



## Norwalk River Watershed Initiative

# Success Stories

April 2001

Connecticut Department of Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127 -  
Arthur J. Rocque, Jr., Commissioner



Photo: Dave Dunavan

Norwalk River Wilton, CT

### The Resource

The Norwalk River watershed encompasses portions of six municipalities in Connecticut — New Canaan, Norwalk, Redding, Ridgefield, Weston, and Wilton — and one in New York — Lewisboro. The watershed comprises approximately 40,000 acres or 64.1 square miles, and is populated by about 66,000 people. The Norwalk River begins in the Great Swamp in Ridgefield, and flows for 20 miles before entering Long Island Sound at Norwalk Harbor. The harbor is a center of boating activity, and home to the largest oyster producer on Long Island Sound. The two main tributaries to the Norwalk River are the Silvermine River and Comstock Brook. Land use in the Norwalk River watershed is typical of many urbanized, coastal watersheds in Connecticut.

### Environmental Problems

Water quality in the Norwalk River watershed is degraded by nonpoint source pollution (see **Nonpoint Source Pollution** sidebar), fish habitat has been lost or impaired, and stream flows are unnaturally high or low, depending on the season and weather. Some segments of the Norwalk River watershed are on the state's list of impaired surface waters (*Connecticut Waterbodies Not Meeting State Water Quality Standards*) for not meeting designated uses, including primary contact recreation, aquatic life support, and migratory fish passage. Elevated bacteria levels associated with stormwater runoff during rain events endangers those who come in contact with the water. The stormwater runoff also carries with it sediment from construction sites and road sand, which smother fish habitat, and nutrients such as nitrogen, which cause excessive algae growth in slow-moving river reaches and contribute to the hypoxia problem in Long Island Sound. The numerous dams throughout the watershed restrict the passage of migratory fish such as river herring and Atlantic salmon. Impervious surfaces associated with urban development prevent the infiltration of stormwater, which in turn reduces ground-water recharge and increases runoff, causing unnaturally low flows during dry weather and high flows during storm events. Water withdrawals for public water supply, industrial production, and other consumptive uses also contribute to low flow conditions. Many of these pollutants are carried downstream to Norwalk Harbor, threatening the viability of the harbor as a recreational and commercial resource. All these existing problems may be compounded by further development throughout the watershed.

### Nonpoint Source Pollution

Nonpoint source (NPS) pollution is diffuse in nature, both in terms of its origin and in the manner in which it enters surface and ground waters. It results from a variety of human activities that take place over a wide geographic area. Pollutants usually find their way into waters in sudden surges, often in large quantities, and are associated with rainfall, thunderstorms, or snowmelt. NPS pollution generally results from land runoff, precipitation, atmospheric dry deposition, drainage, or seepage. Hydromodification - physical disturbances to a water resource caused by filling, draining, ditching, damming, or otherwise altering wetlands and stream courses - is also considered a nonpoint source problem.

## Norwalk River Watershed



In November 1995, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and the U.S. Environmental Protection Agency's (EPA) Long Island Sound Office agreed to develop a model watershed management approach to support implementation of the Long Island Sound Comprehensive Conservation and Management Plan (CCMP). After consulting with state agencies and communities in Connecticut and New York, the Norwalk River was selected as the model watershed based largely on the high level of interest and enthusiasm expressed by the Connecticut Department of Environmental Protection (CT DEP) and the seven watershed municipalities. CT DEP joined with NRCS and EPA to bring together the various organizations and agencies interested in the watershed and coordinate the planning effort. The Norwalk River Watershed Initiative (NRWI) was intended to be a voluntary, cooperative, locally-based watershed planning effort with two purposes:

- (1) to build local capacity for improving water quality and fish habitat, and
- (2) to assist watershed communities in integrating resource management into local land use planning.

The first major step, in August 1996, was conducting a visual inventory and assessment of the physical stream corridor conditions throughout the watershed. The "Streamwalk" information was published in the *Norwalk River Watershed Streamwalk Findings Report*, and eventually was used to guide planning and management efforts. The next step was the formation of the NRWI Committee, a stakeholder group with representatives

from federal, state, and municipal government agencies, environmental and other citizen groups, and watershed residents. The Committee began meeting in February 1997 and established an 18-month time frame to develop a watershed action plan to address the high-priority problems affecting the river and its surrounding land area. In October 1998, the NRWI Committee released the *Norwalk River Watershed Action Plan*, with goals and more than 100 recommended actions organized under four broad categories: water quality; habitat restoration; land use/open space/flooding; and education and stewardship (see **Norwalk River Watershed Action Plan Vision/Goals** sidebar).

