



SOUND OUTLOOK

A NEWSLETTER OF THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Assessment of Connecticut's Coastal Management Program Underway

You may have seen in a newspaper or on the Department of Environmental Protection's (DEP) website the public notice soliciting comments on a "309 coastal management assessment document." That's because Connecticut is in the process of updating its 1996 Assessment of the state's coastal management program for nine specific "enhancement areas," as required by the federal Coastal Zone Management Act (CZMA). To help make this "government speak" a bit easier to follow, this article should clarify what the 309 process is all about.









The Coastal Zone Enhancement Program was created in 1990 as part of the reauthorization amendments to section 309 of the CZMA, originally passed in 1972. The Program is intended to provide monetary incentives to participating coastal states to make improvements to their coastal programs in any of nine "enhancement areas" identified in the CZMA. Every state with a federally approved coastal management program must complete an assessment of their program and develop strategies to address any gaps identified in the assessment for the following "enhancement areas": protecting coastal wetlands; addressing coastal hazards; increasing opportunities for public access; reducing marine debris; considering and controlling cumulative and secondary impacts of coastal growth and development; special area management planning for important coastal areas; planning for the use of ocean resources; facilitating the siting of energy and government facilities; and, facilitating the siting of aquaculture facilities.

The assessment and strategies are then used to develop funding proposals to the States' federal partner, the National Oceanic and Atmospheric Administration (NOAA). NOAA reviews the assessments and strategies and awards 309 grants to coastal states to help address their identified program needs relative to the nine objectives.

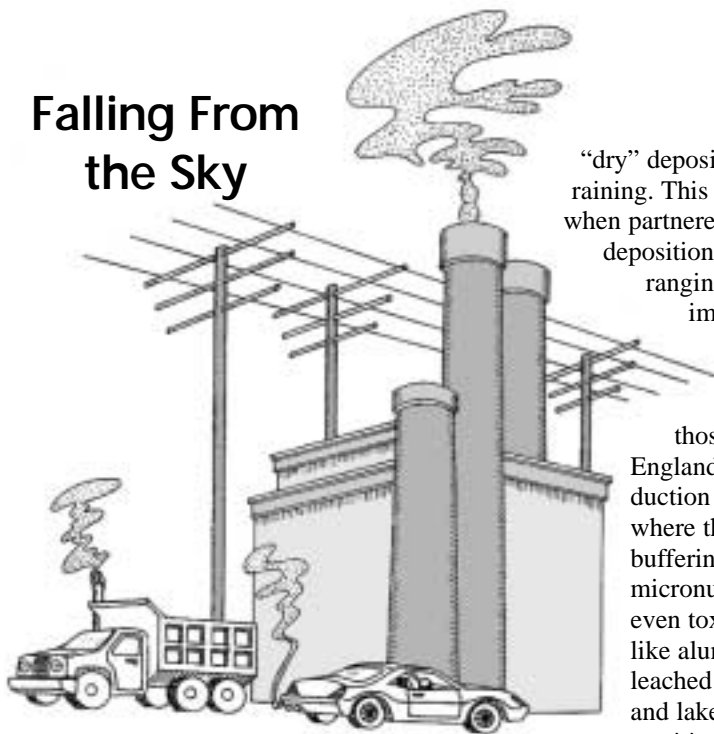
Assessments of state coastal management programs must be updated every five years. The assessments provide a comprehensive review of past coastal management program activities, identify specific needs or difficulties, and present a characterization of the management framework and its effectiveness for each particular enhancement objective. Connecticut's coastal management program completed its initial assessment in 1992 and updated the assessment in 1996. The current update has been through the public notice and comment process and is currently under review by NOAA.

The National Coastal Zone Management Program (as established by the CZMA), is a voluntary partnership between the federal government and the 35 U.S. coastal states, territories, and commonwealths, which encourages and assists the States in achieving wise use of the land and water resources of the coastal zone. It is unique among other major environmental laws in that it seeks to balance economic development with resource protection within the coastal zone.

