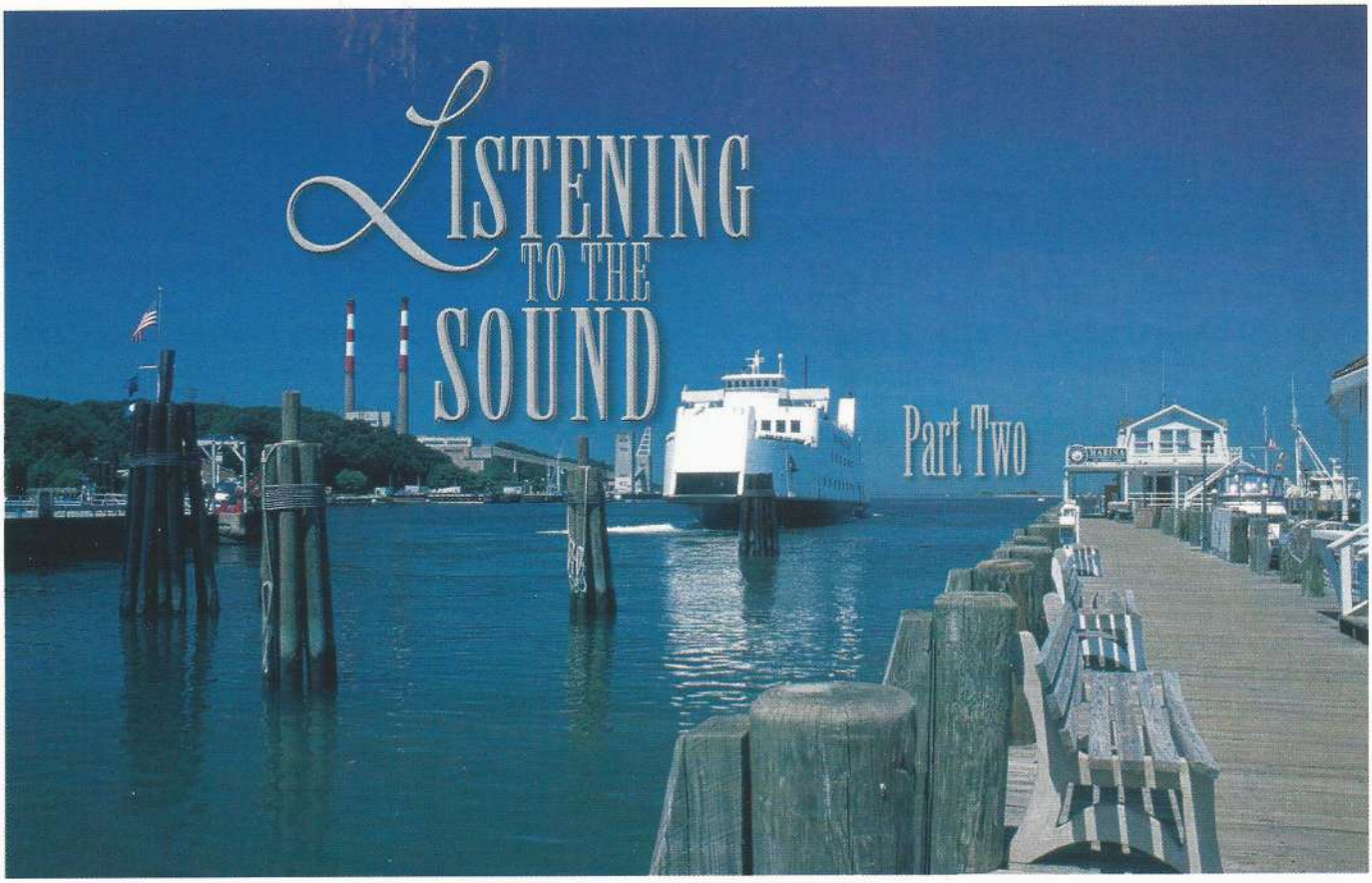

by Saxon Henry • *Photography by Elizabeth Glasgow*

"Trying to briefly summarize the health of a body of water 110 miles in length is risky," states a report released by the Long Island Sound Study (LISS). "Short sound bites (no pun intended) cannot capture the geographic variability of Long Island Sound." We reprise the subject of our August/September Long Island Report, the state of Long Island Sound (LIS) waters, in order to offer a fuller view of this variability, which juxtaposes good news — reductions in nitrogen and toxic contaminant discharges — against bad news — a troubling die-off of lobsters—in recent years. Though the lobster die-off has been one of the most publicized issues to surface from the estuary in the past decade, the LIS oyster industry — which has again been rebounding in recent years to become one of the largest in the nation after a long period of decline — has been ravaged by two parasitic diseases, MSX and Dermo, since 1997. More than 60,000 acres of shellfish grounds are now being cultivated in Connecticut's coastal waters, with additional acres being cultivated in New York. But many more acres are compromised by pathogen contamination, leaving a number of the Sound's prime shellfish beds closed.

