

SOUND OUTLOOK

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

Protecting Long Island Sound's Endangered and Threatened Species

The most sensitive species in Long Island Sound, as elsewhere throughout Connecticut, are protected under the Connecticut Endangered Species Act (CESA). Enacted in 1989, CESA is designed to “conserve, protect, restore and enhance” plants and animals native to Connecticut that exhibit limited or declining abundance due to loss or degradation of habitat, low reproductive potential, and vulnerability to exploitation, disease or predation. Depending on their susceptibility to extirpation, or extinction, throughout all or parts of their range within the state, affected species are “listed” as either endangered or threatened, or as species of special concern. See the box on page 2 for the statutory definitions of these classifications.

The state listing of species, which includes mammals, birds, reptiles, amphibians, fish, insects and other invertebrates, and plants, was first published in 1992, and is updated every five years. The current lists, dated 2004 and available online at www.ct.gov/dep/endorangeredspecies, are presently under review by a team of DEP resource specialists and Scientific Taxonomic Advisory Committees, who together will be conducting field investigations to more precisely locate listed species, updating information on recent observations of those species, and confirming questionable records of past observations. The Committees include University scientists, knowledgeable individuals, and representatives of taxonomic organizations such as the Connecticut Botanical Society, Connecticut Ornithological Association and the Connecticut Butterfly Association. Revised lists will be published in 2009. A similar process is used to compile lists of federally designated endangered and threatened species based on the federal Endangered Species Act. State and federally listed species, as well as others that have been inventoried in Connecticut over the past 100 years, are recorded and mapped by the DEP's Natural Diversity Data Base (NDDB).

The CESA applies to state agency actions that would cause harm to listed species and their habitats. Preservation of listed species is called for in Connecticut's federally approved Coastal Management Plan. The effects of coastal development on listed and other vulnerable species are reviewed and managed through the state's coastal regulatory programs, pursuant to consultation with NDDB staff.

All of Connecticut's endangered, threatened and special concern species have interesting life histories and compelling justifications for listing. The following articles describe a few of those species that occur in the coastal zone, and that are notable either because they have been successfully protected, in part, through the CESA, or because their survival continues to present challenges to DEP resource managers.

This edition of *Sound Outlook* was prepared with the assistance of the DEP Wildlife and Marine and Inland Fisheries Divisions. Please direct initial questions about the issues discussed to Tom Ouellette at 860-424-3034 or at tom.ouellette@po.state.ct.us.

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OCTOBER 2007
No. 26

Successful Restoration Efforts Celebrated

A number of species in Connecticut have been successfully protected through the Connecticut Endangered Species Act (CESA) and other comparable mechanisms. The following are two examples:

Purple martin (*Progne subis*), a state listed **threatened** species, has responded successfully to restoration efforts. Martins rely entirely on man-made houses or human-installed hollowed gourds for nesting, where they congregate in colonies of approximately 20 pairs. Due to large-scale efforts to build and install suitable housing and to manage colonies in Connecticut, the number of colonies increased from none in the late 1970's or early 1980's to 10 in 2004, and there may be other unreported colonies. Half of those colonies are located in coastal towns.



Purple martin, male

Purple martins are the largest swallows in North America, measuring 7-1/2 inches long. They overwinter in Brazil, then migrate to North America to breed, arriving in southern New England in early April. Purple martins are monogamous. The male and female cooperate equally in building their nest, and both parents feed the young.

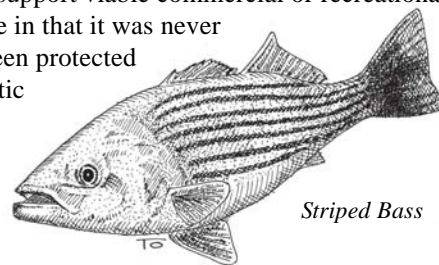
Martins have very specific nesting requirements (see <http://purplemartin.org/>) for house design and siting criteria), but once having bred successfully at a specific location, will return there year after year. Martins face competition for nest sites from both non-indigenous birds (e.g., house sparrows and European starlings) and native species (e.g., tree swallows, eastern bluebirds and great crested flycatchers). Monitoring of martin houses is required to remove competitors and to prevent predation by snakes, raccoons, squirrels, owls, hawks and crows. Additionally, since martins feed solely on flying insects, they are extremely vulnerable to weather conditions that affect insect availability. If poor weather persists for more than 2 or 3 days, martins begin to die from starvation. Heat waves and droughts also

threaten survival. Thus, while the trend in establishment of purple martin colonies in Connecticut has been positive, the state's martin population remains dependent on our continued management efforts.

