



NepRWA Wish List

Educational Funds!

Donations totaling \$1,500 would cover the cost of new educational materials concerning non-point source pollution and groundwater hydrology.

CWMN Volunteers!

Can you spare some time early one Wednesday morning, every two months? NepRWA needs water-sampling volunteers for Beaver Brook and Massapoag Brook in Sharon and for the Paul's Bridge site in Milton. NepRWA also needs a drop-off coordinator for Norwood and dissolved oxygen testers for sites in Dedham, Milton, Foxborough and Walpole. Please contact Laura Hallowell for more information, hallowell@neponset.org or 781-575-0354.

wat • er • shed (n): 1. the area of land draining into a particular body of water

Neponset River Watershed Association

NepRWA is a nonprofit conservation group founded in 1967 to protect and restore the Neponset River, its tributaries and their watershed lands. *News from the Neponset* is published six times each year. Printing by Blue Hill Press, Canton.

490 Chapman Street, Suite One B, Canton, MA 02021
p 781-575-0354, f 781-575-9971
staff@neponset.org, www.neponset.org

Staff

Ian Cooke, Executive Director
Laura Hallowell, CWMN Assisi.,
Willett Pond Mgr.
Marie Hanna, Membership
Coord.
Steve Pearlman,
Water Resource Analyst
Laura Raymond, Development
Dir.
Carly Rocklen, Outreach Coord.

Benefactors

Analog Devices
Bay State Federal Savings,
Charitable Fdn.
Boston Water & Sewer Com.
Dedham Inst. for Savings Fdn.
Hollingsworth & Vose Co.
NiSource Emt'l. Challenge Fund
Patagonia, Inc.

Patrons

Blue Hill Press
CertainTeed Roofing
The Northeast Buffinton Group
Walpole Cooperative Bank

Sponsors

Bank of Canton
Bingham McCutchen LLP
Bird Machine Company
Dedham Inst. for Savings Bank
Emerson & Cuming Specialty
Polymers, Inc.
The Kraft Group

Board Members

Thomas Birmingham
Elise Brink
Bob Chen
Jayne DiCandio
Paul Lauenstein
Donna Miller
Thomas Palmer

Officers

Taber Keally, President
Pat Hogan, Vice-President
Steven Davis, Treasurer
Christine Grady, Secretary

Non-Profit Org.
U.S. Postage
PAID
Boston, MA
Permit No. 54080

Neponset River Watershed Association
490 Chapman Street, Suite One B
Canton, MA 02021
Address Service Requested

2. a crucial turning point 3. communities connected by water

February - March 2005

NepRWA & Milton Break Ground on Pine Tree Brook

Pine Tree Brook in Milton is usually pretty clean, but it has a big problem with rain.

When it rains, pet waste, fertilizers, oil and other pollutants get rinsed off streets and sidewalks into catch basins along the roads. From there, the storm drain system transports the polluted water straight into Pine Tree Brook, rendering it *not so clean*, anymore. Pine Tree Brook is not alone though—almost every stream in the Neponset Watershed has this problem.

NepRWA and the Town of Milton are working together on a pilot project funded through the Mass. Department of Environmental Protection, the US Environmental Protection Agency and others. The aim of the project is to fix Pine Tree Brook's problem and serve as a model for cleaning-up other streams. Construction on this project began Thanksgiving week, 2004, starting with the development of a series of water quality improvement structures along the Brook between Blue Hill Parkway and Thacher Street.

NepRWA hired Cali Corporation of Natick to build three "bioretention cells" along the north side of Pine Tree Brook. The cells are essentially depressions along the riverbank that are filled with special soils and plants. Street runoff, laden with pet waste and other contaminants, and that was once dumped straight into the Brook, will now be forced to take a detour into the bioretention cells. In the cells, the contaminated water will soak into the soil, leaving behind pollutants to be broken-down by plants and soil microorganisms. Clean water will then percolate into the Brook.

