

SOUND OUTLOOK

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

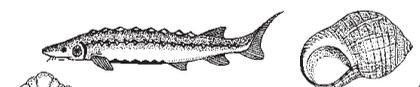
Long Island Sound 2009 Hypoxia Update

Most living organisms need oxygen to survive. Aside from marine mammals and sea turtles, which breathe atmospheric oxygen as we do, animals living in aquatic environments consume oxygen gas that is dissolved in the water, known as dissolved oxygen (DO). The DO level in healthy marine waters ranges from approximately 6 to 14 milligrams of dissolved oxygen per liter of water (mg/L). Aquatic animals become stressed when DO levels drop below that range, and typically need a minimum of 3 mg/L to survive. Such oxygen depletion is also known as “hypoxia.” When hypoxia occurs, animals such as lobsters that cannot move quickly enough to more oxygen-rich waters may die.

Hypoxia may be caused by a number of factors. It often occurs in the waters of western Long Island Sound during the summer months when relatively weak surface and tidal currents minimize the mixing of warm, less dense, oxygen-rich surface waters and colder, heavier, less-oxygenated bottom waters. Oxygen depletion is also exacerbated by higher concentrations of nutrients that occur in that region due to wastewater discharges and stormwater runoff from surrounding residential, commercial and industrial development. When algae (phytoplankton) populations become overabundant, or “bloom,” in response to such nutrient enrichment, they quickly block sunlight from reaching the bottom waters. As the excess algae subsequently settle to the bottom, out of the sunlight, they consume large amounts of dissolved oxygen and die. Bacterial decomposition of the dead algae and other organic matter completes the removal of any remaining DO, resulting in severe hypoxia or anoxia (the total absence of dissolved oxygen).

The Connecticut Department of Environmental Protection tracks the severity of hypoxia in Long Island Sound each summer, and currently has a water quality standard of 3.5 mg DO/L as the minimum for hypoxia. In 2009, hypoxic conditions were first observed on July 12th and ended on September 3rd. Hypoxia affected 369 square miles of the Sound, the 4th largest area of impact observed in the 19 summers since DEP began monitoring in 1991, with the annual average spatial extent of hypoxia over that period being 301 square miles. Annual hypoxic events in LIS last 68 days on average, and it appears that the past summer’s episode of 54 days made it the 17th longest since 1991. Information and maps describing DEP’s Long Island Sound Water Quality monitoring program can be seen at: www.ct.gov/dep/cwp/view.asp?a=2719&q=325534&depN_av_GID=1654.

Inside



Farewell Commissioner 2
McCarthy, Welcome
Commissioner Marella



Federal Stimulus 2
Funds Aid Coastal
Restoration Project



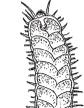
Spotlighted 3
Coastal Access



Upcoming Events 3



Clean Vessel Act 4
Program



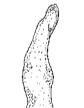
EPA’s Ocean-going 4
Research Vessel
Returns



Sound Tips 4

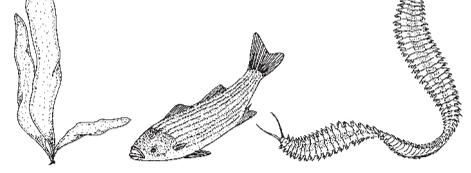


Spotlighted Coastal 5
Resource



Fish Consumption 6
Advisories Bear
Good News

OCTOBER 2009
No. 32



Farewell, Commissioner McCarthy; Welcome, Commissioner Marrella

Gina McCarthy will long be remembered as someone who left a major impact on the Connecticut Department of Environmental Protection. In just under five years as Commissioner, she modernized and reinvigorated the agency, and focused the DEP on the major environmental challenges of the 21st century. Appointed Commissioner in December, 2004, Gina left the DEP this past June after being confirmed by the U.S. Senate as the U.S. Environmental Protection Agency's Assistant Administrator for Air and Radiation. While at DEP she devoted herself to, among other important initiatives, reducing fossil fuel emissions and preparing adaptation strategies to deal with the impact of rising sea level on the resources of Long Island



*Amey Marrella,
DEP Commissioner*

on Gina's legacy was already working at 79 Elm Street. Amey

Sound, and reconnecting children to the outdoors. Her concern for the health and welfare of young people — and the future of the environmental movement — gave birth to the nationally recognized and imitated initiative dubbed, "No Child Left Inside."