For information on Connecticut's assessment, please contact David Blatt at (860) 424-3034 or by e-mail david.blatt@po.state.ct.us. For information on other coastal states' enhancement programs, please call John King, Office of Ocean and Coastal Resource Management, NOAA, (301) 713-3121, x188 or e-mail, john.king@noaa.gov, or visit their website, <http://www.ocrm.nos.noaa.gov/czm/czmenhancement.html>.

		<h2>Inside</h2>	
		Falling from the Sky	2
		Upcoming Events	2
		LIS TMDL Approved	3
		Spotlighted Coastal Access	3
		Wamphassuc Marsh Access Site Opens	3
		Putting Your LIS Plate Money to Work	4
		Coastal Management Workshops a Big Success	4
		Spotlighted Coastal Resource	5
		Sound Tips	5
		How's the Water?	6
		JUNE 2001 No. 7	
			

Falling From the Sky



“dry” deposition when it’s not raining. This nitrogen deposition, when partnered with acidic sulfur deposition (acid rain), has wide ranging environmental implications.

Acidification of poorly-buffered forest soils, such as those in northern New England, reduces tree production and health. In areas where the soils lose their buffering capacity, important micronutrients, nitrogen, and even toxic forms of metals like aluminum may be leached into nearby streams and lakes. The forests lose nutrition, affected streams

and lakes become acidified impacting fish, and excess nitrogen is leached into streams and delivered to LIS. The same nitrogen emissions also degrade to ozone in the presence of sunlight. Both ozone and oxides of nitrogen are lung irritants to people.

Who is burning the fossil fuels that are leading to these environmental and human health problems? Directly or indirectly we all share the blame. When we drive our cars, mow our lawns, heat our homes or turn on a light we are using energy primarily derived from fossil fuel combustion. The NO_x entering the LIS watershed is carried by wind currents from sources as distant as midwestern power plants and as close as your own vehicle. LIS is geographically situated in an area that receives an astoundingly high rate of nitrogen deposition - about 10 pounds per acre every year! That nitrogen both acidifies the watershed and, in LIS where acidification is not a problem because of the high buffering capacity of the estuary, fuels growth of algae.

Have you figured out the relationship between the car, fish kills and LIS? Right. The NO_x from your automobile finds its way into the Sound, where the nitrogen acts as a nutrient and exacerbates hypoxia, killing fish. Conserving energy and using fossil fuels with less sulfur content will not only help restore LIS, but will protect acid-sensitive forests, streams, and lakes, and improve our health.

A few years ago an eye-catching Chesapeake Bay Program poster illustrated a dead fish with the typical “X” eyes, and an automobile tire track running across it. The caption read “Road Kill.” What do cars have to do with fish kills in estuaries like the Chesapeake Bay and Long Island Sound (LIS)? A lot, as this article will explain.

If you’re an avid reader of *Sound Outlook*, you are well versed in the importance of nitrogen to the LIS ecosystem. Nitrogen causes algae to grow and, when it decays, oxygen is depleted, creating a condition called *hypoxia*. A large portion of the nitrogen comes from the atmosphere in the form of *nitrogen deposition*. In fact, about 15% of the nitrogen reaching LIS from the states of Connecticut and New York is of atmospheric origin. Considering the Connecticut River basins alone (all the way to Canada) the amount jumps to more than 40 percent. Where does all this atmospheric deposition of nitrogen come from?

The nitrogen that human activity contributes to the atmosphere originates from the burning of fossil fuels. During the combustion process, oxides of nitrogen, or *NO_x* are produced, commonly called *nitrogen emissions*. These forms of nitrogen take their place in the atmosphere alongside harmless elemental nitrogen, which comprises 78% of our atmosphere. Unfortunately, forms of NO_x are acidic when deposited on the landscape either through rainfall or as

LOOK OUT for upcoming events!!

June is Rivers Month

July: Osprey young begin to fly

July 15-19: Coastal Zone 01, Cleveland, Ohio. “Hands across the water – Linking Land, Lake, and Sea.” Visit www.csc.noaa.gov/cz2001, or call Lynn Sellers at (843) 740-1284 or by e-mail Lynn.Sellers@noaa.gov for more information.

