



SOUND OUTLOOK

A NEWSLETTER OF THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

Welcome to Sound Outlook!

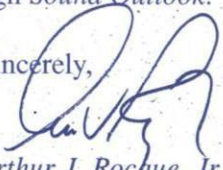
I am pleased to introduce *Sound Outlook*, a newsletter designed to provide news about the Department of Environmental Protection's (DEP) efforts to preserve and protect Long Island Sound (LIS) and its coastal resources. Through each issue, the latest on current projects, events, and information, as well as tips on how we can all help protect the health of the Sound, will be highlighted.

The title of this newsletter, "Sound Outlook"—yes, a play on words—describes the direction in which the State is now heading. Through the combined efforts of DEP, the federal government, municipalities, non-profits and concerned citizens, a positive difference in the health of Long Island Sound has been made. Using a team approach is the only way new hurdles will be overcome in the 21st century.

As the year 2000 approaches, the State will celebrate the twentieth anniversary of Connecticut's Coastal Management Program, and the fifteenth anniversary of the Long Island Sound Study National Estuary Program. It is a time to reflect on how far the State has come in environmental protection, and to plan for the future. Long Island Sound is cleaner than it has been in the last 100 years. The coastal area supports over 13,500 acres of healthy tidal wetlands; provides essential habitat for myriad bird species; recreational value for fishing, swimming and boating enthusiasts; and supports a thriving economy based on a variety of water-dependent uses, including one of the top oyster industries in the country.

Of course, there are still problems that need to be solved. With the public's help and support, the Department of Environmental Protection will continue to restore and protect Long Island Sound and its coastal resources for future generations to enjoy. We look forward to keeping you informed and involved, in part, through *Sound Outlook*.

Sincerely,



Arthur J. Rocque, Jr.
Commissioner
Connecticut Department of
Environmental Protection



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New Coastal Public Access Guide Ready for Summer Fun

Summer is here and so is a new coastal public access guide showing you where to enjoy Long Island Sound and its coastal resources! The new "Connecticut Coastal Access Guide" provides detailed information on 262 waterfront sites in an easy-to-use map format (see "Spotlighted Coastal Access," page 4). Sites included in the Guide range from a small privately-owned historic parklet in Greenwich to the expansive salt marshes of Barn Island State Wildlife Management Area in Stonington.

The Guide is divided into four coastal regions, with each shown on a separate panel. Interesting facts about Long Island Sound and its shoreline, Connecticut's Coastal Management Program, and the public's right to access coastal waters are interspersed throughout the publication.

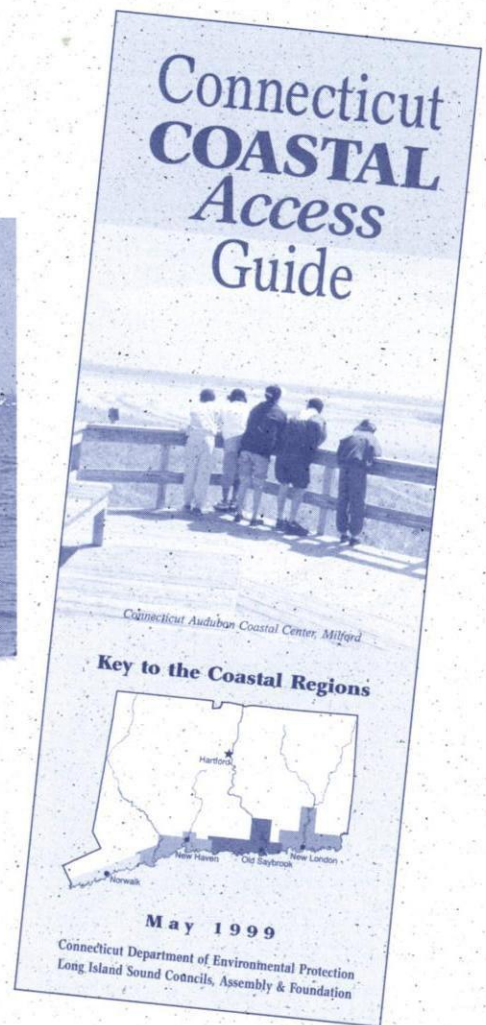
Funded in part through a grant from the Long Island Sound License Plate Program, the Guide was a collaborative effort between DEP's Office of Long Island Sound Programs and LIS Resource Center, and the Long Island Sound Councils, Assembly and Foundation. Several years of data collection, site verification, product design, editing, and production went into the map project. To receive a copy of the map, contact DEP's Office of Long