We wish Gina well in her new assignment, but the work of protecting our corner of the environment must go on. After a national search, Governor Rell found that the best person to carry

Marrella, who has served as DEP's Deputy Commissioner for Environmental Quality since April, 2006, then as Acting Commissioner since Gina's departure for Washington, has been nominated by the Governor to become our new Commissioner. Amey has pledged to continue the work of modernizing DEP so it can better serve the needs of Connecticut and play a more proactive role in shaping the environmental agenda of the state.

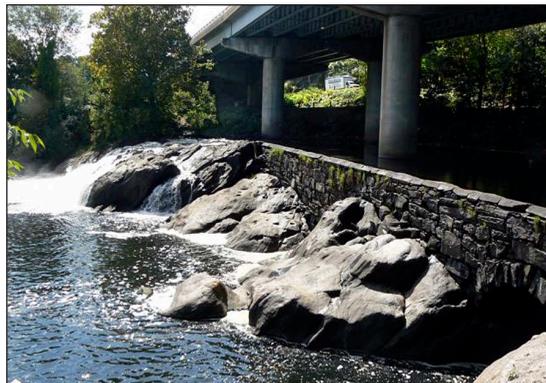
To accomplish this goal she is focused on important environmental priorities — such as improving the quality of the state's air and waters, protecting Long Island Sound, reinvigorating the state park system, and implementing strategies and recommendations included in Connecticut's innovative Climate Change Action Plan. In addition, she oversaw the agency's "Lean" program to look at how the DEP does business and eliminate unnecessary and inefficient processes, starting with the Office of Long Island Sound Program's coastal permitting program. Amey brings to the DEP the unique perspective of a former local elected official; just prior to joining the agency, she served for five years as the First Selectman of the Town of Woodbridge. Before seeking elective office, she served as an Attorney Advisor at the EPA, helping to develop regulations to implement the 1990 Clean Air Act. The DEP and all of Connecticut's citizens have benefited, and will continue to benefit, from the exceptional leadership of Commissioners McCarthy and Marrella. 

Federal Stimulus Funds Aid Coastal Restoration Project

One of the challenges to conducting habitat restoration projects is obtaining funding to pay for the work. Funds typically come from municipalities, conservation organizations and land trusts, and state and federal grant programs. One important restoration project originally identified in 1996 was a plan to reestablish fish habitat in the Naugatuck River for anadromous species that migrate annually from ocean waters to upstream spawning grounds. That goal was partially realized as several dams were removed or breached in conjunction with upgrading of the Waterbury sewage treatment plant in 2000. However, the related construction of a fish by-pass at the Tingué Dam in downtown Seymour still remains to be completed. Although plans were prepared and \$2.25 million was committed through DEP Supplemental Environmental Project monies, increased funding and property acquisition needs forced the project onto the back burner. Finally, after nearly 15 years and several unsuccessful attempts to secure the necessary financial support,

the DEP sought and received \$2.5 million in federal matching funds this past summer through an American Recovery and Reinvestment Act (Stimulus Fund) grant from the National Oceanic and Atmospheric Administration (NOAA).