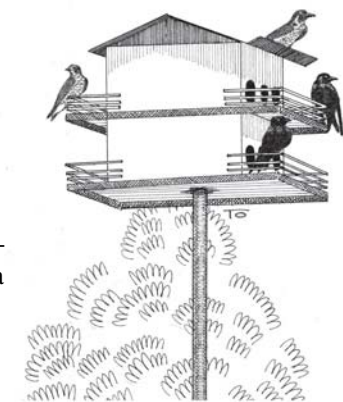
Striped bass (*Morone saxatilis*) populations have fluctuated in Long Island Sound (LIS), as elsewhere along the Atlantic coast, in recent decades. Stocks were depressed in the 1980s to the point where they could not support viable commercial or recreational fisheries, although striped bass represents an exception to the other species discussed here in that it was never threatened with extinction and thus was never included on CESA lists. The species has been protected instead through the compliance of Connecticut, New York and other states with the Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plan (FMP) for Striped Bass.

Striped bass found in Connecticut waters typically range in weight from 5-20 pounds. They are voracious predators, feeding on both fish (see the discussion of rainbow smelt on page 5) and invertebrates. Most striped bass that occur in LIS originate in either the Hudson River, Chesapeake Bay, or Delaware River spawning areas. They appear in the Sound in early spring as they travel northward, and in the fall on their return trip to mid-Atlantic wintering grounds. The abundance of striped bass fluctuates annually depending on the relative success of year classes from those various sources, and increasing numbers of bass have overwintered in Connecticut rivers in recent years.

Under the Striped Bass FMP and the 1984 Atlantic Striped Bass Conservation Act, Atlantic coastal states worked cooperatively to conserve and manage striper stocks, largely through the implementation of fishing moratoria. As a result of these measures, the



Striped Bass




Purple martin house, Meigs Point, Hammonasset Beach State Park

Under the Connecticut Endangered Species Act (CESA), passed in 1989, species are listed according to their level of risk.

Endangered Species means any native species documented by biological research and inventory to be in danger of extirpation throughout all or a significant portion of its range within the state and to have no more than five occurrences in the state, and any species determined to be an "endangered species" pursuant to the federal Endangered Species Act.

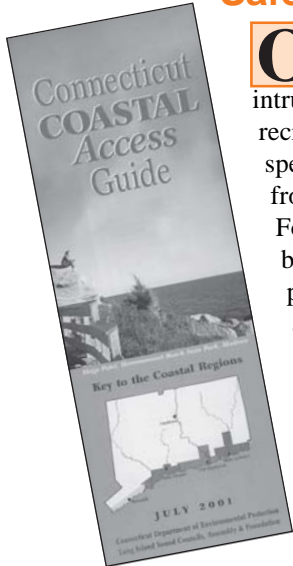
Threatened Species means any native species documented by biological research and inventory to be likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range within the state and to have no more than nine occurrences in the state, and any species determined to be a "threatened species" pursuant to the federal Endangered Species Act, except for such species determined to be endangered by the Commissioner in accordance with the CESA.

Species of Special Concern means any native plant species or any native nonharvested wildlife species documented by scientific research and inventory to have a naturally restricted range or habitat in the state, to be at a low population level, to be in such high demand by man that its unregulated taking would be detrimental to the conservation of its population or has been extirpated from the state.

ASMFC declared Atlantic coastal striped bass stocks fully recovered in 1995. Commercial harvest has resumed and increased in some states, but there are no plans to allow commercial fishing in Connecticut or New York waters. Recreational harvests, which generally were not limited, have increased concurrently. Despite this success, additional management measures have been subsequently enacted, as necessary, to address issues like disease and nutritional needs and to maintain recovered stock levels. 

