

## Public Access Results from DEP Appeal of Municipal Decision

In July, the Department of Environmental Protection (DEP), through the Office of the Attorney General, settled its appeal of a decision by the Milford Planning and Zoning Board to approve a golf course along the Housatonic River without the inclusion of a water-dependent use. DEP staff had provided both verbal and written comments at the local planning and zoning hearing for the Coastal Site Plan Review application.

DEP's comments stated that the proposal was inconsistent with the Connecticut Coastal Management Act (CCMA) and should be denied, or modified to include a water-dependent use. Because the site is not well suited for intensive in-water development, the DEP recommended public access, a defined water-dependent use in the CCMA. The Department also pointed out that this particular waterfront parcel was significant based on its large size, location, and the unique opportunity it provides for access to the Housatonic River. Unfortunately, the local board approved the project without the requested modifications.

The settlement, which is a stipulated agreement between the Planning and Zoning Board, the developer, and the DEP, includes the provision by the developer of public access along approximately 300-400 feet of the river, as well as parking and appropriate signage to help visitors find the site. The agreement also ensures that the golf course and associated facilities remain open to the public, without restriction, for a minimum of twenty years.

The access gained along the Housatonic River through the stipulation will allow the general public the opportunity to enjoy scenic views of the river, view osprey feeding in the fall, and even land a canoe for a rest. It also has the potential to become a point of access for environmental monitoring and research by local groups. The boardwalk and trail near the golf course may be expanded onto adjacent properties in the future.

The CCMA, in effect since 1980, balances development of waterfront sites with the need to protect coastal resources and values for the public. "This first step toward better public access to waterfront resources along the Housatonic River in this area should be followed by others to provide more meaningful opportunities for the public," said Attorney General Richard Blumenthal. "Better, more effective implementation of public access policies is vital – and this action sends that signal."

"One of our primary goals in implementing the Coastal Management Act continues to be increasing the amount of public access to our coast," said DEP Commissioner Arthur J. Rocque, Jr. Since its inception, over 11 miles of coastal public access have been acquired through the municipal Coastal Site Plan Review process.

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No. 2

# Indicators of Sound Health

When we go for a physical, the doctor uses blood pressure, heartbeat, and weight to gauge our health. Similarly, scientists and natural resource managers use environmental “indicators” to assess the health of an ecosystem.

Some indicators measure human effects on the environment, such as the number of dams on a river or acres of developed land in a watershed. Others look at environmental improvements like miles of stream a fish ladder opens to migratory fish for spawning. Indicators chart changes such as invasions of non-native plants and animals that out-compete native species or destroy natural habitats. Inventories of valued plants and animals, such as nesting ospreys or winter flounder populations, are used to measure the health of an ecosystem. Finally, water quality tests showing the amount of dissolved oxygen in an estuary or the levels of toxic chemicals in sediments, indicate the health of habitats that support wildlife.

The Long Island Sound (LIS) estuary has numerous indicators which can be measured over time to determine the health of its ecosystem. The size of fish and shorebird populations in and around the Sound, the availability of habitat for both, and the quality of water in the Sound are some of the indicators used

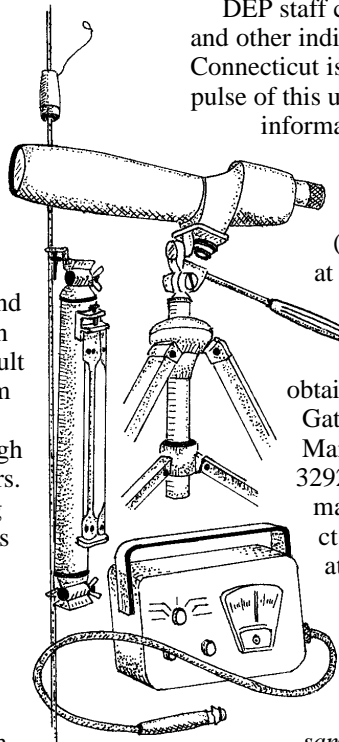
by DEP staff to evaluate the state of the Sound.

For example, the increased number and size of winter flounder caught in DEP research vessel nets in recent years indicates their survival success, which in turn points to good water quality, satisfactory habitat, and balanced fishing pressure. Observed declines in osprey reproduction during the 1960s and 1970s served as evidence of the presence of the pesticide DDT in the foodchain and the loss of nesting habitat. The resurgence of osprey along the shores of the Sound in the 1980s and 1990s is an indicator of the positive result of DDT being removed from the ecosystem and nesting habitat being restored through the efforts of DEP and others.