July 31: Deadline for receiving nominations for the 2001 Walter B. Jones Memorial and NOAA Awards for Excellence in Coastal and Ocean Resource Management. For information and a brochure on how to nominate your coastal and ocean heroes, visit: www.nos.noaa.gov/jones_award.html or call (301) 563-7212 or e-mail jonesawards2001@noaa.gov.

Mid to end of August: Plovers and terns begin southward migration.

August – September: Sea turtles move into LIS. Boaters please watch for them!

September 15-October 6: Coastweeks!

9/15: International Beach Clean-up Day—contact Peg Van Patten, CT Sea Grant (860) 405-9141 for more information.

9/16: Row on the Mystic River—2,000 meter regatta for racing shells and traditional pulling boats. Contact Peg Van Patten, CT Sea Grant (860) 405-9141 for more information.

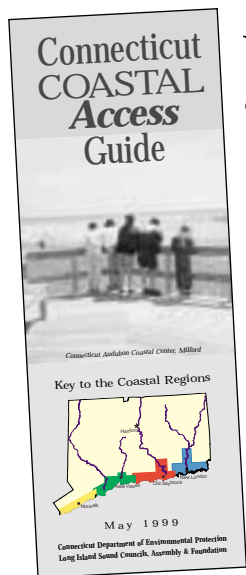
September 28: EstuaryLive — an interactive field trip over the internet. Viewer can tour and learn about National Estuarine Research Reserves across the country without leaving their home or school. In honor of National Estuaries Day. For more information, contact Theresa Shearer at (301) 713-3155, x105 or theresa.shearer@noaa.gov.

September 29: National Estuaries Day

Oct. 5-7: Valley River Celebration - Assorted activities, exhibits and events celebrating the lower Housatonic and Naugatuck Rivers. Call DEP Kellogg Environmental Center for more information at (203) 734-2513.

Please be sure and check the Calendar of Events listed in DEP’s website:
<http://dep.state.ct.us>

SPOTLIGHTED Coastal Access: Dubois Beach and Stonington Point



When the mostly rock and marsh dominated shoreline of eastern Connecticut is punctuated with small “pocket beaches,” their whereabouts are usually closely guarded secrets known only to locals. Thankfully, Dubois Beach (site # 242 on the *Connecticut Coastal Access Guide*) in the Borough of Stonington, is available for all to enjoy, courtesy of the Stonington Village

Improvement Association (SVIA) which owns the site. The site was acquired in 1949 for \$20,000 through the foresight of Coert Dubois, a former President of the SVIA for whom the beach is named.

For less than the cost of a movie (\$2/individual or \$5/family), the entire family is welcomed to use the beach, located in this picturesque seaside village. Parents with young children will especially enjoy the site’s shallow water-depths and clean, family-oriented sandy beach. A short walk away is a wide variety of the village’s antique and specialty shops. The less enthusiastic can enjoy the tranquility of the area and escape the hot summer sun under the shade of an on-site pavilion.

The beach’s 265 feet of shoreline fills up quickly on sunny summer weekends, so plan to arrive early. Stonington Community Center lifeguards monitor the beach for your safety. Park at the Stonington Point lot at the end of Water Street.

Stonington Point (site # 243) offers panoramic views of Fishers Island Sound and is adjacent to Dubois Beach and the Stonington Old Lighthouse Museum which offers six rooms full of Stonington historical displays and terrific views of the Sound from the lighthouse tower. Look for a granite monument here by the flagpole commemorating Stonington’s defense of the area during the

attempted British invasion at the Battle of Stonington during the War of 1812. These days, the only invasion that local residents must contend with is the summer weekend traffic. So please be patient as you drive the narrow 19th century roads of Stonington Borough when visiting these hidden jewels of the eastern Connecticut coast.

For a free copy of the *Connecticut Coastal Access Guide*, call the DEP at (860) 424-3034 or e-mail coastal.access@po.state.ct.us.