Pathogen contamination, which is caused by inadequately treated human sewage entering the water, also results in beach closure days for the 109 monitored beaches along New York's shoreline. The sewage contaminates the Sound through older sewer systems, sanitary systems that overflow during rainfalls, sewage treatment plant malfunctions, illegal connections to storm sewers and vessel sewage discharges.

"Coastal pollution in Long Island Sound places public health at risk and causes communities around the Sound to lose millions of tourism dollars every year," remarks Senator Hillary Clinton.

No chemical has increased in concentration in the monitored waters of the Long Island Sound since 1986, with the exception of arsenic levels in Port Jefferson Harbor.

Preserving even small wetland areas like the one above can increase much-needed natural habitat.

THE SOUND . . .

"We need to invest in ways to ensure that our beaches are safer for swimming and our water is free from pollution."

Pollution in the Sound comes in a variety of forms. Along with pathogens, toxic contaminants also exist in LIS waters. These toxins enter the Sound as a result of manufacturing processes, household cleaning and pest control products, automobile exhausts and emissions from fossil fuel power plants. Storm water pipes also carry contaminants that are washed from roads, parking lots, disturbed land and construction sites.

Since the mid-1800s, when toxic contaminants were first noted in the Sound, quantities of some have decreased due to regulatory actions, but other contaminants have increased and some new ones have been found. Substances that are especially harmful to the ecosystem and to human health include trace metals, such as chromium, copper, lead, mercury, silver, arsenic and zinc; organic compounds, such as polycyclic aromatic hydrocarbons (PAH); PCBs; and pesticides, such as DDT, chlordane and atrazine.

Though previous contamination is remarkably difficult to undo, there is encouraging news where toxins are concerned. LISS research reveals that toxic industrial chemical releases in the Sound's watershed declined 83.5 percent between 1988 and 1998. Levels of copper, nickel, lead, zinc and organic compounds have declined as well. With the exception of arsenic in Port Jefferson Harbor, no chemical has increased in concentration in the monitored harbors of Long Island Sound since 1986. But many spots within the LIS drainage basin still contain contaminants from abuses of decades past, such as Glen Cove Creek — where radioactive sediment was found earlier this year.

The ongoing testing of all facilities that could potentially discharge toxic effluents into waterways (such as sewage treatment plants) has helped bring about these improvements. While Connecticut requires toxicity testing of all sewage treatment plants (STPs) in the state, New York requires toxicity testing when a plant could threaten aquatic life. In 1989, the effluent from 76 percent of Connecticut STPs tested non-toxic; while in 1999, the number rose to 94 percent — a 75 percent reduction in toxic deposits. In 1998 and 1999, no New York municipal treatment facility discharging into the Sound exhibited toxicity.

A substantial portion of the funding for this beneficial monitoring comes from federally mandated dollars. The Long Island Sound Restoration Act, which was signed into law in 2000, authorized $40 million dollars a year for five years to continue the current efforts to decrease nitrogen in the Sound. A portion of the money, if appropriated, would provide financial assistance for municipalities

Washing your car on a grassy area instead of pavement allows the ground to filter the run-off naturally.

THE SOUND . . .

wanting to upgrade some of the 45 sewage treatment plants located on the Sound in New York and Connecticut.

But Senator Clinton is skeptical that the Bush Administration will make the funds available. "In the Bush budget for next year, there isn't even $500,000 for the Sound — nowhere near the $40 million that Congress has already authorized for Long Island Sound restoration activities," she notes. "I hope that all New Yorkers, and, in particular, Long Islanders, will join me in calling on the Administration to invest in more, not less, protection for our environment and public health by making the investments necessary to restore Long Island Sound."

Writing letters to legislators is one way to participate in the efforts being made to improve LIS water quality. A host of other very basic practices will also benefit the Sound. The LISS urges all Long Islanders to use environmentally friendly landscaping techniques that require less fertilizer and prevent erosion; and to plant native plants, which will help prevent sediments and nutrients — like nitrogen and phosphorus — from leaching into the Sound. LISS also recommends leaving grass clippings on the lawn so that nutrients are recycled, and starting a compost pile to reduce the amount of waste you produce. Here are some of their other suggestions:

- Use a soil test kit to determine the amount of fertilizer your lawn and garden actually requires. This decreases the chance that an excess of nutrient-rich runoff will overload the Sound.
- Preserve wetlands on your property, as even the smallest area leads to a much-needed increase in habitat.
- Conserve water at home and at the office to reduce the volume of wastewater requiring treatment.
- Use safe, non-toxic alternatives for cleaning and for controlling pests.
- Take chemicals to a recycling center, especially motor oil and other auto fluids.
- Maintain your septic system by having it pumped every three to five years. Scoop up pet waste and dispose of it in your toilet.
- Wash your car on a grassy area so that the ground can filter the water naturally.

Other tips for improving the health of Long Island Sound can be found on the EPA Web site at www.epa.gov/region01/eco/lis. The informative Web site will also keep you abreast of all the latest developments in the ongoing research.

"Perhaps we can never bring the Sound back to the condition it was when the explorer Giovanni Verrazano arrived in the 16th century," notes the LISS Comprehensive Conservation Management Plan. "However, with a clearly articulated vision for the Sound as a guide, we can make a difference."

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