



# SOUND OUTLOOK

A NEWSLETTER OF THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION  
EXPLORING LONG ISLAND SOUND – ISSUES AND OPPORTUNITIES

## Connecticut Celebrates Environmental Milestones

**T**his issue of *Sound Outlook* celebrates three environmental milestones of great importance to Connecticut. This past April 22 was the 40<sup>th</sup> anniversary of Earth Day. Since 1970, this overarching event has focused the nation’s attention on a host of environmental issues, including those addressed by the Connecticut Coastal Management Program, which marks its 30<sup>th</sup> anniversary in 2010, and the Long Island Sound Study, now in its 25<sup>th</sup> year.

Connecticut’s Coastal Management Program (CMP), administered by the Department of Environmental Protection’s (DEP) Office of Long Island Sound Programs (OLISP), has fostered the restoration of more than 1,800 acres of degraded tidal wetlands through removal of tidegates and channel dredging to restore tidal exchange. The CMP has shepherded the construction of osprey platforms, fencing of beaches to protect piping plover and least tern nest sites, planting of beach grass to stabilize shorelines and prevent beach erosion, and installation of fish ladders to reestablish anadromous fish runs.

The CMP has guided coastal municipalities in establishing Municipal Coastal Programs and Harbor Management Commissions, and OLISP’s coastal regulatory and enforcement programs have overseen the compensatory acquisition of 55 coastal access sites for active and passive recreation. Since 2005, the CMP has also spearheaded the acquisition of 821 acres of coastal open space. OLISP has managed the funding of 314 coastal habitat restoration, education, research and public access projects through the Long Island Sound License Plate Program. OLISP has also facilitated the Connecticut Clean Marina and Clean Boater Programs and the designation of all of Long Island Sound by the federal Environmental Protection Agency (EPA) as a No-Discharge Area, designed to prevent the discharge of human waste and vessel related pollutants to the estuary.

Under the Long Island Sound Study (LISS), Connecticut’s nitrogen input to the Sound has been reduced through sewage treatment plant upgrades, DEP’s nitrogen-trading program, reduction of atmospheric nitrogen deposition and septic system remediation. Collectively these efforts have resulted in a decline in severe hypoxia in the estuary. Bacterial indicators have been managed to ensure safe beaches and healthy shellfish consumption. The LISS primary focus areas include the conversion of remaining combined sewer systems in older cities, and better control of storm water and nonpoint source pollution that deliver nutrients, bacteria, suspended solids, oil and grease, and heavy metals to surface and ground waters. Connecticut is increasing efforts to achieve these goals by promoting Low Impact Development (LID) techniques and watershed-based planning.

Our greatest challenge for the future is to ensure that all resource management activities consider the potential effects of climate change, especially accelerated sea level rise, increased storm intensity and rising temperatures. Sentinel monitoring in Long Island Sound (see *Sound Outlook* Issue No. 33 at [www.ct.gov/dep/soundoutlook](http://www.ct.gov/dep/soundoutlook)), as well as climate adaptation workshops recently initiated with federal, state, local and other partners, will provide a framework for assessing the impacts of climate change and developing adaptation responses.

		<b>Inside</b>	
		Every Day is Earth Day – Calling All Volunteer’s	2
		Spotlighted Coastal Access	3
		Upcoming Events	3
		New LIS Grant Program Targets Seafloor Mapping	4
		Sound Tips	4
		Spotlighted Coastal Resource	5
		Celebrating Our State Parks and Forests	6
			
			
			
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## Every Day is Earth Day – Calling All Volunteers!

The DEP's recent celebration of the 40<sup>th</sup> anniversary of Earth Day featured more than 65 events in April and May showcasing many of the State's environmental achievements. Here as in other states, volunteers and members of non-profit environmental organizations have donated their time, energies, and resources to help clean up and restore our forests, lakes, streams and coasts. These efforts have also included raising money to purchase and preserve thousands of acres of open space for wildlife habitat and public recreation in Connecticut, with local land trusts as well as nationally known organizations such as The Nature Conservancy (TNC) helping to protect rare and sensitive habitats. Some historic as well as ongoing volunteer opportunities are described below.

Between 2003 and 2007, DEP's Storm Drain Marker Program distributed 100,000 markers to communities and volunteer organizations across the state. The markers remind the public of the dangers posed by runoff of nonpoint source pollutants, vehicular contaminants and yard fertilizer to the health of our rivers and ultimately Long Island Sound.



