NEWTON CONSERVATORS

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NEWSLETTER

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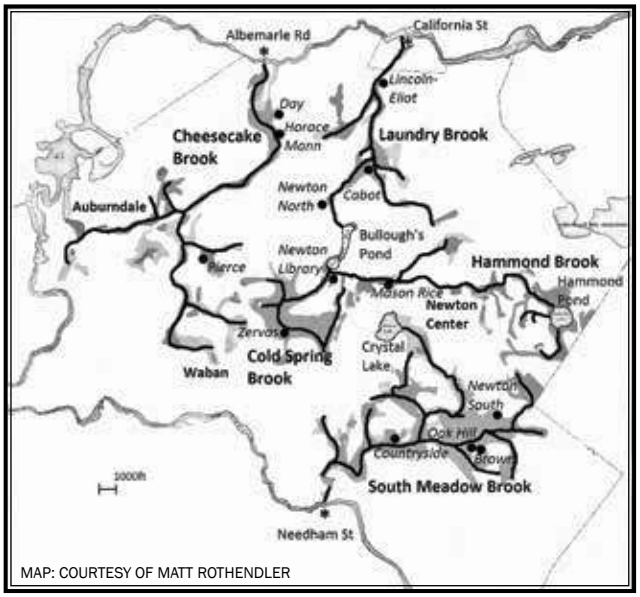
Newton's Lost Wetlands and Buried Brooks

By Richard B. Primack, a long-time Newton resident and a biology professor at Boston University

Editor's Note: This article is an expansion of an article originally written in the *Newton TAB,* August 8, 2017.

Until about 120 years ago, Newton was known for its many wet meadows, marshes, and swamps, connected by miles of brooks that emptied into the Charles River. Where did they go? And maybe more importantly, should we bring them back?

Over the past two centuries, as Newton changed from farming to industry, and then to a Boston suburb, developers and town workers filled in most of our wetlands and buried our brooks in underground culverts or put them into aboveground channels. Water was re-directed to power mills, and wetlands became the sites of playgrounds, schools, other public buildings, and homes.



Modified 1892 drainage map showing the main brooks and associated wetlands, with the current position of some schools and village centers and the Newton Library.

A drainage map from 1892, available on the city website (http://www.newtonma.gov/civicax/filebank/documents/39235), shows Newton situated beside a large bend in the Charles River. At that time, Newton's extensive wetlands were drained by three brook systems (Cheesecake, South Meadow, and Hammond/Cold Spring/Laundry) that meandered into the Charles.

Cheesecake Brook drains northern Newton, starting in Waban and Auburndale, flowing eastward across the Brae Burn Country Club, along Washington Street, past the Horace Mann School, Day Middle School, and Albemarle Field. In the south, South Meadow Brook begins at Lost Pond, and then flows past Newton South High School and the two middle schools; a second branch begins at Crystal Lake and heads south past Weeks. After the branches meet near Parker Street, the brook heads west toward the Countryside School and then along Needham Street, and enters the Charles at Newton Upper Falls.

Hammond Brook, Cold Spring Brook, and Laundry Brook together form the most

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Along Fuller Road, Cheesecake Brook has a natural look with abundant skunk cabbages and appears well integrated with the adjacent forest.

extensive wetland system, draining the city's center. Hammond Brook begins at Hammond Pond and heads west to Newton Center Playground. Cold Spring Brook starts in Cold Spring Park and wanders through Newton Cemetery. These two brooks join at City Hall and Bullough's Pond, forming Laundry Brook, which then flows northward under Newton North High, Cabot, and Lincoln-Eliot Schools, entering the Charles River at California Street.

Newton's brooks are now mostly tamed. Just north of Bullough's Pond, Laundry Brook still meanders over flat rocks, giving us a glimpse of its wild past. Along Fuller Street near Brae Burn Country Club, Cheesecake Brook flows free, with a border of skunk cabbages. In the Webster Woods, Vale Stream, which flows into Hammond Brook, appears quite natural. In other places, the brooks have been cut off from their surroundings, and wetlands filled in. For example, Cold Spring Brook flows in a dug channel. At Newton Center Playground and along Albemarle Road, Hammond Brook and Cheesecake Brook run through stone channels with vertical sides.

Most of Newton's main brooks are now invisible, enclosed in underground culverts below streets, residential neighborhoods, and playgrounds. For example, Laundry Brook flows directly under the Newton North tennis courts. In other places, there is poor access to the brooks and wetlands that remain due to fences, impenetrable thickets, and lack of trails.

Most of Newton's playing fields — such as those at Newton South, Cabot, Newton Highlands, and Weeks — are often wet and soggy due to their origins as wetlands and brooks. They are now carefully graded so that water flows to catch basins above the culverts that enclose the brooks.