The Tingué Dam, constructed in 1763 and measuring 150 feet long and 5 feet high, is the last of eight dams that



Tingué Dam, Seymour

had long blocked fish access to upstream spawning grounds. The fish bypass channel will complete the restoration

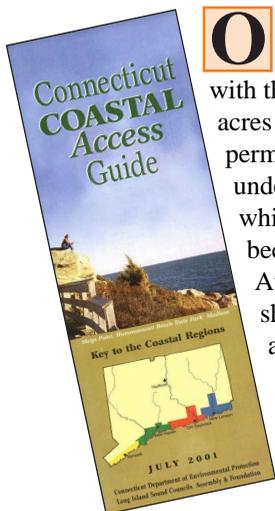
of 32 miles of historic fish habitat. It is expected to enable the return of more than 20,000 adult American shad and 30,000 adult river herring annually, and to increase angler harvest of sea run brown trout. The by-pass will be the first of its kind and scale on the East Coast, and is expected to serve as a model for similar projects in other states. The area will

be open to the public for self-guided tours, and will feature informational kiosks describing fish habitat and explaining other resource issues. The project is anticipated to generate collateral economic benefits and will add to other greenway projects along the Naugatuck River.

Completion of this project is an important step in meeting the goals of the Long Island Sound Study's Habitat Restoration Initiative. For

more information on these projects or on the Long Island Sound Study, contact Mark Parker at 860-424-3276 or at mark.parker@ct.gov. 

SPOTLIGHTED Coastal Access: East River Preserve Created in Guilford



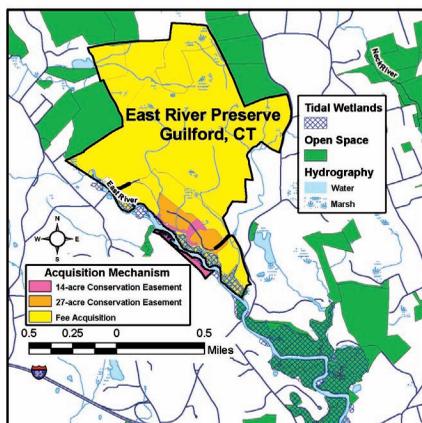
One of the largest coastal land acquisition projects in the history of Connecticut's Coastal Management Program was completed with the Town of Guilford's recent acquisition of approximately 600 acres of land along a tidal segment of the East River. The goal of permanently protecting one of the last remaining large tracts of undeveloped land under single ownership bordering coastal waters, which had previously been proposed for residential development, became reality when the Town closed on the property this past August. The acquisition, originally proposed by DEP in partnership with the Town, was given a critical boost when DEP was awarded \$3 million in "seed financing" in 2007 from the National Oceanic and Atmospheric Administration's (NOAA's) Coastal and Estuarine Land Conservation Program (CELCP). Ultimately, the Town secured the acquisition when it issued \$11.4 million in municipal bonds to fund the balance of the acquisition costs.

The acquisition will permanently conserve 18 acres of tidal marsh, 40 acres of riparian grassland, and 542 acres of mixed hardwood coastal forest that collectively provide nesting and wintering habitats for a variety of bird species. Nearly one-third of the forestland contains inland wetlands, including vernal pools that contribute to the health of the forest's amphibian population.

The majority of the conservation land, 586 acres, is held in full fee estate by the Town, subject to deed restrictions placed on the property as a condition of the CELCP funding. Those restrictions limit future uses of nearly all the property to passive recreation and habitat management. An additional 14 acres adjacent to the East River's tidal wetlands is being preserved through a highly restrictive conservation easement



East River Preserve, Guilford



that prohibits any future development and limits activities to those consistent with the conservation objectives of a land management plan to be prepared for the property. Additionally, an abutting 27-acre area retained by the sellers is subject to an agreement that restricts the amount and location of any future possible development to further protect the Town's conservation investment in the river, tidal and inland wetlands, and grassland habitat (see map). The acquisition, was originally identified in 2004 as one of the state's highest priority coastal land conservation targets through DEP's Coastal Land Assessment Methodology (CLAM) project, (see *Sound Outlook* issue 20, October, 2005).