On the south side of Pine Tree Brook, another large storm drain that currently dumps polluted water directly into the Brook will be diverted into a restored wetland area—actually the historic bed of Pine Tree Brook that was abandoned years ago when the Brook was channelized. Much like the bioretention cells, the restored wetland will filter the polluted water before it reaches the Brook, and soil, microorganisms and plants will catch and break-down the pollutants.

While the construction work is important (and fun), preventing pollution before it even starts is just as important. For this reason, the project partners are running a parallel education campaign aimed at getting pet-owners to clean-up after their furry friends, not only along Pine Tree Brook but also throughout the Town of Milton. This past spring, literature was distributed door-to-door throughout the Pine Tree Brook neighborhood. Pet-owners who pledged to clean-up after their dogs were given special tags to put on their pets' collars, announcing that their pet is a member of the "Pine Tree Brook Chapter of the Dogs for Clean Water Club." Cleaning-up after Fido is no longer just the neighborly thing to do in Milton. As of last year, it is law—with the passage of a bylaw making it illegal to *drop and run*.



Ready to dig! Left to right: Construction Contractor Paul Chouinard, Consulting Engineer Marcus Quigley, Milton Town Engineer John Thompson, Milton Town Conservation Agent Kara Barry and NepRWA Director Ian Cooke take a final walk-through along Pine Tree Brook before construction of the water quality improvement project begins.

As of this writing, construction work on Pine Tree Brook is about 60% complete. With any luck, it will be finished by spring. Additional measures, including installation of mutt-mitt stations and coordination of educational outreach activities, are planned for this spring as well. To find out more about how you can prevent pet waste pollution or clean-up after the fact, just give us a ring.

CWMN Report

NepRWA recently published the long anticipated *CWMN Report*, more formally known as the *Boston Harbor Watersheds: Water Quality and Hydrologic Investigations* report. This report relates the results of five years' worth of water sampling, 1999-2003, in the Fore, Mystic, Neponset and Weir Watersheds.

The Neponset segment of the *CWMN Report* is based on data collected at 41 sites in the Neponset Watershed by more than 50 of NepRWA's dedicated volunteers.

Read the *Report's* introduction to become familiar with the history of NepRWA's sampling program, the completion rates of specific tests, how we classify events as wet or dry weather, and how water quality grades are assigned, among other topics.

The *Report's* discussions of the Neponset subwatersheds, or stream clusters, pull together a variety of information about

Continued, Page 2

CWMN Report, from Page 1

the sampling sites. For example, the discussions cover reasons why the sites may be on the Mass. Department of Environmental Protection's list of impaired waters, provide background information on the history of the sites, and describe problems identified through water quality testing. Additionally, the discussions include a list of actions that NepRWA could take to further delineate and remediate the problems, should the resources become available.

You'll find that CWMN data reveal problems and opportunities. For example, Mill/Mine Brook in Medfield, Dover and Walpole, is proposed as a cold-water fishery, yet it suffers from low water flow and large water withdrawals. Ponkapoag Brook in Canton runs through a golf course, and not surprisingly shows excessive nutrient levels. In other towns, citizens dumping lawn clippings into streams are unintentionally altering aquatic habitat. Many streams, like the East Branch and Steep Hill Brook, show significant levels of bacteria only in wet weather, while the Lower Neponset shows high levels of bacteria in both wet and dry weather. Finally, testing indicates that Traphole Brook in Walpole and Massapoag Brook in Sharon both meet some of the criteria for cold-water fisheries, thus, NepRWA knows that relatively simple steps could restore their fisheries capacity. You can view the *CWMN Report* on our website, www.neponset.org.

Wendy Parisi Roemer Moves On

January 13 was Wendy Parisi Roemer's last day in her position as NepRWA's Environmental Scientist.