Look for these signs to reach coastal access sites.

Island Sound Programs at (860) 424-3034, or e-mail a request with your mailing address to coastal.access@po.state.ct.us.

The "Connecticut Coastal Access Guide" is part of an evolving electronic geographic information system (GIS) linked database that will be made available through the DEP's web site in the future. The project also includes a related coastal access sign component designed to help users of the Guide identify sites. The signs are available free of charge to coastal municipalities to install at access sites and on local roads. For



more information about the publication, or coastal access signs, contact the project manager, David Kozak, at the phone number listed above or by e-mail at david.kozak@po.state.ct.us.

How's The Water?

The DEP conducts water quality monitoring at State Park swimming areas for indicator bacteria throughout the summer to determine that the State beaches are safe for swimming. The monitoring is done on a weekly basis at all of the State Park swimming areas, including the three coastal State Parks. This monitoring data enables the DEP to post State swimming area closures on the DEP website at: <http://dep.state.ct.us/rec/beachclo.htm>.

Another type of water quality monitoring the State does is for hypoxic, or low dissolved oxygen, conditions. This monitoring is done by staff on the *John Dempsey*, a DEP research vessel. Data are compiled and presented on maps after each survey, and may be requested by contacting the DEP Bureau of Water Management at (860) 424-3020. The monitoring helps DEP determine the state of hypoxia in the Sound, and is used to track the effectiveness of our management strategies. The University of Connecticut (UConn) Marine Sciences Department, in partnership with the Environmental Protection Agency, also monitors water quality of the Sound. You can visit this UConn website, which has real-time information, at: <http://www.mysound.uconn.edu>.



Hammonasset Beach State Park, Madison

A Frequently Asked Question

People frequently ask, "How's the water?" Usually there is a concern about safe swimming or good fishing. But in an estuary like Long Island Sound, a simple "good" or "bad" answer is difficult. So, how is the water in the Sound? Well, let's look at it from a biochemical point of view.

Certain physical and chemical properties of water are essential to healthy plants, animals, and people living in and around Long Island Sound. One such characteristic is the amount of free oxygen (O₂) dissolved (or mixed) in the water. Just as people need oxygen to breathe, aquatic organisms need this dissolved oxygen (DO) in the water. While oxygen makes up 20% of the atmosphere, it is much scarcer when dissolved in water. A healthy DO level in the Sound is at or above 5 parts per million (ppm), or 0.00005%.

From mid- to late-summer, DO levels in the bottom water of LIS drop, a condition known as *hypoxia*. This occurs when a natural condition called *stratification* is coupled with the addition of nutrients such as nitrogen. During summer, calm surface water warms up, forming a barrier between the cooler (slightly saltier) bottom water and the warmer surface water. This stratification prevents mixing of the oxygen-rich surface water with the bot-

tom water layer. Microscopic plants, called algae or phytoplankton, grow in the sunlit surface water. When phytoplankton die, they sink; as they decompose, DO in the bottom water is used up.

Because human activity has added extra nitrogen to the Sound, DO levels in the bottom water today fall well below natural conditions. Sewage treatment plant discharges are a major source but stormwater runoff also contributes significantly to the nitrogen load. As you might imagine, if there is little or no DO in the water, lobsters, crabs, shellfish, and other bottom-dwelling creatures

leave the area or, under severe hypoxic conditions, die. Hypoxic conditions can also cause fish kills.