The acquisition is extraordinary because of its size (only 12 undeveloped parcels greater than 100 acres remain within Connecticut's coastal boundary), its 1.7 miles of frontage on the East River, and the connections it provides to approximately 1,300 acres of protected open space that already exist adjacent to the acquisition area, extending along the East River from its source at the Guilford Lakes to its confluence with Long Island Sound. Congratulations to Guilford in completing this extraordinary coastal land conservation success! For more information about Connecticut's coastal land acquisition programs, contact Dave Kozak at 860-424-3608 or dave.kozak@ct.gov.

Directions: Traveling I-95 westbound, take Exit 59 off I-95 and turn right off the ramp onto Goose Lane, then turn left onto Clapboard Hill Road. Traveling I-95 eastbound, turn left off the exit onto Goose Lane, then right onto Clapboard Hill Road. Within 1/4 mile after crossing the East River, park at the small unpaved parking area opposite a horse stable. Enter the unmarked trail that leads to Parmelee Brook and the remains of an old saw mill. A scenic overlook off this trail offers views of the East River and portions of the acquisition area. Additional access to other parts of the property will be created upon the Town's completion of a management plan for the property. Please respect the privacy of the site's neighbors by not entering the property from Duck Hole Road.

LOOK OUT for upcoming events!!

Norwalk Maritime Aquarium

10 North Water St., Norwalk, CT

Call 203-852-0700 x2206 for information and registration for the following programs:

Fall Foliage Cruises

Saturdays and Sundays in October, depart 1:00 PM for 2-1/2 hour cruise.

Take in autumn's hues from the water and discover some of the creatures that live under the water.

Winter Creature Cruises

January and February, Days and times vary.

Look for harbor seals, gray seals and even (occasional) harp seals that regularly winter in Long Island Sound.

NOTE: All cruise passengers must be over 42" tall.

Long Island Sound Study

**Management Committee Meeting
Wednesday-Thursday., Oct. 21-22.**

Danfords Hotel Conference Center, Port Jefferson, NY. Call the New England Interstate Water Pollution Control Commission (NEIWPCC) at 978-349-2522 to register.

December: Bald eagles return to Connecticut for the winter. Call 1-800-368-8954 after December 8th for reservations at the Shepaug Eagle Observation Area.

**Long Island Sound Study
Citizens Advisory Committee Meeting
Thursday, Dec. 10**

Univ. of Connecticut, Stamford Campus
Call 203-977-1541 to register.

**Please be sure to check the Calendar
of Events listed on DEP's website:
www.ct.gov/dep**

Clean Vessel Act Program Provides Grant Opportunities



KEEP OUR
WATER CLEAN—
USE PUMPOUTS

Connecticut's Clean Vessel Act (CVA) grant program provides economic assistance to marine facilities, municipalities and non-profit organizations as they work hard to protect the health of Long Island Sound. Funded through the U.S. Fish and Wildlife Service from the collection of motor boat fuel taxes, this program provides up to 75% matching funds for the installation of land-based stationary and portable pumpout facilities, central vacuum systems that are integrated into a marina's dock system, pumpout boat programs, and annual operation and maintenance of these various facilities.

This year, DEP received more grant applications for this program than ever before. When construction is completed on two new pumpout stations, 84 land-based pumpouts and 18 pumpout boats will be available to boaters for the 2010 boating season. Over \$7 million in CVA grants has been awarded in Connecticut over the past 16 years to provide boaters with a convenient way to handle boat sewage and improve water quality in Long Island Sound.

Land-based pumpouts, either stationary or portable, are generally required as a permit condition when existing marina facilities are improved or when new marinas are constructed. New pumpout installations were a primary focus in the early days of the CVA program, however, as many facilities have been completed

over the years, an emphasis on operation and maintenance grants has become more prevalent.