Some of you may have worked with Wendy on the Citizen Water Monitoring Network (CWMN) program, or on the Dam Assessment Project. Or, you may have attended presentations Wendy gave, for example, on the ecological restoration of the Neponset River. Perhaps you attended a book group meeting Wendy coordinated. NepRWA is grateful to have had such a skilled and knowledgeable employee as Wendy, and we wish her all the best in her new position as Laboratory Administrator at Dana-Farber Cancer Institute.

While NepRWA searches for a new Environmental Scientist, Laura Hollowell is available to answer any questions concerning CWMN and the Dam Assessment Project, hallowell@neponset.org or 781-575-0354.

Please direct anyone interested in applying for the Environmental Scientist job opening to page three of this newsletter and to the full job description on our website, www.neponset.org.



USGS Study Shows High Levels of PCBs in Neponset River

NepRWA and the Massachusetts Riverways Programs, interested in whether PCB contamination in the river-bottom sediments of the Neponset River could constrain dam removal and other restoration efforts on the lower Neponset River, have been particularly interested in the U.S. Geological Survey (USGS) river-bottom sediments report that was recently published. Despite our knowledge of the existence of polychlorinated biphenyls (PCBs) in the Neponset River, before December 2004, their extent in the River had been unclear. In December, however, the USGS published the informative study *Sediment Quality and Polychlorinated Biphenyls [PCBs] in the Lower Neponset River, MA, and Implications for Urban River Restoration*.

What the USGS report indicates is alarming, regardless of whether or not the dams are removed. Unsafe PCB levels were discovered in the water and in the river-bottom sediments. Additionally, because sediments dug-up during river dredging were routinely dumped on either bank of the river until the early 1960s, it's likely that PCB levels along stretches of the riverbank are also relatively high. Many studies have shown that high levels of PCBs can pose health risks to wildlife and humans, causing a variety of illnesses.

USGS found that median PCB concentrations in the top layer of river-bottom sediments in the Lower Neponset River are over 120 times greater than the average for national urban rivers! Additionally, levels of PCBs in dammed impoundments of the Neponset are particularly high. Sediment tests indicate that toxicity levels for bottom-dwelling benthic organisms

(e.g., amphipods, mussels and worms) ranged from 13% to 100% among sediment sampling locations (from Paul's Bridge to the Walter Baker Impoundment in Lower Mills). Regular ingestion of contaminated benthic organisms by organisms higher in the food chain (fish, for example) can eventually result in physiologic problems and even death.

The USGS report indicates that PCB levels in the water column of the lower Neponset River pose a potential threat to aquatic life and to humans. Downstream of Fairmont Avenue (Boston/Milton), USGS found that levels of dissolved PCBs are high enough to cause adverse biological effects on aquatic organisms and other wildlife. Additionally, USGS found that, except for samples near Incinerator Road on Mother Brook, estimated water-column PCB concentrations were greater than the USEPA human-health standard. The levels just downstream of the Tileston and Hollingsworth Dam were 10 times higher than the standard. Prospective human health impacts from certain PCBs in the water column are comparable to those caused by dioxins—skin, nerve and liver damage and psychiatric disturbances. The Mass. Riverways Programs now intends to conduct fish tissue studies to measure the actual effects of river contamination.

NepRWA is now working to identify the causes of the PCB contamination. NepRWA believes the State needs to conduct a full-scale "Risk Assessment" to identify precise levels of risk to humans and the environment at specific locations on the River.

The USGS Report can be found at <http://www.water.usgs.gov/pubs/sir/2004/5109>.

Steppin' Out

Recently, NepRWA friends who had been looking forward to reveling in tasty food and drink, good company and the NFC Championship Game at Finbar's Pub & Meetinghouse in Norwood, had to change their entertainment plans. The first NepRWA social event of the year coincided with Mother Nature's intended—a blizzard! Alas, the event was canceled.

Please make sure to keep an eye on the NepRWA website, on your e-mail accounts and in your mailboxes! NepRWA's planning socials for every few months in 2005. Come to meet people from around the Watershed, find new activities partners, and relax. Friends and relatives are welcome!