View past issues of
Sound Outlook at www.ct.gov/dep

SPOTLIGHTED Coastal Access: Safe-For-Wildlife Viewing Areas



One reason for the decline of species that have been listed as endangered, threatened or of special concern has been the intrusion upon those species' habitats by sightseers and coastal recreationists. Birds are generally the most visible of the listed species groups, and even those whose populations are recovering from other impacts may still be affected by such human activity. Fortunately, there are a number of sites, including those listed below, where you can watch them from a distance, thereby protecting both the birds and their essential habitats. These sites are described in the *Connecticut Coastal Access Guide*, available on line at <http://www.lisrc.uconn.edu/coastalaccess>. Parking is free at all sites.

Osprey (*Pandion haliaetus*), perhaps Connecticut's most notable success story, may be seen today throughout the Connecticut coast, flying low over open water and plunging headfirst in pursuit of the fish on which they prey. In the 1940s, the coastal zone between New York City and Boston supported an estimated 1,000 active osprey nests, however, development pressures and eggshell thinning caused by DDT contamination reduced this number to an all-time low in Connecticut of nine active nests in 1974. The banning of DDT in the 1970s and restrictions on the use of other organochlorine pesticides have prompted a steady recovery of osprey populations. Osprey was included as a state **species of special concern** on Connecticut's first published list in 1992, and was removed from the list in 1997. Today there are 176 active osprey nests in Connecticut, with 286 chicks fledged during the most recently tallied breeding season.

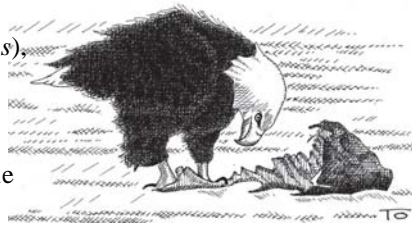


Osprey, from photo by Lisa Cuchara, www.TLC.smugmug.com.

One of the most accessible, yet protective, osprey viewing sites is the public observation platform at the Great Island State Boat Launch in Old Lyme. The platform overlooks the southern end of Great Island (a.k.a. the Roger Tory Peterson Natural Area Preserve) at the mouth of the Connecticut River. The 25 nesting platforms placed on the island, like the 219 others statewide, have contributed significantly to the successful resurgence of the osprey population in

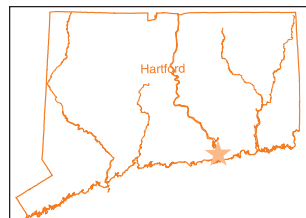
Connecticut, and adults and young may be seen in the nests there during the breeding season. A wide variety of other birds and wildlife is also visible from the same location.


The **bald eagle** (*Haliaeetus leucocephalus*), presently listed as state **endangered**, is also found today at numerous locations throughout Connecticut. Populations have steadily recovered since the banning of DDT to the extent that the eagle was recently removed from the federal list of threatened and endangered species. Bald eagles, which feed on fish and anything else that can be caught easily or scavenged, have increased their winter use of the open waters of the lower river in recent years,



Bald eagle, feeding on ice, Middle Cove, Essex

migrating there from Canada and northern New England. They are also gradually expanding their nesting activities throughout the river corridor. Still, bald eagles remain threatened by human disturbance wherever they occur.



Boat tours offer eagle-viewing opportunities on a scheduled basis during Essex's annual Eagle Festival. However, the birds may be regularly seen during the winter months from a number of sites in Essex, including the town dock, the grounds of the Connecticut River Museum, and nearby public accessways at Scholes Lane, Novelty Lane, Little Point Street and Bushnell Park. Bring binoculars or a spotting scope to view eagles perched on the opposite shore and fishing in the river. When the adjacent coves are iced over, eagles may often be seen at close range, and often in groups, consuming their catch on the ice. 

LOOK OUT for upcoming events!!

Norwalk Maritime Aquarium

10 North Water St., Norwalk, CT

Call 203-852-0700 x2206 for information and registration.

Fall Foliage Cruises

Saturdays and Sundays in October, Depart 1:00 for 2-1/2 hour voyage.

Collect and observe marine animals; view autumn's hues from the water.

