hubbard Creek in Southampton. These SETs will provide the first measurements of salt marsh elevation changes in Peconic Bay and will become an important part of a growing network of marsh elevation benchmarks all around Long Island and New York City (NYC). Marsh elevation is influenced by subsurface processes such as compaction, subsidence, organic matter decomposition, and water storage as well as surface processes such as sediment accretion and erosion. Surface sediment accretion is measured above feldspar marker horizons (white feldspar is normally used because it easily distinguishable from surrounding sediments) and the overall marsh elevation is

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Calendar of Events

December 17, 2008 - Citizen's Advisory Committee Meeting (6:30 pm-9:30 pm), Hampton Bays Senior Citizen Center, Ponquogue Ave., Hampton Bays

January 16, 2009 - PEP Phase II Stormwater Workgroup (10:00am-12:30pm) CCE Extension Education Center, 432 Griffing Avenue, Suite 100 Riverhead, NY 11901-3071

January 22, 2009 - PEP Natural Resources Subcommittee Meeting (9:30am to 12:00pm) CCE Extension Education Center, 432 Griffing Avenue, Suite 100 Riverhead, NY 11901-3071

For more information visit: www.peconicestuary.org/calendar.html

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Beginning in 2006, the Peconic Estuary Program, joined by numerous partners, initiated a multi-year monitoring and eradication effort in an attempt to rid the species from the Peconic River and prevent spreading to other Long Island waters. Because *Ludwigia* reproduces by fragmentation, PEP decided to hand-pull the infestation, relying heavily on project partners and hundreds of dedicated volunteers.

Since the initiation of the eradication effort in the spring of 2006, volunteers have spent over 1500 hours hand-pulling over 126 cubic yards of *Ludwigia*. Close monitoring of the River shows the success of our efforts in controlling the invasive plant. Only small scale maintenance pulling will be required in the future, but the brunt of the hard work is in the past. If you ever find yourself out on the Peconic River and come across a strand of *Ludwigia*, gently remove the plant and dispose of in the trash or a



Photo by: Laura Stephenson NYSDEC/PEP
(*Ludwigia peploides*)

NYSDEC Invasive Species Disposal Stations found at various access sites along the River.

The PEP thanks its many dedicated and enthusiastic partners and volunteers who came out to lend a hand!

~Laura Stephenson, NYSDEC/PEP

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measured from the SETs. Marsh elevation changes will be compared to sea level rise measurements collected at local tide gauges (e.g. Montauk Point). These measurements will reveal whether there is a deficit required for the vertical growth of the marsh surface or if subsurface processes are controlling the elevation of these marshes.



Photo by:
S. Sabatino/SBU
(drilling the SET
rods into the marsh)

This project in Peconic Bay is part of a larger collaborative effort to install elevation benchmarks in salt marsh complexes in all around Long Island. TNC has partnered with the New York State Department of Environmental Conservation (NYSDEC), U.S. Geological Survey (USGS), U.S. Fish & Wildlife Service (USFWS), Stony Brook University, NYC Department of Parks & Recreation and the East Hampton Department of Natural Resources to establish SET benchmarks at multiple sites all around Long Island across a gradient of pristine to heavily impacted marshes. The Nature Conservancy is taking the lead within Peconic Bay. NYSDEC is taking the lead on the north shore of Long Island and coordinating with the NYC Department of Parks and recreation within NYC. USFWS is monitoring two locations on the South shore of Long Island. The National Park Service and USGS have been monitoring three SET locations on the bay side of Fire Island since 2002. Geochemists at Stony Brook University are evaluating the marsh pore water chemistry at a number of these sites to determine if subsurface processes are contributing to the elevation of these marshes. TNC and NYSDEC are currently evaluating additional sites for SET installation during the summer of 2009.

Coordinating efforts to collect marsh elevation and pore water geochemistry data at multiple sites around Long Island will help us make informed predictions about the future of these ecosystems and guide decisions about how we should manage our coastal zone to facilitate salt marsh response to accelerating sea level rise. ~Nicole Maher/TNC

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regulate their body heat. Turtles that remain in water with temperatures below 60° F are susceptible to cold stunning, a condition similar to hypothermia in humans. Therefore, when water temperatures begin to drop below about 65° F, they will undertake a seasonal migration back out to warmer ocean waters found in the Gulf Stream of the Atlantic Ocean, and in waters along the Southeastern United States.