Long Island Sound TMDL Approved!

The Long Island Sound TMDL has been approved! A TMDL, or Total Maximum Daily Load, defines the maximum amount of a pollutant that a waterbody can naturally absorb and use and still be healthy. Many of our readers are aware that the #1 problem in LIS is the summertime depletion of dissolved oxygen in the bottom waters (known as hypoxia) as a result of excessive nutrients (particularly nitrogen) entering the Sound. The TMDL for LIS is another tool in the multi-phased approach that Connecticut and New York are taking to reduce the amount of nitrogen entering the Sound with the goal of reducing hypoxia. (See the February 2000 issue of *Sound Outlook*, “What is the TMDL?” for more information [<http://dep.state.ct.us/olisp/soundout/soundout.htm>].) The DEP received public comment on the draft TMDL and submitted a final version with revisions to the U.S. Environmental Protection Agency (EPA) in January 2001. EPA approved the Long Island Sound TMDL for full implementation on April 5, 2001.

Visit the Water Bureau page of the DEP website at <http://dep.state.ct.us/wtr/index.htm> or call Mark Parker at (860) 424-3276 for more information on the TMDL.

Wamphassuc Marsh Access Site Opens for Public Use *Wamphassuc Marsh Viewing Area*

As described in the last issue of *Sound Outlook*, a stipulated agreement adopted to resolve the DEP’s appeal of a 6-lot waterfront residential subdivision approval in Stonington resulted in a new coastal public access marsh viewing area at the site.

The Wamphassuc Marsh viewing area, recently opened for public use, provides fine views of a pristine marsh on Fishers Island Sound. The site, identified by the DEP’s new Shoreline Public Access Sign on Wamphassuc Point Road in Stonington, is accessed off Route 1 between Lords Point and Stonington Borough. Enjoy a visit to Connecticut’s most recently acquired coastal public access area and respect the beauty of the marsh by staying within the designated marsh viewing area.



Putting Your LIS Plate Money to Work:

WHAT'S UP OUTSIDE?



Students who contributed illustrations to the *What's Up Outside* book

If you were a third grade teacher, what book would you reach for to teach your students about science and nature? Now, thanks to the help provided by a grant from the LIS Fund, there is no hesitation. Teachers in Connecticut and across the country reach for *What's Up Outside?*, a teaching guide and activity book published and produced by the Stonington Garden Club.

The 56-page book contains chapters about four Connecticut habitats – fields, forests, and fresh and salt water. It also contains a map of Connecticut that identi-

fies the location of its nature education facilities, and lesson plans with hands-on activities for students. The Stonington Garden Club sent copies to all of Connecticut's 2,225 third-grade classrooms. The book received numerous awards and was so well received by the education community, that Modern Learning Press of Rosemont, NJ, a leading educational publisher, has expanded it to include chapters that incorporate information about the habitats of all 50 states. *What's Up Outside* is now available nationwide.

The Stonington Garden Club raised seed



Purchase of an LIS License Plate supports the LIS Fund

As of March 31, 2001:

- Plates sold: 108,305
- Funds raised: Over \$3.5 million
- Projects funded: 183
- Education & outreach projects funded: 89

The LIS Fund supports projects benefiting Long Island Sound in the categories of habitat restoration, public access, education and outreach, and research.

For information on ordering a Long Island Sound license plate, call 1-800-CT-SOUND.

money for the book during its 1996 "Gardens by the Sea" tour. Additional contributions for the \$50,000 project came from private donations and grants from citizens, local corporations, and the Federated Garden Clubs of Connecticut. Once the seed money was in place, the garden club applied for, and received from the Long Island Sound Fund, a \$23,899 grant to complete the project.