Soundkeeper Pumpout Boat, Stamford

Pumpout boat programs have been expanded to cover nearly all concentrated boating areas in the state, from the Rhode Island state line in the Pawcatuck River to the New York border in the Byram River. Soundkeeper, Inc. operates four boats in the western part of Long Island Sound from Greenwich to Westport, while Coastal Environmental Services operates three boats in the eastern Sound from New London to Mystic. A cooperative effort between the Town of Westerly and the State of Rhode Island provides pumpout boat service in the shared waters of Little Narragansett Bay and Stonington Harbor.

DEP is currently reviewing grant applications for the 2010 boating season, and continues to receive funding from the U.S. Fish and Wildlife Service for this program. The submission of grant applications for new construction projects and for operation and maintenance of existing

Sound Tips Sound Outlook Listserv— new subscription procedure!

If you have received this issue of *Sound Outlook* via our new listserv or are reading this online, you are probably aware that we are no longer printing and mailing the newsletter in an effort to save state and federal funds. Electronic distribution also saves natural resources by reducing the manufacture and use of paper, ink and other materials associated with the production process.

The issues addressed in this newsletter are important to many people – *Sound Outlook* was previously mailed to readers across the United States. We encourage you to forward the email to which this issue is attached to others who may be interested in Long Island Sound, with the suggestion that they also subscribe to the listserv by emailing Tom Ouellette at tom.ouellette@ct.gov. Alternatively, please share our newsletter web address, www.ct.gov/dep/soundoutlook. In this way, you can help us to maintain the level of service we have built through more than ten years of publication.

If you have any questions about our distribution procedures, please contact Tom Ouellette at the email address above, or by phone at 860-424-3612.

pumpouts is encouraged. For more information about this program or how to apply for a CVA grant, contact Kate Brown of the Office of Long Island Sound Programs at 860-424-3652, or visit the DEP's CVA webpage at www.ct.gov/dep/cva.

EPAs Ocean-going Research Vessel Returns to New London

On August 27, the U.S. Environmental Protection Agency (EPA) and Connecticut DEP provided a free public Open Ship tour of EPA's Ocean Survey Vessel (OSV) *Bold*, at Fort Trumbull State Park in New London. The *Bold* last visited Connecticut in 2007.



OSV Bold

The *Bold* is a 224-foot, converted U.S. Navy ocean surveillance ship that is specifically designed to help EPA monitor and assess the health of, and the impacts of pollution on, our coastal and ocean waters. EPA and DEP scientists and staff were on-board during the visit to

answer questions and help explain the *Bold's* unique features and equipment. They were joined by staff of the DEP Boating, Fisheries, State Parks and Water Quality Divisions and the Office of Long Island Sound Programs. Other participating groups included Connecticut Sea Grant, the University of Connecticut Marine Sciences Department, Mystic Aquarium, and the U.S. Navy, Coast Guard, Army Corps of Engineers, and Fish and Wildlife Service. These Coastal America partners hosted a number of educational activities for children and families to learn more about Long Island Sound.



OSV Bold's onboard laboratory

(Continued on page 5)

SPOTLIGHTED Coastal Resource: Marine Mammals in Long Island Sound--An Omen for the Future?

Although historic evidence of marine mammals in Long Island Sound is limited, observations over the past century show a number of interesting changes in their occurrence here. Shoreline residents recall being surrounded by hundreds of dolphins while fishing for bluefish in the Sound during summers prior to the 1950's, although the particular species was not documented. Those days unfortunately passed, with only occasional sightings of dolphins or other mammals in the estuary during the mid-late 20th century. While many state residents will recall that a beluga whale was spotted in Norwalk Harbor in 1985 and a manatee was seen off the coast of Westport in 1995, those sightings were clearly aberrations, as those visitors' typical habitats are, respectively, far to the north and south of LIS.

As water quality has improved in recent years, marine mammals have begun to return to the Sound. In the October, 2001 issue of *Sound Outlook*, we reported that since the mid-1970s, harbor seals and hooded seals have appeared on rocky outcrops and islands in the Sound during the winter months, and are increasingly joined by gray seals and harp seals. Favorite haul-out sites are Great Gull Island in New York waters off of New London and the Norwalk Islands offshore of Norwalk, Connecticut.