### *Norwalk River Watershed Action Plan Vision and Goals*

#### **Habitat Restoration**

Goal 1: Preserve and improve wildlife habitat

Goal 2: Restore anadromous fish passage

Goal 3: Foster cold water fisheries

#### **Land Use/Flood Protection/Open Space**

Goal: Promote balanced growth which preserves property values and protects and enhances the watershed's resources for future generations

#### **Water Quality**

Goal: To restore and protect surface and ground water to meet state water quality standards throughout the watershed such that the Norwalk River supports its designated uses (e.g., fishing, swimming, drinking water)

#### **Stewardship and Education**

Goal: To educate citizens about the boundaries and function of the Norwalk River watershed, the specific needs for protection of, and improvement to, the river system, the benefits of a healthy watershed to individuals and communities, and the opportunity for the public to speak out on issues and to participate in the stewardship of the watershed.

## Results

The NRWI has been successful because all the stakeholders, governmental and nongovernmental, were engaged in a collaborative process and committed significant human and financial resources to the effort. Here are some of the NRWI's accomplishments:

- The NRWI Advisory Committee hired a watershed coordinator to provide technical and administrative support to the committee, and direct public outreach efforts to inform residents and municipal officials about NRWI activities and opportunities to participate. Federal grant funds were matched by a local private foundation to support this effort.
- NRCS, CT DEP, and the Mianus Chapter of Trout Unlimited have led efforts to restore over 7,000 linear feet of stream channel and riparian buffers to protect water quality and improve cold water fish habitat. Restoration techniques included the strategic placement of in-stream and streamside structures such as rock deflectors, boulders, overhanging banks and large logs. These structures are designed to imitate natural stream features, and will provide fish with feeding locations and protection from predators. Riparian restoration consisted of re-establishing vegetated buffers along the river to capture runoff, provide shade, discourage geese from loitering, and improve aesthetics.
- Several NRWI partners have worked to improve habitat, including removing invasive plant species and restoring riparian buffers, on 14.4 acres in Ridgefield and Wilton.
- The University of Connecticut Cooperative Extension System conducted an educational training program designed to teach residents and lawncare providers about environmentally friendly gardening and lawn management techniques.
- The Nature Center for Environmental Activities' "Harborwatch/Riverwatch" program has completed almost three years of citizen water quality monitoring, developed a database, and delivered regular reports to CT DEP. Monitoring has focused on determining the origin of elevated bacteria levels to help direct future management activities.
- The Norwalk River Watershed Association is collecting septic system ordinances and related educational materials, and working with local governments to promote adoption of ordinances or other incentives for homeowners to inspect and maintain septic systems.
- The local soil and water conservation district is working with the municipal departments of public works and the Connecticut Department of Transportation to assess their use of road sand and salt, including related road operations and maintenance activities, and promote practices to reduce their impact on the river.
- Municipalities have used the *Norwalk River Watershed Action Plan* as a guide in their local land-use decision making, and have altered some development proposals to increase buffer widths between new construction and the river, and reduce the amount of new impervious surface.
- The NRWI developed a web site to make information about the Norwalk River watershed and the NRWI more accessible, and to promote watershed management.

## Future Plans

The NRWI Advisory Committee, with support from the watershed coordinator, will continue to oversee implementation of the action plan, including the following activities:

- EPA and CT DEP are working with the Norwalk Department of Public Works to implement a stormwater management project in an approximately 100-acre watershed draining to Norwalk Harbor. Specifically, the project will test different methods for reducing sediment and other pollutant loads from two large stormwater pipes that discharge to marinas in South Norwalk.
- NRCS, CT DEP, and Trout Unlimited are working together to establish a fish bypass channel at the Cannondale dam, assess fish passage options, including dam removal or breaching, at the Merwin's Meadows dam, and in conjunction with the U.S. Army Corps of Engineers, assess fish passage options at the Winnipauk dam.