Connecticut Audubon Coastal Center

Milford Point, Milford, CT

Call 203-878-7440 for information and registration.

Charles Island Explorations

Saturday, October 6, 2:00 PM;

Saturday, October 20, 12:05 PM

Discover natural history and folklore.

Wear boots or sneakers that can get wet.

DEP Environmental Educator Workshops

Kellogg Environmental Center

500 Hawthorne Ave., Derby, CT

Call 203-734-2513 to register.

Project WET: Down to the Sound

Friday, October 26, 9:00 AM-3:00 PM

Teachers of grades 4-8

Use Project WET materials to bring the LIS drainage basin into the classroom.

Native Waters and Sound Connections

Friday, November 9, 9:00 AM-3:00 PM

Teachers of grades 4-8

NOTE: Location TBA

Understand the history of LIS and its connection to the people who use it.

November: Harbor seals arrive in LIS from northern New England; winter flounder move into shallower water.

Long Island Sound Study Citizens Advisory Committee Meeting

Thursday, December 13

UCONN, Stamford Campus

Call 203 977-1541 to register.

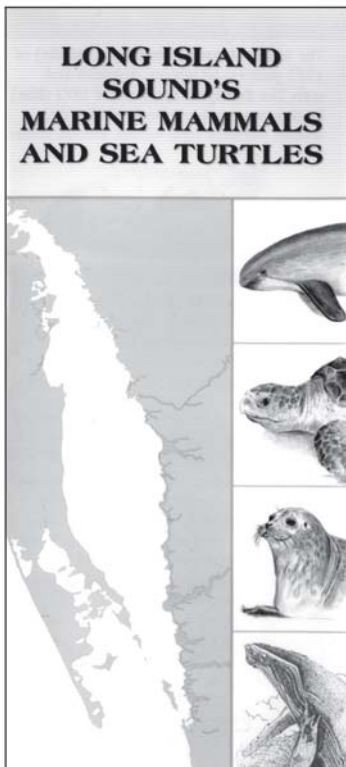
December: Bald eagles return to Connecticut for the winter. Call 1-800-368-8954 after December 8th for reservations at the Shepaug Eagle Observation Area.

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

www.ct.gov/dep

Putting Your LIS Plate Money to Work: Raising Public Awareness of Long Island Sound's Marine Mammals and Sea Turtles

With a \$9,734.00 grant from the Long Island Sound Fund, biologists and educators at Mystic Aquarium and Institute for Exploration are in the process of creating and producing informational signs about the four species of seals and the four species of sea turtles most likely to occur in Long Island Sound and its tributaries. **Kemp's ridley** (*Lepidochelys kempii*) and **leatherback** (*Dermochelys coriacea*) sea turtles may both appear in Connecticut waters and are state listed **endangered** species. **Loggerhead** (*Caretta caretta*) and **Atlantic green** (*Chelonia mydas*) sea turtles, which are state listed **threatened** species, include the Sound within their range, but are less likely to be found here. The seals are not state listed. **Harp seals** (*Pagophilus groenlandicus*) and **hooded seals** (*Cystophora cristata*) appear regularly in LIS during the winter, while **harbor seals** (*Phoca vitulina*) and **gray seals** (*Halichoerus grypus*) are regular, year-round visitors.



The signs will provide information about what to do if one of these species becomes stranded in the Sound, including contact information for alerting Mystic Aquarium, Connecticut's only licensed marine mammal and reptile rehabilitator. Signs will be installed at the boardwalk at DEP Marine Headquarters at Ferry Landing State Park in Old Lyme, the Niantic Bay Boardwalk in East Lyme, and Mystic River Park along the Mystic River in Stonington. These are the three sites from which most marine mammal and sea turtle strandings in Connecticut are reported.

The Aquarium will also reprint the popular brochure, *Long Island Sounds Marine Mammals and Sea Turtles*, previously funded by the License Plate program, for distribution to government and law enforcement officials, schools and community groups, and interested individuals. This guide helps to identify sea turtles, seals, whales, dolphins and porpoises that are known to frequent Long Island Sound. The guide provides tips about how to maintain a respectful distance from these important

species, and information about the federal Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Through this outreach effort, the public will be provided specific guidance about what to do if an animal with obvious injuries, health problems or unusual behavior is sighted.