For more information about the program, please contact the Long Island Sound Fund Coordinator, Kate Hughes, at (860) 424-3034, by e-mail at kate.hughes@po.state.ct.us, or visit our website at <http://dep.state.ct.us/olisp/licplate/licplate.htm>

Coastal Management Workshops a Big Success

The Office of Long Island Sound Programs (OLISP) held six regional coastal management workshops during the fall of 2000, geared toward municipal land use decision-makers and planning and zoning staff. The workshops were funded in part, by a grant from the National Oceanic and Atmospheric Administration's Coastal Services Center. The 2½ hour workshops were held in Stamford, Stratford, New Haven, Branford, Waterford, and Old Saybrook during which OLISP's new Connecticut Coastal Management Manual was introduced. In addition, a PowerPoint® presentation focused on the information contained in the manual and stressed the importance of Connecticut's coastal resources, providing guidance on how municipal officials can utilize existing tools to best manage coastal resources in the context of improved land use decisions.

Each attendee received a copy of the

Connecticut Coastal Management Manual which takes the place of *Planning Report #30*. The new manual contains guidance materials on coastal resource management and coastal site plan review (CSPR), and was developed as part of a Section 309 task to provide outreach to land use decision-makers on how to address the cumulative and secondary impacts of coastal development (see article on Section 309, page 1).

The PowerPoint® presentation was followed by a breakout session during which OLISP staff facilitated three 20-minute round-robin group discussions of mock coastal site plans. The discussions were intended to help participants identify coastal management issues and shortcomings on site plans and determine ways to correct them through the CSPR process. Reduced copies of the mock site plans and discussions of their shortcomings are also included in the manual. An additional dis-

cussion group was set up for town-specific issues, allowing OLISP staff and commissioners and citizens from neighboring towns to discuss the coastal-related issues and solutions they have encountered.

The workshops were attended by 129 individuals representing 27 coastal communities. A follow-up workshop was held for Madison officials in early 2001, and additional sessions are currently being planned for officials in Westport, Milford, and Branford, and for citizens in Old Saybrook. OLISP will be contacting municipal officials and staff in towns that were unable to attend one of the regional workshops to schedule more sessions. Anyone interested in scheduling a workshop or obtaining a copy of the Connecticut Coastal Management Manual should contact Mary-beth Hart of OLISP's Coastal Programs Unit at (860) 424-3034 or e-mail marybeth.hart@po.state.ct.us.

SPOTLIGHTED Coastal Resource: Barrier Beach

At first glance a barrier beach may look like a strip of desert bordering the ocean and the land, but look again. Barrier beaches are found along coastlines all around the world. Probably the most famous barrier beach system in America is North Carolina's 175 mile long Outer Banks.

Connecticut's coastline is protected from the full force of Atlantic Ocean waves by Long Island, and as a result, barrier beaches here are less extensive than North Carolina's or even that of the south shore of Long Island. Still, Connecticut's barrier beaches are an important and precious part of our State's diverse coastline. Of Connecticut's 258 miles of coast, about 80 miles are sandy beach of which only 18 miles are considered undeveloped barrier beach. There are three major types of barrier beaches along Connecticut's coast:

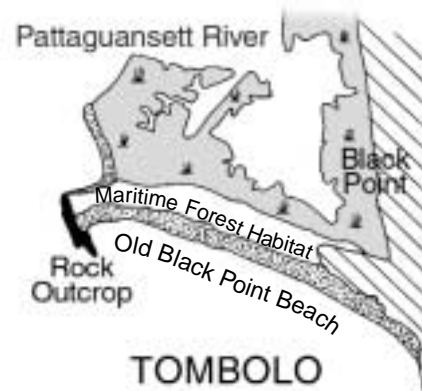


Barrier spits—coastal barriers that extend into open water and are attached to the mainland at one end. Griswold Point at the mouth of the Connecticut River and Milford Point at the mouth of the Housatonic River are characteristic barrier spits.

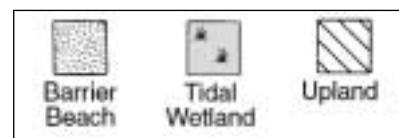
Bay barriers—beaches that connect two headlands and enclose a pond, marsh, or other aquatic habitat. An example is Hammonasset Beach in Madison which separates tidal wetlands and ponds from Long Island Sound.