*International Coastal Cleanup Day, Goose Island, Norwalk. Photo by Mark Watkins, Courtesy of Save the Sound, Inc.*

An example of property acquisition efforts that relied upon the work of numerous volunteers was the purchase of land to expand the Barn Island Wildlife Management Area in Stonington. TNC assisted by purchasing and holding the land until the DEP obtained federal grant funds from the EPA Long Island Sound Study (LISS). (See *Sound Outlook*, June 2009, Issue 31 at [www.ct.gov/dep/soundoutlook](http://www.ct.gov/dep/soundoutlook)). That work is continuing, again through the voluntary efforts of individuals and interested organizations, as funding is sought to annex additional parcels that will further increase the unparalleled habitat value of the area.

At an event this past April 10 at Rocky Neck State Park in East Lyme hosted by Save the Sound, Inc., more than 100 volunteers participated in a project to restore a dune complex, required for final completion of a stream flow restoration project that was funded with federal American Recovery and Reinvestment Act (ARRA - Stimulus Fund) money. Volunteers transplanted approximately 13,000 dune grass plugs to restore the dunes between the public beach and the railroad line that runs through the park. Families with children, Coast Guard cadets, and federal and state agency staff worked shoulder-to-shoulder to replant the vital grasses that will protect the sand dunes from eroding and provide habitat to coastal birds and wildlife.



*Volunteers transplant dune grass plugs at Rocky Neck State Park.*

### Ongoing Opportunities

The following programs are just three of the many ongoing or annual volunteer opportunities available:

**Harbor Watch/River Watch Program (HW/RW)** is a volunteer citizen's action group initially begun in 1986 and incorporated in 1993 by Earthplace, a wildlife sanctuary and environmental education center in Westport. HW/RW conducts scientific water quality monitoring of three southwestern Connecticut harbors (Saugatuck, Norwalk, Five Mile River) as well as the Connecticut River, Saugatuck River, Indian River and Sasco Creek, and Long Island Sound. Data gathered is shared with the public, state environmental agencies and other environmental institutions in an effort to solve identified environmental problems. Volunteers may conduct onsite testing or laboratory analysis, pilot or man research vessels, or process the collected data. Volunteer training workshops are offered in the fall and spring. Contact Earthplace at 203-227-7253 or at [info@earthplace.org](mailto:info@earthplace.org) for information.

Another continuing program is **Project Limulus**, operated by Sacred Heart University. Project *Limulus* is a research and monitoring study of the population dynamics of horseshoe crabs in Long Island Sound. Data is gathered by physically tagging and recapturing animals, including through use of sonar tracking tags. Informational and volunteer training sessions are held in the spring. Volunteers learn to conduct spawning surveys and tag horseshoe crabs according to U.S. Fish and Wildlife Service protocols. To register, contact <mailto:info@projectlimulus.com>.

An annual event in which all interested citizens are encouraged to participate is the Ocean Conservancy's annual **International Coastal Cleanup**, scheduled this year for Saturday, September 25<sup>th</sup>.

Save the Sound, a program of the Connecticut Fund for the Environment, is once again Connecticut's coordinator for this event. There will be more than 50 additional beach and river cleanups across the state in September and October. Please contact Save the Sound's Kierran Broatch at [kbroatch@savethesound.org](mailto:kbroatch@savethesound.org), or visit [www.savethesound.org](http://www.savethesound.org), for more information about volunteering.



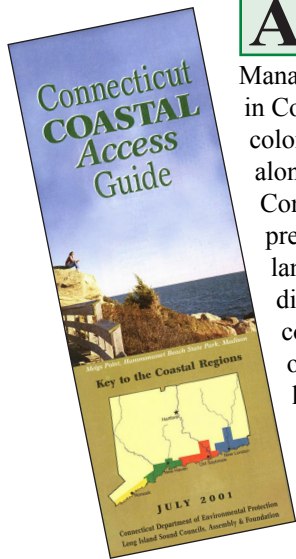
*Horseshoe crab with sonar tag. Photo by J. Mattei*

There are many opportunities for citizens to help restore and protect Long Island Sound. You can find volunteer opportunities at <http://longislandsoundstudy.net/get-involved/volunteer-opportunities> and on the DEP Public Participation web page at [www.ct.gov/dep/volunteer](http://www.ct.gov/dep/volunteer) or by visiting nearby municipal and state parks. 🌿