The city cannot ignore its wet history: we must maintain the drainage infrastructure to keep the water contained and flowing. When the infrastructure fails, the consequences are costly. For example, in March 2010, after days of heavy rains, Hammond Brook overflowed its channel due to a blocked drain. It washed out the Green Line tracks east of Glen Avenue, halting train service. Many homes that sit on former wetlands were also flooded. This event was, unfortunately, not unique. Rainwater frequently overwhelms drains, especially when they become blocked with sediment or debris. Heavy rains are becoming more common due to climate change, worsening the problem.

Channeling water not only concentrates storm flows, exacerbating flooding, but it also reduces stream flow during dry periods, concentrates pollutants, reduces natural flood storage capacity, and eliminates natural habitats.

Many New England towns are revisiting past decisions to bury and channelize streams. Some towns are uncovering buried streams and removing the vertical walls of channels, allowing streams to re-integrate with wetlands. The wetlands act as sponges, holding onto rainwater for days and weeks, reducing flooding, and cleaning the water. The result can benefit towns, businesses, and homeowners economically and environmentally.

Along Albemarle Road, Cheesecake Brook is restricted to a stone channel and separated from natural vegetation.

According to Jennifer Steel, Newton's Senior Environmental Planner, the city is considering following the examples of other towns and recreating some flood storage along various brooks and wetlands. At the same time, Ted Jerdee, Newton's Director of Utilities, points out that Newton's citizens can help maintain the current infrastructure and reduce flooding by removing sediment, branches, and litter from channels and culverts, and by not throwing garden waste or other materials into brooks.

What else might we consider doing to improve the health of our brooks and wetlands, enhance their recreational value, and increase public support for them? Here are some suggestions based on conversations that I have had with Jennifer Steel and various Newton residents.

For channelized brooks in Newton:

- Investigate removing some of the stone lining to re-establish hydrological connections to adjacent wetlands and fields.

- Restore native vegetation along stream banks, which would reduce erosion and create more natural settings for people to enjoy. Initial targets could include Hammond Brook in Newton Center, Cheesecake Brook along Albemarle Road, and South Meadow Brook along Needham Street.

South Meadow Brook:

- Establish a trail system in the Hahn Brook Conservation Area, which runs between Dudley Road and Florence Street. The conservation area currently has no trails. New trails could connect to adjacent Kennard Park and Dudley Road.

- Create a trail along the brook from the tennis courts at Newton South High School to Dudley Road. The trail could connect with Kennard Park trails.

- Complete and publicize the trail along the brook where it crosses Needham Street, near Jaconnet Street, to allow better access to the rail trail. As the development in the Needham Street area progresses, include features to enhance storm water drainage, brook restoration, and access to wetlands.

- Restore the banks of the brook by the Countryside School. Replant the thicket near the school with native vegetation, and establish a nature laboratory and trail for the school.

Cheesecake Brook:

- Restore natural vegetation along the banks of the brook at McGrath Field along Washington Street. Install sand filters and catch basins to prevent pollutants and debris from entering the brook from nearby roads.

Laundry Brook:

- Investigate creating a small park and trail along the brook where it goes from Dexter Street at Bullough's Pond to Walnut Street.

Charles River and adjacent wetlands:

- Shift the existing path near Quinobequin Road deeper into the woods to create a more natural river experience.

- Create paths and footbridges along the river in the Lower Falls area, especially in the area along Concord Street and the Leo J. Martin Golf Course.

These ideas are just suggestions. The main point is that we should explore opportunities to restore brooks, build trails, and improve access to wetlands in Newton. If planned and implemented well, the economic, environmental, and recreational benefits could pay off in the long run, offsetting the short-term costs. After a long history of channelizing and burying brooks for development, filling in wetlands, and focusing on economic development, Newton's future could benefit from undoing some of its past. ■

MISSION

Newton Conservators, Inc.

The Newton Conservators promotes the protection and preservation of natural areas, including parks, playgrounds, forests and streams, which are open or may be converted to open space for the enjoyment and benefit of the people of Newton. It further aims to disseminate information about these and other environmental matters.

A primary goal is to foster the acquisition of land, buildings and other facilities to be used for the encouragement of scientific, educational, recreational, literary and other public pursuits that will promote good citizenship and the general welfare of the people of our community.

The Newton Conservators was formed as a not-for-profit organization 56 years ago in June 1961.

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We welcome material related to our mission from any source. Send proposed articles or letters by email in MS Word or rich text format to bethwilkinson@mac.com. Digitized photographs, maps and diagrams are also welcome.

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