This collaborative project between DEP and Mystic Aquarium will help to further educate the public about the need to protect these species and the importance of the Sound as a critical habitat area. For more information, contact Heather Medic, Mystic Aquarium Stranding Coordinator, at (860) 572-5955, ext. 107. For information about the Long Island Sound Fund, contact Kate Brown by phone at 860-424-3034 or by email at kate.brown@po.state.ct.us.

Sound Tips

You can help...

There are a number of actions you can take to help protect Connecticut's endangered, threatened and special concern species and their habitats:

Pick up floatable debris – diving birds and marine mammals can ingest or become entangled in fishing line, plastic six-pack rings, plastic shopping bags and other discarded trash. Follow a "carry in–carry out" policy when you go to the beach. Take part in scheduled beach cleanups.

View wildlife from a distance so as not to disturb them, especially when they are nesting.

Follow responsible lawn care practices by reducing or eliminating use of fertilizer to avoid nutrient enrichment of coastal waters and wetlands.

Wash your boat to prevent transfer of invasive plants that can displace native species.

Contribute to the Endangered Species/Wildlife Fund when filling out your state income tax form.

Purchase of a LIS License Plate supports the LIS Fund



As of July 31, 2007:

- Plates sold: 136,341
- Funds raised: Over \$4.7 million
- Projects funded: 283

The LIS Fund supports projects in the areas of education, public access to the shoreline, habitat restoration, 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 send your name and address to: *Sound Outlook*, Connecticut DEP, Office of Long Island Sound Programs, 79 Elm Street, Hartford, CT 06106-5127; or email your address to laurie.valente@po.state.ct.us.

SPOTLIGHTED Coastal Resource: Species Protection Efforts Present Continuing Challenges

Even as the Connecticut and federal Endangered Species Acts have resulted in the protection and recovery of certain vulnerable species and the remediation of environmental threats, other risks still exist, and many species require sustained management efforts or enactment of new protective measures. Below are descriptions of some of the DEP's continuing challenges:

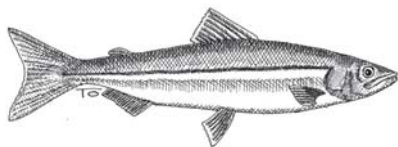


Least shrew, adopted from photo by R.A. Cervantes Reza, Mammal Images Library, American Society of Mammalogists

Least shrew (*Cryptotis parva*), one of the smallest mammals in Connecticut and a resident of central and southwestern coastal areas with high dunes and adjacent brackish marshes, is state listed as **endangered**. Only three least shrew sightings have been reported in Connecticut,

including the original discovery in Darien in 1840, and the most recent sighting in coastal Middlesex County in 1989. Less than 3 inches in length, this mole-like shrew feeds on insects, earthworms, snails, mollusks, amphibians, lizards, small mammals, carrion, and plant material. Its nest is constructed of dry grass, leaves and finely shredded material, and located in a shallow depression or burrow, commonly under stones, logs or stumps. The highly social and gregarious least shrew often shares the construction of nests and burrows with other small mammals, but will make its own runways in soft, loose soil, and under winter snow. The greatest threat facing Connecticut's least shrews is coastal development, which limits available habitat and results in the isolation of breeding populations. Other threats include pesticides and pollutants that contaminate food and habitat. Least shrews can be protected through programs that protect or restore coastal dunes and marshes, and by restricting development in areas adjacent to coastal marshes so as to prevent further fragmentation of habitat and isolation of existing populations.

Anadromous populations of **Rainbow smelt** (*Osmerus mordax*), which migrate up tidal rivers to spawn, have severely declined throughout the northeastern United States, and the species is listed as **threatened** in Connecticut and as a Federal Species of Concern by the National Marine Fisheries Service.