This seasonal pattern of movement between bays and the open ocean will continue for a number of years until the turtles reach reproductive maturity, at which time, the females will mate and return to the nesting grounds from which they originated to lay their own eggs. Nesting takes place south of the boundary between Virginia and North Carolina, and in the case of the Kemp's Ridley, is limited to only 1 or 2 specific nesting beaches along the Gulf of Mexico.

After an incubation period of about 8 weeks, hatchlings emerge from their nest and scramble across the beach and into the ocean. Scientists believe that hatchlings can swim non-stop for up to 7 days, relying on energy stored from the last of the yolk sac they absorbed before hatching. This journey brings them to open-ocean foraging zones, where they may remain for anywhere between 5 and 20 years! This period referred to as "the lost years," is then followed by the developmental migratory stage during which the next generation of turtles arrives in the Peconic and other Bays along the East coast of the U.S..

With a complex life history that spans broad geographic ranges, sea turtles face many threats such as vessel strikes, water pollution, coastal development, foraging habitat degradation and incidental capture in fishing gear. ~Nicole Mihnovets/NYSDEC

How You Can Help Protect Sea Turtles:

Report Sightings or Strandings: Please report all sightings of sea turtles (and marine mammals too), especially if it appears that an animal might be sick, injured, or dead, to the New York State Marine Mammal and Sea Turtle Stranding Program hotline at: 631.369.9829.

Stop Marine Debris: Sea turtles unintentionally ingest plastic bags (which look like jellyfish when they end up in the ocean) and other marine debris such as cigarette butts and plastic bottle caps. This often results a blocked intestinal tract, subsequent starvation and a long, slow death. Maintain a supply of reusable canvas bags for all of your shopping trips. Participate in local beach clean-up events, plan your own family beach clean-up days, and pick up the random trash you encounter on your next stroll by the ocean.

Practice Safe Boating: Careless boating can result in destruction of submerged aquatic vegetation, or a collision with a sea turtle. Honor designated speed restrictions. Keep an eye on your propellers and the water depth. Slow down if you see any unusual disturbance at the water's surface you might get rewarded with a spectacular glimpse of a sea turtle or other marine life.

To learn more about other volunteer activities, visit the Riverhead Foundation for Marine Research and Preservation website at: www.riverheadfoundation.org. ~Nicole Mihnovets/NYSDEC

Peconic Estuary Program
SCDHS - Office of Ecology
360 Yaphank Avenue, Suite 2B
Yaphank, NY 11980

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Species Snapshot: Sea Turtles

Of the seven sea turtle species known throughout the world, four are encountered in New York waters and are listed as either threatened or endangered by the U.S. Endangered Species Act: leatherbacks (*Dermochelys coraciaea*), loggerheads (*Caretta caretta*), greens (*Chelonia mydas*), and Kemp's Ridleys (*Lepidochelys kempii*). Leatherbacks are not usually observed in the Peconic Bay due to their more "pelagic," or offshore life history characteristics. However, during the 1980s and 1990s, sea turtle researchers determined that the Peconic Bay is an extremely important developmental habitat for juvenile loggerheads, greens, and Kemp's ridleys.



The Kemp's Ridleys is the most highly endangered sea turtle species found in New York waters. Photo: Kim Bas-

With less wave action than the open ocean, and a thriving marine ecosystem that supports many important food web interactions, the Peconic Bay provides an ideal habitat for young sea turtles to seek protection, to forage, and to grow. Herbivorous greens forage on submerged aquatic vegetation, and their grazing activity provides a valuable ecological service by stimulating new eelgrass bed growth. In contrast, more carnivorous loggerheads and Kemp's Ridleys forage on mollusks such as mussels and whelks, crustaceans such as spider crabs, and jellyfish.

Juvenile sea turtles inhabit the Bay generally between June and October, when water temperatures are warm enough to support their thermoregulatory needs. Like other reptiles, sea turtles are ectotherms, meaning that they rely on external environmental temperatures in order to

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