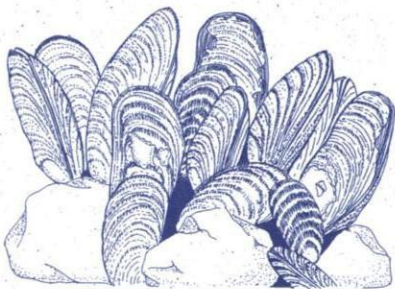
In order to combat hypoxia, we must reduce nitrogen entering the Sound to decrease algal growth. In partnership with the federal Environmental Protection Agency (EPA) Long Island Sound Study, DEP is working with towns and cities throughout the state to remove nitrogen from sewage treatment plant discharges. The goal is to reduce the nitrogen load to LIS to nearly 60% of the 1990 load by the year 2014.

If we all do our part to control nitrogen, there will be fewer occur-

rences of hypoxia and a safer, healthier Sound for all living things.

How can you help reduce nitrogen entering LIS?

- use timed-release fertilizer or less fertilizer on lawns and gardens;
- clean-up and properly dispose of animal pet waste;
- do not plant or mow grass up to stream bank edges, and in existing developments, keep lawns at least 25 feet back from the edges of watercourses;
- be kind to streamside land by using more native plant species and naturalistic landscaping.



Blue mussels are commonly found along Connecticut's coastline.

Each issue of Sound Outlook will have a "How's the Water" section, reporting on water quality conditions during that season and identifying information sources about water quality. Please see page 2.

LOOK OUT for upcoming events!!

June is Rivers Month.

June: Windowpane flounder, fourspotted flounder and hogchoker breed and hatch young.

June/July: Lobster spawn in Long Island Sound.

July 4th: Osprey young begin to fly.

July: Northern sea robin breed and hatch young.

July 27-29: National Coastal Zone Conference, San Diego, CA. Contact the Coastal Zone Secretariat (617) 287-5577 for more information.

End of July: Bald eagle young begin to fly.

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

September 18-October 10: Coastweeks

9/18: International Beach Clean-up Day—contact Peg Van Patten, CT Sea Grant (860) 405-9141 for more information.

9/19: *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: Osprey begin southward migration.

September: Juvenile shad migrate to the North Atlantic.

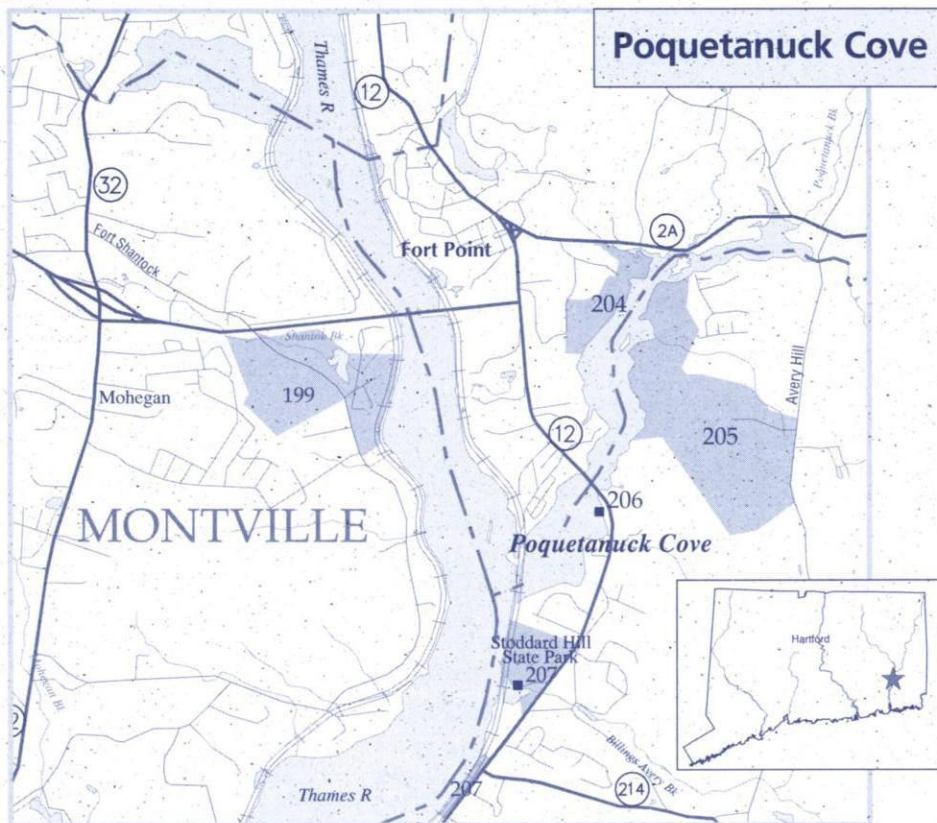
The Department of Environmental Protection is an affirmative action/equal opportunity employer, providing programs and services in a fair and impartial manner. In conformance with the Americans with Disabilities Act, DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities needing auxiliary aids or services, or for more information by voice or TTY/TDD call (860) 424-3000.