This past summer, a pod of nearly 200 bottlenose dolphins made their way into LIS, truly a rare event. The first sightings occurred on June 25th off Glen Cove, NY. Carol DiPaolo of Hempstead Harbor reported, "June 27, about 10:30 AM, in the Harbor there were about 100 dolphins majestically diving in and out of the water as they made their way past Rum Point north to the Glen Cove breakwater." A smaller group of dolphins was spotted off City Island in the Bronx. The dolphins were chasing fish, most likely bluefish or menhaden



*Bottlenose dolphins, Hempstead Harbor, NY, taken June 27, 2009
(photo courtesy of Coalition to Save Hempstead Harbor)*

(bunker), as schools of those species observed in the Sound prior to the dolphins' arrival were noticeably diminished afterward. The dolphins reappeared briefly on June 29th near Copp's Island in the Norwalk Islands, and are thought to have later exited the Sound by way of New York's East River. Experts say it's been at least 30 years since bottlenose dolphins were seen in the Sound during summer months, and that these sightings may be evidence of improving water quality in the estuary. Hofstra University biology professor Chris Sanford says, "The real test will come next year. If the dolphins return, Long Island Sound waters may be clean enough to sustain a population."

It is exciting to see these creatures return and, understandably, people may want to get close to them. However, the Marine Mammal Protection Act of 1972 established a 50-yard protection zone for dolphins, requiring people to keep their distance from the animals. Fortunately, that distance is well within the range of binoculars and telephoto lenses. For more information about marine mammals and the Marine Mammal Protection Act, visit www.nmfs.noaa.gov/pr/laws/mmpa.

OSV Bold Returns (continued)

The *Bold* is outfitted with state-of-the-art equipment used to collect water and marine sediment samples, which can



CTD (conductivity/temperature/depth) monitoring array is deployed from OSV Bold

then be processed and analyzed in onboard laboratories. Survey results are used to support management of dredged material disposal, and to collect information about benthic (or bottom) habitats of Long Island Sound and offshore waters and the organisms that live in those respective areas.

DEP Commissioner Amey Marrella noted that the event was a great opportunity for young people to get outside and learn about Connecticut's greatest natural resource – Long Island Sound – while exploring career opportunities in the field of environmental protection. Ira Leighton, EPA Region 1 Acting Regional Administrator, added that, "Data collected on vessels such as the *Bold* undoubtedly help to inform important policy decisions as we consider sea level rise and other climate impacts to our oceans." To learn more about the *Bold*, its

missions and discoveries, younger internet surfers are encouraged to visit www.epa.gov/ne/boldkids where they can find fun facts, exciting graphics, informational videos and games, and see all the other places in North America that the *Bold* has visited. Technical information about the OSV *Bold's* research activities can be found at www.epa.gov/bold.



Fish Consumption Advisories Bear Good News

If I Catch It, Can I Eat It?

A Guide to Eating Fish Safely
2009 Fish Consumption Advisory

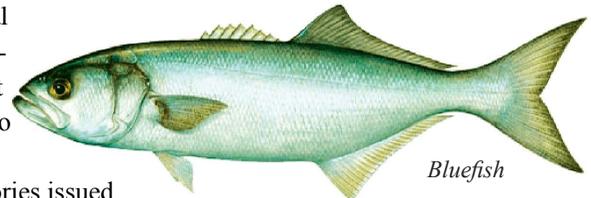


STATE OF CONNECTICUT
DEPT. OF PUBLIC HEALTH
Environmental Health Section
Environmental & Occupational Health Assessment Program
410 Capitol Ave.
Hartford, CT 06134-0308
860-509-7740
www.ct.gov/dph



In the centuries preceding the establishment of environmental laws and management initiatives, our coastal waters and wildlife were subjected to an onslaught of industrial and domestic pollution. As the population grew and the Industrial Revolution flourished, organic chemicals and heavy metals that were flushed into our rivers found their way to Long Island Sound and beyond. They became sequestered in these environments, and were passed up the food chain and into the tissues of fish and shellfish that are the subjects of many of our commercial and recreational fisheries. We refer to this progression as ‘bio-accumulation.’