Water quality monitoring is an essential tool managers use to evaluate LIS health. Too much algae in areas of the Sound along with readings of low dissolved oxygen indicate that excess nitrogen, a plant nutrient, is entering LIS, primarily from

sewage treatment plants (STP’s) and nonpoint sources of pollution. Relatedly, the absence of eelgrass from central and western LIS is the result of reduced water clarity caused by shading from an over-abundance of algae and suspended solids. As Connecticut works to retrofit STP’s to reduce nitrogen entering the Sound, the health of the estuary improves.

DEP staff continually monitor these and other indicators to ensure that Connecticut is keeping its finger on the pulse of this unique estuary. For more information on LIS fisheries indicators, please call Penny Howell, DEP, Bureau of Natural Resources, at (860) 434-6043, or e-mail at penny.howell@po.state.ct.us. Information on LIS water quality monitoring may be obtained by contacting Matthew Gates, DEP, Bureau of Water Management, at (860) 424-3292, or e-mail at matthew.gates@po.state.ct.us, or visit DEP’s website at <http://dep.state.ct.us>.



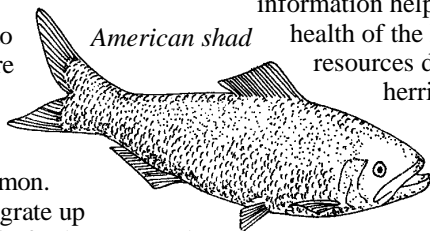
Monitoring equipment. Top to bottom: wildlife spotting scope, Nansen bottle (water sampler), dissolved oxygen meter.

## SPOTLIGHTED Coastal Resource:

### Poor Man’s Salmon — A Herring by Any Other Name

During colonial times, Connecticut’s rivers teemed with great numbers of anadromous fish, including Atlantic salmon, American shad, and striped bass. Shad became known as “Poor Man’s Salmon” because most people saw no reason to eat such a bony creature except for the poor colonists who could not afford the more expensive bass and salmon.

Fish species that migrate up rivers to spawn, hatch in fresh water, and live their adult lives in salt water are called anadromous. American shad, along with their close cousin, the river herring, are considered important indicator species for the LIS ecosystem because they provide information on the health of both the salt water and fresh water portions of the

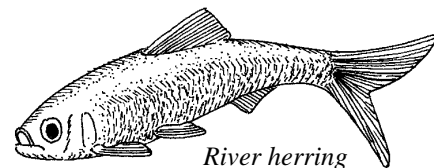


American shad

LIS watershed.

The DEP conducts trawl surveys, and works with volunteers who count these fish species as they pass through fishways, to determine population size. This information helps DEP keep tabs on the health of the LIS estuary, marine resources dependent on shad and herring, and accessibility of spawning streams. Based on this information, DEP undertakes management actions to help restore or maintain healthy fish populations and habitat (see “New Fishway” article, page 3 and <http://dep.state.ct.us/whatsap/press/1999/ps0528.a.htm>).

Both the river herring and American shad experienced population declines from the 1750s to 1900 due to damming



River herring

of rivers, and again in the 1930s to 1950s, due to over-fishing and pollution. American shad continue to be an important sport fish in Connecticut, highly sought for their fresh and smoked flesh. River herring are also taken by recreational anglers, but more importantly serve as a primary source of food for such predators as bluefish, weakfish, and striped bass, as well as osprey, eagles, and other bird and animal predators.

For more information on American shad and river herring contact Steve Gephard, DEP Bureau of Natural Resources, at (860) 434-6043, by e-mail at steve.gephard@po.state.ct.us, or visit the DEP website at <http://dep.state.ct.us/burnatr/fishing/fisherie.htm>.