SPOTLIGHTED

Coastal Access: Poquetanuck Cove

Picture paddling your canoe on one of the last large undeveloped coves in the lower Thames River basin. A place where you may find osprey feeding on fish caught in the cove. Or where you can take a contemplative hike through a grove of old-growth hemlock trees. Where are you? —Poquetanuck Cove in the Towns of Ledyard and Preston, site numbers 204, 205 and 206 on the new *Connecticut Coastal Access Guide* (see article, page 2). DEP's Office of Long Island Sound Programs has worked with the Town of Ledyard and the Connecticut Department of Transportation to improve access to Poquetanuck Cove, a unique coastal waterbody recognized by the U.S. Fish and Wildlife Service as one of the most significant coastal fish and wildlife habitats in the Thames River basin.

Use the Poquetanuck Cove Boat Launch (#206) to start your trip. Paddle the south/east (Ledyard) side of the Cove to a small inlet opposite an island where a brook drains The Nature Conservancy's Poquetanuck Cove Reserve. The Reserve (#205) contains a little-used trail that passes through a mature hemlock forest. If you paddle due north (with the island on your left) to the opposite shore in Preston you will find the State Poquetanuck Cove Water



Access Area (#204). Paddle northeast with the shore on your left to a narrow inlet, which forms the eastern boundary of this 35-acre state-owned parcel. If you're adventurous, land your canoe at the point just south of the inlet and hike the 1-mile round trip from the Cove to State Route 2A and back. Paddle back (southwest) to the boat launch just beyond the Route 12 bridge on the left.

Remember to bring the USGS Uncasville quadrangle map and a com-

pass to help you find your way. Please land your canoe/kayak *only* if you can see marked trails from your boat to avoid trampling sensitive vegetation and wildlife habitat. Enjoy your exploration of Poquetanuck Cove!

The Poquetanuck Cove Boat Launch was funded in part by the Long Island Sound License Plate Program. The Program has funded over 40 coastal access projects to enhance the public use and enjoyment of Long Island Sound.

The Long Island Sound License Plate Program

Do you have a Long Island Sound License Plate on your car? Have you thought about getting one but weren't sure how? Have you wondered how the money from the sale of the plates is used to help the Sound?

This column will appear in each issue of *Sound Outlook* and will answer some of those questions. Initially, we'll give you a brief overview of the program. In subsequent issues, we will highlight specific projects funded by plate sales that benefit Long Island Sound.