- The City of Norwalk, NRCS, CT DEP, and Trout Unlimited are planning to restore approximately 850 linear feet of the Silvermine River adjacent to the Silvermine School. The project involves restoring in-stream and riparian habitat to enhance fisheries, reduce excessive streambank erosion, and improve access to the river to facilitate future educational opportunities.
- NRCS, CT DEP and Trout Unlimited will continue their efforts to restore viable coldwater fisheries by improving habitat conditions.
- NRWI partners are planning two additional riparian habitat restoration projects, at a commercial site in Redding and a residential site in New Canaan.
- The UConn/CES will develop a turf grass demonstration plot at Wilton High School to help educate the public about low-maintenance lawn care.
- The Nature Center for Environmental Activities' "Harborwatch/Riverwatch" program will continue to monitor bacteria and nutrient levels to help focus management efforts.
- The Maritime Aquarium at Norwalk will design, create and display a permanent exhibit that will focus on the ecology of the Norwalk River watershed and the impacts of nonpoint source pollution. This display will interface with an existing "Long Island Sound Nonpoint Source Pollution" exhibit.
- The CT DEP worked with the City of Norwalk, and the towns of Wilton, Weston, and Ridgefield and establish an automated early flood warning alert system.
- \$340,000 from EPA Clean Water Act Section 319 grants awarded by CT DEP in FY98-01
- \$30,000 from an EPA Clean Water Act Section 104(b)(3) grant awarded by CT DEP in FY96
- \$60,000 from EPA under Section 119 of the Clean Water Act in FY96-98, through the Long Island Sound Study, awarded through an interagency agreement and matched by a similar amount from NRCS
- \$50,000 from the Dibner Fund, a local private foundation
- \$50,000 from the City of Norwalk for the Silvermine River project
- \$80,887 from the NRCS Wildlife Habitat Improvement Program
- \$13,300 from the national Trout Unlimited (TU) "Embrace-A-Stream" grant program matched by \$14,500 from the Mianus Chapter of Trout Unlimited
- Well over \$200,000 in-kind services from NRCS/CT DEP/TU/Norwalk River watershed municipalities and citizen volunteers

### Project Partners and Funding

The Advisory Committee comprises approximately 20 members, with representatives from each of the seven watershed municipalities, CT DEP, NRCS, EPA, CT DOT, the Southeastern Connecticut Regional Planning Agency, the Norwalk River Watershed Association, Save the Sound, the First and Second Norwalk Taxing Districts (private water companies), the Greater Norwalk Chamber of Commerce, and the Maritime Aquarium at Norwalk. These organizations have dedicated significant financial and human (in-kind) resources to the NRWI. Financial support is as follows:

#### Contacts

For more information regarding the NRWI, contact: Chris Malik, CT DEP Western Coastal Basin Watershed Coordinator (860) 424-3959

[christopher.malik@po.state.ct.us](mailto:christopher.malik@po.state.ct.us)

Jessica Kaplan, Norwalk River Watershed Coordinator (203) 834-0033 [kaplan356@aol.com](mailto:kaplan356@aol.com)

Stan Zaremba, CT DEP NPS Coordinator (860) 424-3730 [stanley.zaremba@po.state.ct.us](mailto:stanley.zaremba@po.state.ct.us)

Joe DeRisi, SouthWest Conservation District (203) 269-7509 [swcd43jd@sbcglobal.net](mailto:swcd43jd@sbcglobal.net)

Todd Bobowick, USDA NRCS (860) 626-8258 [todd.bobowick@ct.usda.gov](mailto:todd.bobowick@ct.usda.gov)

CT DEP, US EPA and NRCS websites

<http://dep.state.ct.us>

<http://www.epa.gov/owow/nps/education.html>

<http://www.ct.nrcs.usda.gov>

This CT DEP NPS Success Story is funded by the CT DEP through a US EPA Clean Water Act Section 319 Nonpoint Source Grant.

CT DEP is an equal opportunity/affirmative action employer, offering its services without regard to race, color, religion, national origin, age, sex, or disability. In conformance with the Americans with Disabilities Act, the CT DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities needing auxiliary aids or services should call - CT DEP Affirmative Action at (860) 424-3035.



Printed on Recycled Paper