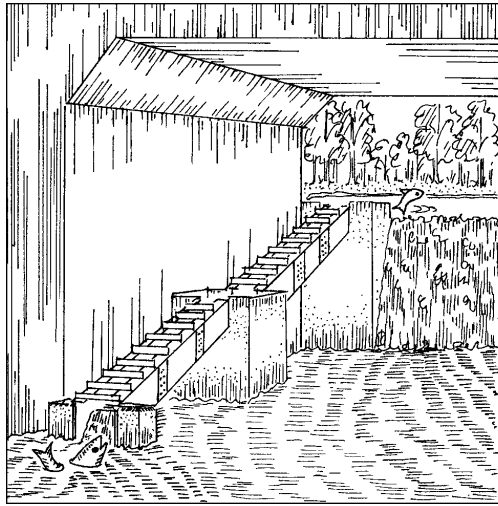
# Putting Your LIS Plate Money to Work:

## New Fishway Restores Passage for Anadromous Fish

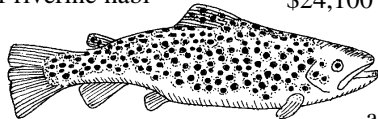
On April 24, 1999, the Thames Valley Chapter of Trout Unlimited and other partners unveiled a newly constructed fishway in Trading Cove Brook between Montville and Preston. The new fishway restores passage for blueback herring, alewife, and sea-run brown trout, three anadromous fish species found in Connecticut. Anadromous fish spend their adult lives in salt water and return to freshwater streams to spawn.

Trading Cove Brook drains a 13.4 square mile watershed and joins the Thames River. The completion of this project restored fish access to approximately four miles of riverine habitat, a significant step toward the DEP's ten-year goal of restoring 100 miles of riverine habitat for anadromous fish species. Restoration of these species will provide broad ecological benefits to the larger Thames River Estuary/LIS ecosystem, increasing the food chain support for a variety of fish and wildlife such as striped bass, bluefish, heron, egret, osprey, and marine mammals.

In 1998, the Thames Valley Chapter



Trading Cove Brook Fishway



Sea-run brown trout

of Trout Unlimited began assembling partners and support for restoring anadromous fish passage into Trading Cove Brook. The Long Island Sound Fund provided a grant in the amount of \$24,100 for the project, which included the design and construction of the fishway within an existing culvert, educational brochures, and a sign. Other partners included the Connecticut Department of Transportation, the DEP's Fisheries Division and Office of Long Island Sound Programs, the Mohegan Tribe, the Mashantucket Pequot Tribal Nation, Manafort Brothers Construction Company, and the federal Environmental Protection Agency. This partnership effort is a model for the DEP's broader initiatives in habitat restoration, including the restoration of habitat for anadromous fish. In addition, the project highlights the ways in which funds generated from the sale of Long Island Sound License Plates are used to benefit the Sound's ecosystem.

Please see "Look Out for Upcoming Events," for information on LIS Fund grant deadlines. 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](mailto:kate.hughes@po.state.ct.us), or visit our website at <http://dep.state.ct.us/olisp/licplate/licplate.htm>.

# LOOK OUT for upcoming events!!

1999

**October 22-23:** National Environmental Career Conference, Hartford, CT. Contact the Environmental Careers Organization (617) 422-0021 or visit [www.eco.org](http://www.eco.org) for more information.

**November 2-5:** Wetlands Regulatory Workshop, Atlantic City, New Jersey. Contact Ralph J. Spagnolo, EPA, Region III, (215) 814-2718 for more information.

**December:** Bald eagles return to Connecticut for the winter. Call 1-800-368-8954, after December 8<sup>th</sup>, for reservations and more information on the Shepaug Eagle Observation Area.

**December:** Harbor seals return to the Sound for the winter.

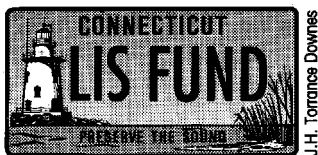
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**January:** LIS Fund Request for Proposals mailed.

**March 13-17:** Marine & Estuarine Shallow Water Science & Management Conference, Atlantic City, New Jersey. Contact Ralph J. Spagnolo, EPA, Region III, (215) 814-2718 for more information.

**March 17:** Deadline for LIS Fund grant applications to be received in hand (no postmarks accepted). Contact Kate Hughes, DEP, Office of Long Island Sound Programs, (860) 424-3034 for more information.

This year will mark the 20<sup>th</sup> Anniversary of Connecticut's Coastal Management Program and the 15<sup>th</sup> Anniversary of the Long Island Sound Study National Estuary Program. Please stay tuned for upcoming events.