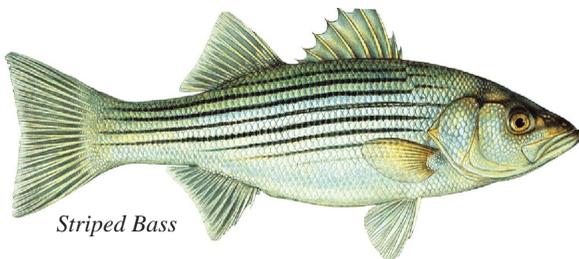
The advent of environmental education and state and federal environmental regulations over the last 40 years has eliminated or markedly reduced exposure to those contaminants and brought about improvements in water and habitat quality and in the health of living marine resources. Unfortunately, however, some sources of chemical contamination remain, e.g., agricultural and stormwater runoff and atmospheric deposition, and these constituents continue, in turn, to be accumulated in fish and other aquatic organisms. To address these management issues, the state health agencies in Connecticut and New York, together with the Connecticut DEP and its counterpart, the New York Dept. of Environmental Conservation, issue Fish Consumption Advisories for fresh and salt water fish species found in the two states’ waters.



Bluefish

The first consumption advisories issued by the states often differed from each other, with New York’s postings typically being slightly more restrictive than Connecticut’s. However, since fish do not recognize geo-political boundaries, either within Long Island Sound or with other coastal states, it became evident that Connecticut and New York should adopt common standards for fish caught in LIS. The Long Island Sound Study’s LIS 2003 Agreement thus set a goal for the two states to “review their approaches for Long Island Sound fish consumption advisories with the goal of issuing consistent consumption guidelines for Long Island Sound.” To

better inform those joint advisories, additional sampling and testing were conducted on fish sampled in the Sound with funding from the LISS’ National Estuary Program.



Striped Bass

The good news revealed by the sampling program is that levels of polychlorinated biphenyl compounds (PCBs) and mercury in both striped bass and bluefish in Long Island Sound have declined. As a result of those and similar observations in other Atlantic coast states from Maine to Maryland, fish consumption advisories for the Sound were changed this

year by both Connecticut and New York. Specifically, the changes involved recommendations that low risk groups may increase consumption from one meal every two months to one meal per month of striped bass and bluefish greater than 25 inches long. The

Advisory continues to instruct those in high risk groups (pregnant women, women of childbearing age, nursing mothers and children under the age of 6) to NOT EAT large bluefish (over 25 inches) or striped bass. Fish consumption advisories are released by both states on an annual basis, usually in June. Connecticut’s current LIS fish consumption advisory is posted on the Connecticut Department of Public Health website at www.ct.gov/dph/lib/dph/environmental_health/eoha/pdf/ificatchit09-english.pdf. New York’s current advisory is posted on the New York State Department of Health website at www.health.state.ny.us/environmental/outdoors/fish/docs/specific_advisory_table.pdf.

Visit the DEP website at www.ct.gov/dep.

Published by The Connecticut Department of Environmental Protection, Bureau of Water Protection and Land Reuse.

Editor: Tom Ouellette; Illustrations by Tom Ouellette; Contributing Editor: Mark Parker; Layout: Caryn Furbush; Contributors: David Blatt, Kate Brown, David Kozak, Mark Parker. Printed on 100% post-consumer recycled paper using vegetable-based ink.

Financial assistance for **Sound Outlook** was provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration (NOAA). Financial assistance was also provided by the federal Environmental Protection Agency under the National Estuary Program.



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.



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL
PROTECTION
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/dep
Amey Marrella, Commissioner