

Stormwater pollution in the Charles River: an update

By Julie Wood/Special to the TAB
Wednesday July 2, 2008

A walk along the Charles River is more than just a pleasant afternoon for Anna Dukhovich, Elizabeth Cooke, Maalika Banerjee and Jenny Zhao. These Newton North High School students and many other Newton residents helped the Charles River Watershed Association conduct visual shoreline surveys of the lower 45 miles of the Charles River and tributaries, including Cheesecake Brook, Sawmill Brook and South Meadow Brook. During these surveys, trained volunteers walked or canoed along the river or stream observing and recording signs of stormwater pollution, such as erosion and discolored or odorous pipe discharge.

Visual surveys were conducted as part of CRWA's "Find It and Fix It" Program. This comprehensive three-year program, funded by the Massachusetts Environmental Trust, aims to identify problems caused by stormwater pollution. Using stream survey observations and water quality data, CRWA works with municipalities to find ways to reduce the quantity and improve the quality of stormwater runoff, and to educate watershed residents on the impacts of stormwater runoff.



Anna Dukhovich notes the lack of a natural buffer along a Charles River tributary.

Stormwater, or nonpoint source pollution, originates from diffuse sources. Although rainwater is relatively clean, as it washes over parking lots, roads, lawns, golf courses and rooftops, it collects pollutants, which are then carried to the river. While much progress has been made over the past decade in eliminating point source discharges and reducing combined sewer overflows to the Charles, nonpoint source pollution continues to be a major problem threatening the health of the river, and it is the primary reason the river fails to meet state water quality standards.

CRWA's volunteers observed the following signs of nonpoint source pollution during visual stream surveys of Newton's waterways:

Lawns and parking lots directly abutting the river. Runoff from lawns carries fertilizers and grass clippings into the river and adds excess nutrients to the water. Massachusetts' soils naturally contain high levels of phosphorus. Phosphorus is a

chronic problem in the Charles, serving as plant food, causing uncontrolled growth of aquatic vegetation and disturbing the natural balance of the river ecosystem. Untreated runoff from parking lots is also problematic, as it carries trash, oil, exhaust residues and heavy metals from tires.

How you can help: If you live or have a business along a river, plant a natural buffer between your lawn or parking area and the water. If you don't want to block your view, use low-lying shrubs or bushes. Allow this area to grow naturally, without the use of fertilizers and pesticides. A vegetated buffer will provide some pretreatment of runoff before it enters the river, and will also discourage geese from walking on your lawn. No matter where you live, you can help protect the river by practicing greenscaping and xeriscaping, landscaping techniques, which reduce water, fertilizer and pesticide use. You can also plant a rain garden to collect and treat stormwater runoff from your lawn and rooftop.

Large piles of sediment and excessive algae growth in and below stormwater pipes. In Newton, stormwater runoff enters storm drains and is piped directly to the Charles River (or its tributaries); this water is not treated at a wastewater treatment facility. Stormwater carries sediment from construction sites, roads and exposed earth to the river where it creates large islands, partially filling in the waterways and adding nutrients to the river. Stormwater runoff also picks up nutrients from soaps and car exhaust, which feeds excessive algae growth in the river.

How you can help: Take your car to a car wash, where water is recycled and treated, instead of washing it in your own driveway. Consider walking, biking to nearby destinations, or taking the T. Not only will this reduce the amount of nutrients entering the river, it will reduce your carbon footprint. If you are renovating your home or business, talk to your contractor about sediment control.

CRWA is working to address these issues throughout our watershed, but we cannot do it alone! If we all incorporate simple changes into our daily lives, we will be rewarded with a clean, healthy Charles River. Visit www.charlesriver.org or contact Julie Wood at 781-788-0007, ext. 225, to learn more about environmentally friendly landscaping, rain gardens and low impact development stormwater best management practices that collect and treat stormwater before it enters the river.

Julie Wood is a senior scientist for the Charles River Watershed Association.