Purchase of an LIS License Plate supports the LIS Fund

As of August 31, 1999:

- Plates sold: 95,362
- Funds raised: Over \$3.3 million
- Projects funded: 161
- Habitat restoration projects funded: 13

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.

If you did not receive this issue of Sound Outlook in the mail and would like to be placed on the mailing list, please fill out below and mail to: Sound Outlook, CT DEP, Office of LIS Programs, 79 Elm Street, Hartford, CT 06106-5127; or e-mail your address to [laurie.makowski@po.state.ct.us](mailto:laurie.makowski@po.state.ct.us).

Name: \_\_\_\_\_

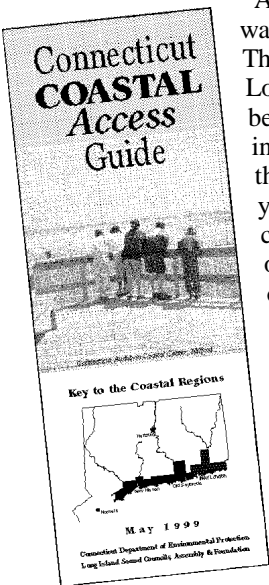
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# SPOTLIGHTED

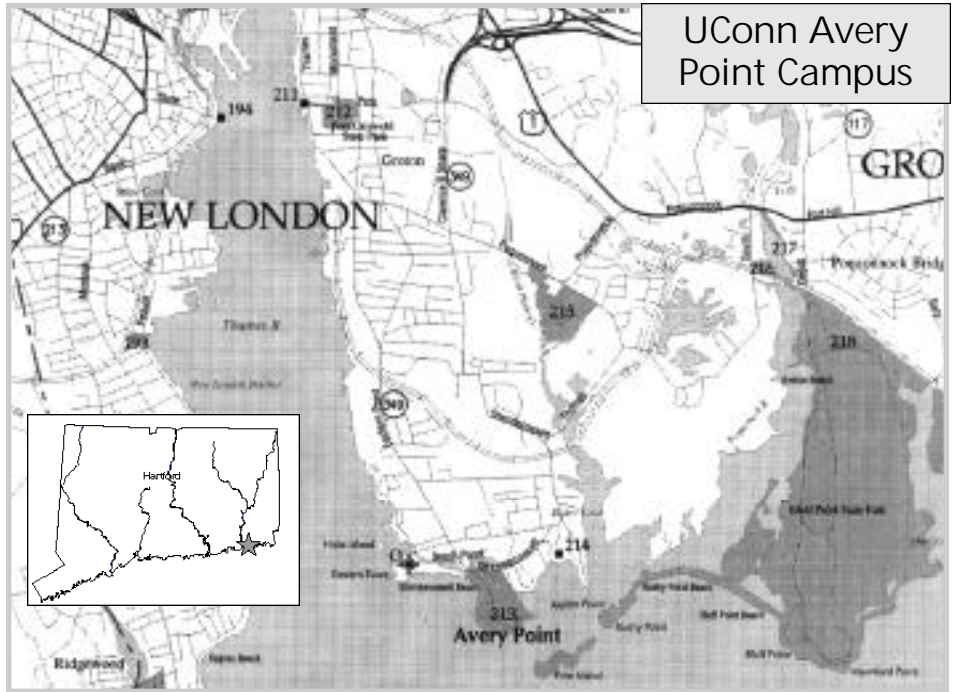
## Coastal Access: University of CT — Avery Point Campus

One of the best-kept coastal recreation secrets in southeastern Connecticut is the University of Connecticut's (UConn) Avery Point Campus (site #213 on the *Connecticut Coastal Access Guide*). This 64 acre site offers dramatic views of Long Island Sound and the Thames River. A perfect spot for a winter outing along the water, it is popular among all ages due to its gentle grades and ample shelter from the vagaries of winter weather.



A ¼ mile perimeter walkway along the Thames River and Long Island Sound begins at the parking area just inside the main gate to your right. When combined with other walkways on the east side of the campus, the site provides a ½ mile walking loop with water views.

Along the walkway, stop at the Thames River Observation



UConn Avery Point Campus

platform funded by the Long Island Sound License Plate Program for great views of the New London Ledge Lighthouse. Built in 1909, using a combination of French Second Empire and Georgian styles, the impressive red brick lighthouse stands guard at the mouth of the Thames River. Continue on to the smaller Avery Point Lighthouse on the UConn campus and observe this U.S. Coast Guard (World War II era) memorial light, a navigational aid built when Avery Point was an active Coast Guard training facility.