# SPOTLIGHTED Coastal Access:

## Hitting a Home Run - Land Acquisition as a Coastal Resource Management Tool



**A**cquiring coastal land for conservation purposes has been a challenge from the inception of Connecticut's Coastal Management Program, yet it remains today an important mechanism in Connecticut's coastal management toolkit. The challenge, since colonial times, has been the intensive competition for land use along Long Island Sound. Of the 160 square miles of land within Connecticut's coastal boundary, approximately 65 percent is presently classified as "developed," excluding unbuildable wetlands. Only 28 percent of Connecticut's total coastal shoreline directly fronting on Long Island Sound and its bays, harbors, and coves (333 miles) is in public or some other form of protected ownership such as land trust land. Because coastal Connecticut has some of the highest land values in the State, directing extremely limited resources to acquire the most significant unprotected coastal resources should proceed only if such acquisitions meet the State's highest priority ecological conservation and nature-based outdoor recreation objectives.

Guidance for such decisions is provided by two Connecticut DEP coastal land acquisition programs, aptly named CLAM and CELCP (pronounced *kelp*, like the seaweed).

The CLAM or *Coastal Land Assessment Methodology* program is a GIS-based coastal land conservation identification tool used to assess the conservation value of the larger remaining undeveloped unprotected parcels within Connecticut's coastal boundary. The CLAM assessment is based upon a variety of factors, including proximity to existing protected open space, presence of sensitive coastal resources such as tidal wetlands, rare species habitat conservation, and susceptibility to development. Over 28,000 tax parcels were prioritized for additional investigation through site visits, consultations with resource experts and discussions with local conservation groups. To date, three parcels, all with significant ecological conservation value and located adjacent to existing protected open space, have been acquired for conservation based upon an initial CLAM analysis, including DEP's East River Marsh Wildlife Management Area in Guilford, pictured below.

A related, federally-sponsored coastal land acquisition planning and funding assistance program is Connecticut's *Coastal and Estuarine Land Conservation Program*, or CELCP. The purpose of CELCP is to encourage participating coastal states to develop specific coastal resource conservation goals that are best met through public land acquisition, and to develop a strategy to identify and prioritize land acquisition opportunities that can compete at the national level for limited federal financial assistance. Although land acquisition has long been a part of DEP's mission to preserve the State's natural and cultural heritage (see page 6 of this issue), only since 2003 has a federal funding program been dedicated solely to assisting coastal states acquire coastal land for ecological, outdoor recreation and historic preservation purposes. Most recently, in 2009, DEP secured \$3 million in CELCP funding assistance to help the Town of Guilford protect 622 acres along the East River by establishing the East River Preserve, Connecticut's newest coastal conservation property (see *Sound Outlook* Issue No. 32 at [www.ct.gov/dep/soundoutlook](http://www.ct.gov/dep/soundoutlook)).



*Coastal Resource experts explore a 2010 addition to East River Marsh Wildlife Management Area, Guilford.*

While few large unprotected areas of extraordinary conservation value remain along Connecticut's shore, it is critical that we know where these last best coastal land conservation opportunities exist. Once these lands are identified, cooperative relationships with landowners and partnerships with other conservation groups must be cultivated in order to develop the financial support necessary to acquire these parcels when they become available. These efforts will enable Connecticut to hit more conservation *home runs* and to continue the state's long legacy of coastal landscape conservation. For more information about Connecticut's coastal land acquisition programs, contact Dave Kozak at 860-424-3608 or [david.kozak@ct.gov](mailto:david.kozak@ct.gov)

## LOOK OUT for upcoming events!

### Norwalk Maritime Aquarium

10 North Water St., Norwalk, CT  
Call 203-852-0700 x2206 for information, times, costs and registration.

*Marine Life Study Cruises*

**Saturdays in June; daily in July and August.**

Collect and study marine life in Long Island Sound aboard *RV Oceanic*.  
Ages 8 and up.

*Go Fish! Long Island Sound & Beyond.*

**New permanent exhibit.** Featured are large fish from LIS. Learn about fishing and Sustainable Seafood.

### Connecticut Audubon Coastal Center

Milford Point, Milford, CT  
Call 203-878-7440 for information, times, and required registration.