To join NepRWA's e-mail list and ensure that you quickly hear about upcoming events, send your e-mail address to Carly at rocklen@neponset.org.

Volunteers Catalog Watershed's Hidden Dams

Believe it or not, Massachusetts government agencies and local environmental organizations do not know the location of each dam in the Neponset River Watershed. *Why does this matter?* Each of these dams is affecting the health of the Watershed—especially its waterways and ecological systems. By improving our understanding of the distribution of local dams, our ability to ecologically restore the Watershed will improve. Thus, NepRWA and the Mass. Dept. of Fish & Game's Riverways Programs have embarked on a collaborative project to catalog the locations and conditions of all the dams within the Watershed.

This Pilot Dam Assessment Project began with the location and assessment of dams in the East Branch Subwatershed of the Neponset River Watershed. NepRWA volunteers searched waterways in Sharon, Canton and Stoughton for dams, recording their observations and providing this information to NepRWA. Next, NepRWA will share this information with the Riverways Programs. We will input the data into a database and select a subset of the catalogued dams for further assessment.

This project is funded by the Massachusetts Environmental Trust (MET). MET itself is funded through Mass. residents' purchase of Environmental license plates from the Mass. Registry of Motor Vehicles. These license plates include the Whale, Brook Trout and Blackstone Valley Plates. Half of plate users' registry fees is donated to MET to fund water-focused environmental education and protection programs, like NepRWA's Dam Assessment Project.

To learn more about MET, please visit the Dam Survey web-page on www.neponset.org.



Where's the New Explorer's Guide?

That's a question we've been getting a lot lately here at the NepRWA office, and the unfortunate answer is that the new *Explorer's Guide to the Neponset Watershed* is not quite ready yet. We have been working on the new edition for some time now, replacing the old two-color maps with a new poster-size full-color map, and completely updating and reformatting the text. It has turned out to be a bigger project than we expected—a problem compounded by the departure of a key staffperson. Nevertheless, we hope to have the *Guide* ready for spring. The minute it's ready, we'll send it out to everyone who is expecting one, even if it's been a while since you requested the *Guide*. In the meantime, photocopies of the old *Guide* are available. We appreciate your patience as we juggle producing the new *Guide* with our array of projects. *Thanks for your patience.*

Help Wanted!

Environmental Scientist (ES)

Want more science in your life? NepRWA is looking to fill the position of Environmental Scientist (ES), and the perfect candidate just might be you! The ES manages NepRWA's volunteer-based water quality monitoring program, as well as other projects including: assessing the potential for dam removal and aquatic habitat restoration, evaluating sediment contamination due to historic discharges, preparing a water balance for the basin, developing strategies to preserve instream flows, evaluating structural stormwater BMPs, and prioritizing areas for stormwater BMP retrofits, among others. *Duties include:* project development, QAPP preparation, training/managing volunteers, interns and part-time staff, analyzing results and recommending remediation priorities. The ES works with state and municipal staff to develop and implement natural resource improvement projects, represents NepRWA in public forums, develops creative solutions to complex water resource problems and advocates for their adoption. S/he also helps to raise funds to carry-out water resource work. The preferred experience is a master's degree in hydrology, stream ecology, watershed management or a related field and 3+ years experience in a related position. Experience with GIS, Excel and database software is strongly preferred. View the full job description at www.neponset.org.

Administrative Assistant (AA)

Do you have a head for numbers? Are you comfortable with computers? Are you organized? Do you want a part-time job in which you can help clean-up and protect the environment? Then NepRWA needs you! NepRWA is seeking a resourceful, energetic and highly organized individual to serve as part-time AA. The AA maintains our bookkeeping records and database of contributors. S/he also prepares thank you notes and renewal reminders and financial reports. In addition, the AA keeps a seven-person office running smoothly by ordering supplies, assisting with mailings, organizing meetings, and helping to coordinate volunteers, among other duties. Get the full details and application procedure for this paid job opening at www.neponset.org.