Feel free to pack a picnic or do some fishing during your visit. Don't miss the

sight of the Branford Mansion, currently being restored to its historic splendor. The Coast Guard international ice patrol facility and Project Oceanology are also on campus, and you can watch for large ships heading for port at State Pier in New London. Or, if you're lucky, you may see a submarine setting out from the U.S. Naval Base in Groton.

This winter, make sure to grab your copy of the *Connecticut Coastal Access Guide* and find your way to UConn-Avery Point. For free copies of the Guide, call the DEP at (860) 424-3034 or email [coastal.access@po.state.ct.us](mailto:coastal.access@po.state.ct.us).

## Water Chestnut Found in Connecticut Waters

Although many people are familiar with nuisance weeds in their lawn or garden, few may have experience with aquatic weeds. DEP has recently discovered water chestnut (*Trapa natans*), a non-native, invasive plant, in Keeney



Cove on the Connecticut River in Glastonbury. "We had hoped to keep this plant out of Connecticut and escape the fate of neighboring states," said DEP Commissioner Arthur J. Rocque, Jr.

"Massachusetts, Vermont, and New York already have extensive infestations in various rivers and ponds. However, since we have caught this problem early on, there is a good chance we can completely eradicate water chestnut from Keeney Cove,"

said Rocque.

So what is the danger of this plant infesting our waters? The dense growth of water chestnut can effectively choke a waterbody, making boating, fishing, and swimming nearly impossible. This weed also shades out native aquatic plants and offers little value to wildlife. The seeds have sharp spines that can inflict puncture wounds. If water chestnut becomes established in Connecticut, it could become the dominant plant in the shallow waters of all Connecticut River coves, including the tidal freshwater coves from Hartford to Essex.

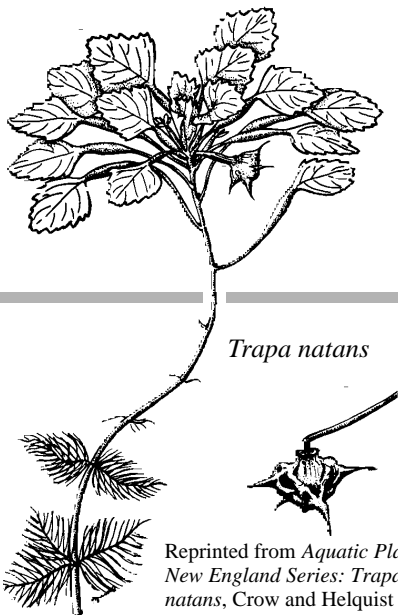
Connecticut is working aggressively

*Hand-pulling water chestnut in Keeney Cove, Glastonbury*

## Sound Tips

During the winter months, it is important to remember that even though we may not be directly enjoying Long Island Sound, our activities still affect it. You can help the Sound this season if you:

- **Carpool!** Ride a bike, walk or take public transportation whenever possible. Car exhaust emits nitrogen oxides into the air as part of the combustion process, which reach the Sound through atmospheric deposition. The additional nitrogen from the air (14.3% of the total nitrogen load) contributes to the hypoxia (low dissolved oxygen) problem in the Sound.
- **Never feed waterfowl.** This encourages them to stay through the winter and gather in flocks. Their droppings can pollute shellfish beds and swimming areas.
- **Gather all six-pack rings** and other plastic items for proper disposal. If they are washed into the Sound, marine animals may eat or become entangled in them.



*Trapa natans*

Reprinted from *Aquatic Plants of New England Series: Trapa natans*, Crow and Helquist 1983. Illustration by Pam Bruns.

to prevent any additional infestations of the water chestnut in its waters. During the first week of August, DEP staff hand-pulled the plants found in Keeney Cove, and conducted a search of other coves

## Seasonal Impacts to the LIS Watershed

As we make the transition from summer to winter, all of us, as residents of the Sound's watershed, should be aware of certain seasonal impacts to LIS.

Although the onset of winter means the hypoxic<sup>1</sup> conditions of the summer are behind us, there is still a threat of excess nitrogen loading from nonpoint sources<sup>1</sup>. Human activities continue to contribute contaminants, including nitrogen, to the LIS watershed. Fall and winter rains wash these contaminants into our streams and into the Sound.