*Family Canoe Program*

**Saturdays and Sundays, June through September.**

Take a guided tour of Charles E. Wheeler Salt Marsh. Time and route weather dependent – call for schedule. Bring water and sunscreen and wear shoes that can get wet.

*"Sea Squirts!" Nature Series - Seining in the Sound.*

**Thurs. June 10, 10:30-11:30 a.m.**

Ages 3-5 with parents/guardians. Use nets to catch creatures of the sea for observation before releasing them back into their habitat. Learn about the animals that make Long Island Sound their home!

### Coastweeks Events

*International Coastal Cleanup Day*

**Saturday, September 25.**

Call Kierran Broatch, Save the Sound, 203-787-0646, x113 for information.

*National Estuaries Day*

**Saturday, September 25**

visit [www.estuaries.gov](http://www.estuaries.gov)

**Please be sure to check the Calendar of Events listed on DEP's website:**

[www.ct.gov/dep/calendar](http://www.ct.gov/dep/calendar)

## New LIS Grant Program Targets Seafloor Mapping

**W**e regularly report in this space about Long Island Sound License Plate Program grant awards. In this issue of *Sound Outlook*, we want to introduce a new grant program that was recently advertised and that will focus on emerging resource identification and management needs in the Sound.

Just last month (May, 2010) OLISP concluded a Request for Qualifications and Interest for the collection of geophysical data for use in mapping the seafloor of Long Island Sound. Areas to be mapped will include territorial waters of both Connecticut and New York, and is thus an example of the transboundary issues that are the subject of the article on the next page. The Connecticut DEP, New York Department of Environmental Conservation, and the EPA, with the assistance of the Connecticut and New York Sea Grant offices, have invited other state and federal agencies, oceanographic institutions and private contractors to join them in this effort.

Long Island Sound encompasses a wide range of seafloor (benthic) habitats—from the shallow, sandy bottom in the Narrows near New York City, to the deep and rocky Race, near Fishers Island. Mapping of these habitats will provide a framework to better understand and manage the resources which depend on them. Such mapping is conducted using high resolution underwater imaging techniques to characterize specific geographic locations. Work will focus initially on “priority” mapping areas in LIS, and will later be expanded to include the major rivers that drain into the Sound.

Mapping projects will be funded, in part, through a 2004 settlement between the State of Connecticut, two power companies and a cable installation company. The settlement resolved a permitting dispute relating to two electrical cables crossing Long Island Sound. As part of the settlement, the companies agreed to contribute a total of \$6 million to the Long Island Sound Research and Restoration Fund. The Fund is to be used to: support new projects and activities that enhance Long Island Sound; promote improved scientific understanding of the biological, chemical and physical effects of existing or potential cable and pipeline crossings and mitigation of their impacts; and emphasize benthic mapping as a priority need that is essential to an improved scientific basis for management and mitigation decisions.

The settlement fund, including accrued interest, presently amounts to more than \$7 million, which will be used to carry out seafloor mapping activities over the next several years. Projects are expected to identify areas of special resource concern, as well as areas that may be more suitable for the placement of energy and other infrastructure. Projects will involve acquiring, managing and interpreting datasets on the spatial distribution of benthic resources in Long Island Sound, and making them available to the public. Ultimately, comprehensive mapping of the bathymetry and surficial geology of the seafloor will help to increase understanding of benthic habitats and improve resource management. In particular, this activity will help resource managers in Connecticut, New York and the EPA to balance competing human uses and energy needs in the Sound with their mandates to preserve and protect the essential coastal and estuarine ecological functions as well as the water quality of the estuary.

For more information about this grant program, contact Kate Hughes Brown at 860-424-3652 or at [kate.brown@ct.gov](mailto:kate.brown@ct.gov).

## Sound Tips

### New DEP Earth Day Video

One of DEP's commemorative activities for the 40<sup>th</sup> anniversary of Earth Day was the production of a video describing Connecticut's environmental challenges and accomplishments since 1970. This 18-minute presentation can be seen at:

[Earth Day 40: Connecticut's Environment Past, Present and Future](#)

The issues highlighted in this video demand our attention year-round, not just on one day in April. DEP offers a variety of opportunities to become informed about these issues, including outdoor education, natural history seminars, municipal land use training, environmental professionals' workshops, and public regulatory and enforcement hearings. Find out about these activities on the DEP's Calendar of Events at [www.ct.gov/dep/calendar](http://www.ct.gov/dep/calendar).