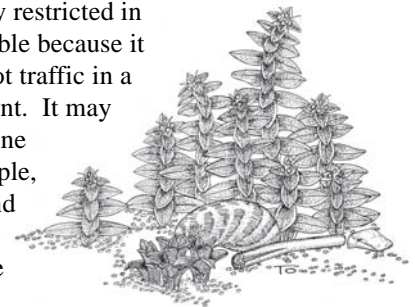


Rainbow smelt

This highly regarded food fish was sought by Native Americans, later becoming the object of competitive recreational and commercial fisheries. That exploitation, as well as the loss of spawning grounds due to development, poor water quality and global climate change, and predation by rebounding fish species, particularly striped bass, may all be contributing to declining smelt populations. Recent investigations by UCONN in estuaries along the central and

eastern Connecticut coast found virtually no rainbow smelt of any age class, and no evidence of reproductively active smelt populations. Recommendations for species recovery include closing the inland smelt fishery wherever anadromous runs occur in order to protect the regional spawning stock, extending the closure to coastal waters, and investigating the reestablishment of smelt runs by transplanting eggs into river systems most likely to support self-sustaining smelt populations.

Seabeach sandwort (*Honckenya peploides*) is a low-growing, perennial plant with fleshy green leaves that spread across the upper limits of sandy beaches at the foot of the foredune. It is a state listed **species of special concern**, meaning that it is naturally restricted in Connecticut. It is vulnerable because it occurs in areas of high foot traffic in a naturally harsh environment. It may also be affected by shoreline construction. As an example, seabeach sandwort is found along Railroad Beach in Niantic, East Lyme, where individual specimens are threatened by the proposed realignment and reconstruction of the Amtrak rail embankment associated with replacement of the Niantic River railroad bridge. Those particular impacts would be mitigated through the regulatory requirement that affected plants be relocated and that temporary fencing be placed during construction around individual plants near, but not within, the project footprint.



Seabeach sandwort

Glossy ibis (*Plegadis falcinellus*), a mid-size, chestnut colored wading bird that breeds in nesting colonies on offshore islands in Long Island Sound, is also a state listed **species of special concern**. While glossy ibis have been breeding in Connecticut only since 1971, recent surveys show the presence of sustained colonies on Ram Island off of Stonington, Duck Island off of Westbrook, and Charles Island off of Milford. Nests are built above the water in trees or shrubs or in beds of reeds, making them extremely vulnerable to human disturbance, predation and major storm events. DEP has been fencing Charles and Duck Islands for the past several years, and has closed entire islands to the public, as necessary, to protect nesting colonies. In addition, both islands have been designated Natural Area Preserves by the state and Important Bird Areas by the National Audubon Society. As a result of these combined efforts, numbers of glossy ibis have increased in recent years. However, continued success requires ongoing monitoring and management of populations and environmental conditions.



Glossy ibis



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Then & Now: Changing Coastal Uses Bring New Opportunities and New Concerns

Connecticut's listed endangered and threatened species and species of special concern are dependent for survival on the protection and maintenance of high quality habitat. Threats to those species' habitats have changed over time, but still present challenges to resource managers.

During the industrial revolution of the late 1800s and early 1900s, industries like textile producers, tanneries, fish packaging plants and machine manufactures utilized Connecticut's rivers and streams for power generation, transportation, and disposal of manufacturing chemicals and other wastes. The resulting physical and chemical alteration of coastal and riverine habitats prevented Atlantic salmon, shad, alewives and other migratory fish from reaching upstream spawning grounds and imperiled their health and productivity by exposure to impure water.

Today, although industries and municipalities have significantly reduced or eliminated their discharges and dams are being removed or fitted with fishways, there are new threats to Long Island Sound's essential habitats. Predominant water-based uses now include residential and recreational development. The growth of waterfront housing brings increased nutrient enrichment of wetlands and coastal waters, jeopardizing the integrity of native plant communities. The expansion of coastal public access, while a fundamental goal of Connecticut's Coastal Management Program, puts other pressures on sensitive species. For example, increased recreational boating activity may also result in the intrusion, even if unintentional, into critical waterbird nesting habitat. While such opportunities encourage the public's greater appreciation for those resources, which is a good thing, neither do we want them to be "loved to death." Thus, as the public's use of the coast increases, so too must our ability to balance that use with necessary resource protection. 

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;
Contributor: Kate Brown. 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.



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