During the fall, you can do the following to minimize the pollutant load to LIS:

- Be on the safe side and don't fertilize lawns and shrubs after September 15<sup>th</sup>. Fertilizers applied too late in the fall aren't used by dormant plants and may be washed away by rain.
- Put leaves and organic debris into bags or containers for proper disposal or composting. Do not rake leaves into the street or into storm drains. Town leaf pick-up requirements state that the leaves be next to the curb, on the grass, or sidewalk.
- Cover open soil and sand piles with plastic or hay to prevent erosion runoff.

Did you know that many de-icing products used during the winter contain nitrogen? By following these tips you will help reduce contaminants entering

1. See 'Sound Outlook,' June 1999.

along the Connecticut River. Staff have also been working with the U.S. Fish and Wildlife Service and other organizations in Massachusetts to remove an infestation in the Connecticut River in Holyoke, Massachusetts. Continued vigilance will be required, however, as surrounding states are still infested and will act as a seed source for more introductions into the state. Seeds can drift down the Connecticut River, or be carried by waterfowl in their feathers. Once water chestnut infestation occurs unchecked, removal can be extremely expensive. Last year Massachusetts spent \$150,000 to control the plant in the Charles River

the Sound during the winter months:

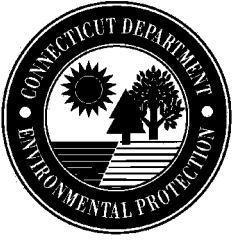
- Remove snow and ice using shovels, scrapers or chippers.
- Use chemical deicers as sparingly as possible, and when necessary, use products containing little or no nitrogen.
- Encourage your municipality's Public Works and Road Maintenance Departments to use deicers that contain little or no nitrogen.
- Use sand for traction on walkways and driveways. If possible, sweep up the sand during dry days, put it in a container and reuse it for the next snow or ice event.
- When winterizing your car, bring used fluids to the recycling center. Oil and antifreeze should never be poured into storm drains.

If we do our part to keep Long Island Sound clean throughout the year, we can enjoy all it has to offer during every season.



alone. By finding and removing any new infestations when they are small, Connecticut can avoid the expense and damage that other states have experienced.

DEP has published a fact sheet about water chestnut that will help people identify the plant. You can help by looking for this plant in your nearest lake, pond or river. To receive a copy of the water chestnut identification fact sheet, or to report a sighting of this plant in Connecticut, please contact Lori Benoit, DEP, Office of Long Island Sound Programs, at (860) 424-3034, or by email at [lori.benoit@po.state.ct.us](mailto:lori.benoit@po.state.ct.us).



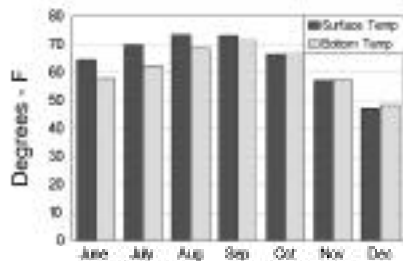
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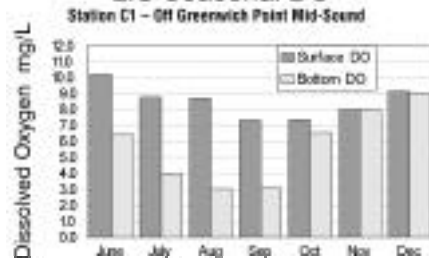
## How's the Water?

As surface water temperatures in Long Island Sound begin to drop in October, mixing of top and bottom waters is restored and hypoxia is no longer a concern. The charts to the right show the water temperature and dissolved oxygen (DO) trends from the summer to fall months. The water quality at this time of year is generally very favorable to all aquatic life common to LIS waters. Note the strong relationship between declining water temperature beginning in September, and the increase in dissolved oxygen.

LIS Average Seasonal Temperature  
DEP Monitoring 1995-1998, Station C1 off Greenwich, CT



LIS Seasonal DO



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

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If you are considering applying for a permit for a RESIDENTIAL DOCK, please call the Office of Long Island Sound Programs at (860) 424-3034 for a new fact sheet explaining the basics of the application process and the types of permits that might apply to your project.