## DEP Shares Coastal America Partnership Award

On May 24 the Connecticut Tidal Wetland Restoration Partnership Team received the Coastal America Partnership Award at a ceremony at Rocky Neck State Park in East Lyme. The award, presented by NOAA Assistant Administrator Laura Furgione, celebrates collaborative efforts since 1980, led by the DEP Office of Long Island Sound Programs Technical Services Section, to restore tidal flow to 1,148 acres of tidal wetland at 71 sites along the Connecticut coast. The ceremony featured



*Coastal America Partnership Award Recipients.*

the restoration of an additional 82 acres of wetland through reestablishment of tidal exchange in Bride Brook, within the State Park. The project also restored the historic alewife run at that site.

The Coastal America Partnership includes 16 different Federal agencies and organizations. Award recipients included, in addition to DEP, the U.S. EPA, Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Army Corps of Engineers, Natural Resource Conservation Service, the Town of Fairfield, The Nature Conservancy, Ducks Unlimited, Save the Sound, the Connecticut Corporate Wetlands Restoration Partnership, Milone & McBroom, Inc., and Connecticut College. Team members were recognized for their participation in site plan review, project planning and design, construction, research and science, grant and contract administration, and restoration funding.



# SPOTLIGHTED Coastal Resource: Transboundary Resource Management

**W**hile Connecticut shares clearly delineated boundaries with adjacent states, it maintains equally important connections to more distant regions of the country, and even to other countries. Many of the coastal resources that we value and the coastal uses on which we depend extend or are transported across those boundaries. Thus, entities on both sides of those borders share responsibility for the management and preservation of those resources and uses.

Transboundary resource management is a fundamental element of both the Connecticut Coastal Management Program (CMP) and the Long Island Sound Study (LISS). The CMP addresses such issues in tidal rivers as well as the Sound by reviewing activities that may affect those resource areas for consistency with the Connecticut Coastal Management Act. For example, construction of hydropower dams or water withdrawals from the Connecticut River in Massachusetts could alter normal water and salinity levels at the mouth of the river, thereby affecting the viability of native estuarine plant and animal communities.



*Holyoke Dam on the Connecticut River in Holyoke, MA*

Transboundary issues in Long Island Sound include the laying of cables and pipelines carrying electricity and liquid fuels between Connecticut and New York. In the not-too-distant future we may see the development of alternative energy projects, such as subtidal hydroelectric turbines in the Sound and wind turbines on the Outer Continental Shelf (OCS), that may likewise involve cable emplacements linked to Connecticut. Cables and pipelines leading through Connecticut waters may disturb essential wildlife, finfish or shellfish habitat. Such activities may also affect the state's commercial fishing industry if access to traditional fishing grounds in federal or other states' waters is restricted by those facilities.

The piping and transport of oil in the Sound also raises the transboundary issue of water pollution. Potential oil spills in LIS could threaten coastal wetlands and intertidal and subtidal habitats and their inhabitants, as well as water quality itself, and may impact water-dependent recreational activities. Connecticut has collaborated with New York, the Coast Guard and the National Oceanic and Atmospheric Administration (NOAA) to address these concerns through the development of the Long Island Sound Area Contingency Plan, which identifies sensitive resources and prescribes protective measures


such as booming of wetlands in the event of an oil spill. Similarly, the Coast Guard's Vessel and Facility Response Plan for Oil prescribes oil spill removal equipment required for tank vessels and marine transportation-related facilities, and procedures for responding to oil spills in coastal waters, including requirements for aerial tracking of spills.

DEP is also involved in transboundary management initiatives to prevent the introduction of non-native aquatic species through the management of ballast water discharged from cargo ships that enter Connecticut waters from foreign countries as well as from distant ports within the United States.

DEP has supported

Coast Guard requirements that ships crossing the ocean exchange their ballast water with clean ocean water before coming within 200 nautical miles of the continental U.S. coastline to flush potentially invasive organisms entrained in foreign ports. The agency is also following the Coast Guard's current initiative to establish specific standards for discharge of ballast water within U.S. waters.