The Long Island Sound License Plate Program began in 1992. To date, over 91,000 plates have been sold, raising over \$3.3 million. The money from the



J.H. Torrance Downes

sale of the plates is placed in the Long Island Sound Fund, administered by DEP's Office of Long Island Sound Programs. The Fund also receives private donations and proceeds from the People's Bank LIS Affinity Credit Card. Approximately \$2.6 million from the Fund has been allocated to support over 161 projects in the areas of public access,

education and outreach, habitat restoration, and research. Projects are selected through an annual grant process with the assistance of the LIS Fund Advisory Committee. Grant recipients include municipalities, schools, universities, non-profit groups, land trusts, and other interested organizations.

For more information about the program, please contact the Long Island Sound Fund Coordinator, Kate Hughes, at (860) 424-3034, or visit our website at <http://dep.state.ct.us/olispl/licplate/licplate.htm>. For information on ordering a Long Island Sound plate, call 1-800-CT-SOUND.

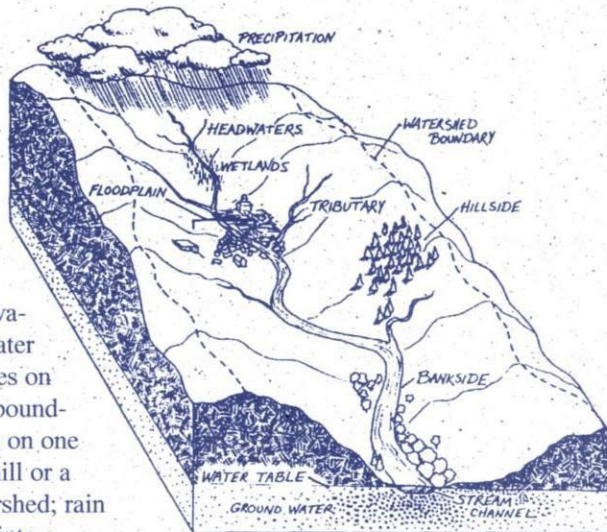
Are You Watershed Minded?

Have you ever realized that you live in a watershed? What is a watershed? What watershed do you live in? Why does it matter?

By definition, a watershed is the area of land within which all sources of water, including rainfall, rivers, streams, wetlands, and groundwater, drain towards a common water body. High points and ridge lines on the land surface determine the boundary of a watershed. Rain falling on one side of a high point, such as a hill or a mountain, drains into one watershed; rain falling on the other side drains into a neighboring watershed. Because watersheds don't follow political boundaries, state and local entities may share a watershed, and more than one watershed may fall within a town, state, or country.

Connecticut contains many watersheds and subwatersheds with almost the whole state draining into Long Island Sound. The entire LIS drainage basin covers over 16,000 square miles encompassing parts of five New England states, New York, and Quebec, Canada. The LIS drainage basin in Connecticut is subdivided into seven major watersheds, the four largest being the Connecticut, Housatonic, Thames and Quinnipiac River watersheds.

What happens when the water from its watershed reaches LIS? It carries with it pollutants from human activities and the natural environment which negatively impact the Sound and its resources. Agriculture, land development, lawn care, and road maintenance and use, to name a few, all generate pollutants that are carried by stormwater runoff to lakes, rivers, and ultimately to Long Island Sound. This is called nonpoint source pollution. Nonpoint source pollution can be reduced by implementing careful development and management strategies for industrial, commercial, and residential areas; road construction; and by prac-



Source: EPA Fact Sheet #841-F-96-0046

ticing pollution prevention activities at home. Preserving and restoring inland wetlands and riparian (streamside) areas can reduce erosion, sediment pollution, and capture nutrients (see "A Frequently Asked Question" page 3) and other pollutants before they reach LIS.

The DEP Bureau of Water Management is developing a watershed approach by assigning staff to specific watersheds rather than to municipal boundaries. Staff will work as a team within that watershed to consolidate agency efforts in permitting, enforcement, resource management, and public outreach.

Individuals can make a positive difference by joining existing watershed associations that promote good stewardship of the resources in the watershed where they live. You can become involved in your town's boards and commissions that affect wetland and land-use decisions critical to good water quality. And even more directly, homeowners can learn how to manage their own landscaping to reduce nonpoint source pollution.