Tombolos—continuously exposed beaches that connect offshore islands or rock outcrops to each other or to the mainland. Black Point Beach in East Lyme is Connecticut's best example of a tombolo.

Coastal barrier beaches are defined by their exposure to wind, wave, and tidal energies. Consequently, they buffer the mainland from the impact of storms and sea level rise, shield the backshore (non-wetland) portion of the beach from direct wave attack, and protect and maintain the productive estuarine systems that are created by the barrier and which support the Sound's valuable fishing and shellfishing industries.



The Connecticut Coastal Access Guide, available free from DEP, identifies many of the State's barrier beach systems. In the ENVIRONMENT section of the Guide, look for "sandy beach/dune" types indicative of a barrier beach system.



Sound Tips

Barrier beaches provide critical habitat for a variety of species, including threatened piping plovers and least terns. These birds nest directly on the sand and their nests and eggs are so well camouflaged they can be easily trampled by humans, vehicles and large animals.

On the beaches named above and on many others in Connecticut during the summer months, you may see enclosures erected to protect tern and plover nest sites from trampling or animal intruders. Do not approach or linger near piping plovers, least terns, or their nests, and do not disturb these enclosures. If adult birds are scared away from their nests for extended lengths of time, eggs may perish from exposure to heat or cold. Watch your step for nests that have been constructed outside fenced areas, too. If pets are permitted on beaches used by terns and plovers, keep the pets on a leash. Don't leave or bury trash or food scraps on beaches since garbage attracts predators that may prey upon eggs and chicks.

Thank you for your help in preserving and protecting these barrier beach inhabitants!

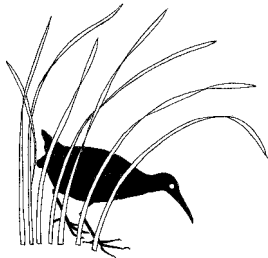


*Piping plover and nest
From photographs by Paul Fusco, DEP*



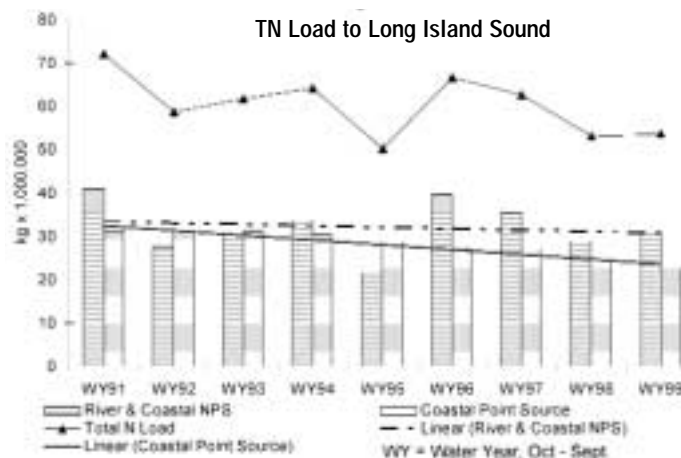
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How's the Water?

In the article "Falling From the Sky" (page 2), we learned that excess nitrogen deposition is one form of nonpoint source pollution (NPS) that can be harmful to the Long Island Sound ecosystem. The graph below shows the primary sources of nitrogen entering LIS. Data collected by DEP over the last 10 years show that in general, the Sound is responding positively to efforts to reduce NPS and point source pollution as evidenced by a decrease in dissolved nitrogen in LIS waters. The graph shows the trend of coastal point source (e.g., sewage treatment plants) nitrogen input and river and coastal NPS nitrogen input to LIS in the 1990s. Although the point source trend line shows a more marked decrease, the nonpoint source trend line also shows a decrease. So, although we still have a long way to go, it looks as though LIS water quality is getting better in terms of nitrogen pollution.



**FOR
SAFETY'S SAKE
DON'T
LEAVE A WAKE**

Look for these signs this summer on the Thames River.

Visit the DEP website at <http://dep.state.ct.us>.

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