Transboundary resource management is also a function of the LISS National Estuary Program. Most notably, beginning in 1994, joint efforts have been undertaken by the LISS partner States of Connecticut and New York, together with the EPA to control sewage treatment plant inputs of nitrogen to the Sound. It is anticipated these nutrient reductions will lead to reduced hypoxia, the occurrence of low dissolved oxygen, in the bottom waters of the Sound that each summer spreads across the interstate boundary and threatens the water quality and the health of living resources essential to both states. A landmark Total Maximum Daily Load (TMDL) plan was developed by Connecticut and New York, approved by EPA, and implemented in 2001, leading to the development of additional nitrogen reduction actions benefitting the shared waters of the Sound. (see [www.ct.gov/dep/lib/dep/water/lis\\_water\\_quality/nitrogen\\_control\\_program/tmdl.pdf](http://www.ct.gov/dep/lib/dep/water/lis_water_quality/nitrogen_control_program/tmdl.pdf)).

Today coastal and marine transboundary issues are also addressed through regional ocean governance bodies such as the Northeast Regional Ocean Council (NROC), which includes representatives of the New England states and Federal agencies. NROC enables member states to jointly discuss issues related to shared energy needs and development, climate change, and coastal hazard preparedness. As regionalism becomes the standard context within which coastal resource management issues are framed, there will continue to be new opportunities to address transboundary concerns. 



*Styela clava, sea squirt transported from Asia in ballast water.*

*Photo Courtesy CT Sea Grant.*

# Celebrating Connecticut's State Parks and Forests

**I**t has been 40 years since that first Earth Day in Connecticut and across America, and almost as long that the Connecticut DEP has overseen our system of state parks and state forests. Preservation of open space and natural resources has been a priority in Connecticut for the past century, and today we celebrate our enjoyment of nearly 140 state parks and forests. Our oldest, Sherwood Island State Park on Long Island Sound, was established in 1914, and like many others, has grown in size with the periodic acquisition of adjoining properties. Over the years, properties have become part of the state system through direct purchase, establishment of conservation easements, and donations from families, individuals, or private land trusts and conservation organizations. Throughout this period, the Connecticut Forest & Park Association (CFPA) has been a valued partner in this effort. Among other ongoing initiatives, CFPA has advocated for DEP funding and established the statewide Blue-Blazed Hiking Trail System.



*Hammonasset Beach State Park, Madison*



*Bluff Point, Groton*



*Harkness Memorial State Park, Waterford*

Connecticut has set a goal to preserve 21% of its land area as open space, with 10% to be owned by the State. Through its Recreation and Natural Heritage Trust (RNHT) program, DEP purchases properties that are then either added to existing state parks and forests or used to establish new facilities. As of December 2009, Connecticut owned 254,052 acres or 8% of its total surface area. Nearly 20% of that property is either located in the coastal zone or affords a view of Long Island Sound. Examples range from Hammonasset Beach State Park in Madison, with the state's largest public beach (more than two miles in length) and campground, to Haystack Mountain State Park in Norfolk and Talcott Mountain State Park in Bloomfield, both possessing historic towers from which the Sound is visible.

Several of our coastal state parks are observing anniversaries of their own this year. Hammonasset Beach State Park, opened on July 18, 1920, celebrates 90 years of service to the public. In its first season, 'Hammo' attracted over 75,000 visitors; in 2009 attendance reached more than 2 million! Harkness Memorial State Park in Waterford, once a working farm and graced by the elegant summer mansion of the Harkness family, has panoramic views of Long Island Sound. The property, which was donated to the State in 1950 and subsequently restored by DEP, will be celebrating its 60<sup>th</sup> anniversary as one of the park system's crown jewels. Bluff Point in Groton, an 800 acre wooded peninsula jutting into the Sound and featuring a headland bluff and nearly mile-long beach, hosts both Bluff Point State Park and the ecologically significant Bluff Point Coastal Reserve. The latter was designated by a Special Act of the Connecticut legislature in 1975, and thus marks its 35<sup>th</sup> anniversary in 2010.

Connecticut's state parks and forests are

truly treasures to be enjoyed by everyone and valued contributors to the health of Long Island Sound. Take some time this summer to enjoy these outdoor wonders. For more information about Connecticut's state parks and forests visit DEP's website at [www.ct.gov/dep/stateparks](http://www.ct.gov/dep/stateparks). For information about the Connecticut Forest & Park Association, visit [www.ctwoodlands.org](http://www.ctwoodlands.org).

Visit the DEP website at [www.ct.gov/dep](http://www.ct.gov/dep).

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