For more information on watersheds and estuaries please contact Mark Parker, DEP Bureau of Water Management at (860) 424-3276. Or access DEP's website at <http://dep.state.ct.us>.

Sound Tips

Going out on your boat this summer? You can help improve water quality in Long Island Sound by doing the following:

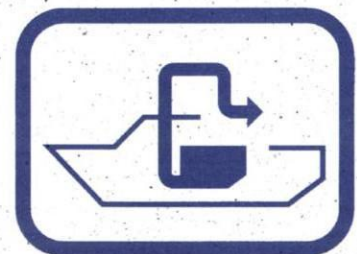
1) Complete a full inspection of and make repairs to on-board portable toilets or Marine Sanitation Devices (MSD's) before heading out onto LIS waters.

2) USE PUMPOUTS! Call the CT DEP Boating Division at (860) 434-8638 or visit the DEP pumpout webpage at <http://dep.state.ct.us/olisp/cva/cva.htm> for a list of pumpout locations.

3) Regularly empty any portable toilets or MSD holding tanks into approved land-side dump stations, pumpout facilities, or pumpout boats. **It is illegal to discharge any untreated waste into Long Island Sound or any of Connecticut's waters.**

4) Keep litter and trash on the boat. Bring an extra garbage bag and use it to put any floating trash or plastic you find out on the water. Bring all trash back to land for proper disposal.

For more information on nearshore water pollution visit the EPA Office of Wetlands Oceans and Watersheds webpage at www.epa.gov/owow/oceans/factsheets/fact1.html & [fact3.html](http://www.epa.gov/owow/oceans/factsheets/fact3.html), or contact Mark Parker, DEP Bureau of Water Management at (860) 424-3276.



**KEEP OUR
WATER CLEAN-
USE PUMPOUTS**



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Spotlighted Coastal Resource: *Tidal Wetlands—Not Just a Swamp!!*

Although to many the grassy, wet, mucky, smelly areas along the coast seem like nothing more than wasted land, tidal wetlands are actually one

of the most productive ecosystems in the world! Tidal wetlands serve as pollution filters, nurseries for fish and shellfish, habitat for waterfowl and wildlife, and storage for floodwaters.

Characterized by flat, vegetated areas that are subjected to regular flooding by the tides, the most familiar form of tidal wetlands is the coastal salt marsh. Typical salt marsh plants are Smooth Cord-grass (*Spartina alterniflora*), Salt Meadow Cord-grass (*Spartina patens*), Blackgrass (*Juncus*

gerardii) and Spikegrass (*Distichlis spicata*). Salt marsh ecosystems are an indispensable part of Long Island Sound.

Through the DEP's partnership efforts with federal, state, and local government, and private organizations, over 1,500 acres of tidal wetlands have been restored since 1980. These efforts characterize the State's commitment to habitat restoration.

For more information on our tidal wetlands restoration programs, please contact Chris Rilling, DEP Office of Long Island Sound Programs at (860) 424-3034, or visit our website at <http://dep.state.ct.us>.

Salt Meadow Cord-grass
(*Spartina patens*)

Blackgrass (*Juncus gerardii*)

Sound Outlook will arrive in your mail three times a year. Along with several feature articles, each issue will include information on the Long Island Sound License Plate Program, other funding programs; types of projects supported, coastal resources, water quality, and segments on the new "Connecticut Coastal Access Guide." Also included will be tips for the preservation and protection of LIS resources and a calendar of events.

If you did not receive this issue of *Sound Outlook* in the mail and would like to be placed on the mailing list, please contact DEP's Office of Long Island Sound Programs by calling (860) 424-3034, or e-mail your address to: laurie.makowski@po.state.ct.us, or write: DEP, OLISP, 79 Elm Street, Hartford, CT 06106-5127.

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

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