



# Alliance Update

Spring 2002

Newsletter of the Brookline GreenSpace Alliance



## STORMWATER - WHERE DOES IT GO AND WHY DO WE CARE?

Rain falls from the sky and lands all over Brookline, watering our trees and fields and lawns. Some of it catches on leaves, to evaporate later, some of it soaks into the soil, and some of it runs over the land and into wetlands and streams, to run to the sea and evaporate and start all over again. Simple enough. It's the old water cycle we learned in 6th grade.

But what about all the rain that falls on our rooftops, our roads and driveways and parking lots? Development introduces hardscape, impervious surfaces that rain cannot sink into. We don't want all that water around our feet and in our basements, creating mini-floods, so we build long storm drain systems to carry the rain away from where we live and put it into rivers, lakes and ponds. If you walk down almost any street in Brookline, you see the telltale grates in the street at low points: catch basins. Water pours off the

streets into these catch basins and flows through a series of connected pipes and on out to the Muddy River or the Charles River.

Stormwater infrastructure bypasses the natural water cycle (Soil-Plant-Air Continuum), creating three significant problems that are all related: (1) infiltration of water into the soil is reduced; (2) water in our lakes and streams becomes polluted; and (3) we increase flooding.

(1) The less water we let into the ground, the less is there for plants and trees, and just as important, the less is there to feed the ponds, lakes and rivers during the dry summer months. Most of the water we see in the summer is seeping out from groundwater, and when we stop water from soaking into the soil, there's less and less groundwater.

(2) Though it may be surprising, stormwater is very polluted. Looking at rainwater gushing down off the street

into the catch basins, we might think it is clean - it's only rain, after all. But sampling all over the country, including Brookline, shows that water running down the gutters is full of bacteria, oil and grease, metals and sediments. By the time stormwater pours out the end of the pipe, it has become the biggest single source of pollution to an urban river, lake or stream.

(3) The speed of water rushing off the streets and out to the river also means more flooding. Water that used to meander across a bumpy, rutted landscape covered with plants and leaves and gullies now rushes headlong off a paved surface, down a smooth pipe and out to the river. The rain falling on Brookline takes only minutes to reach the river, causing an enormous and rapid surge in river flow, easily creating floods (as with the two "100 Year Floods" experienced here in 1996 and 1998.

### OPEN SPACE AND STORMWATER—THE CONNECTION

Protecting and enhancing open space is one piece of a good stormwater improvement program. Trees catch water on their leaves; planted areas allow water to penetrate the soil. Anything that holds water back off the street and out of the stormdrain system helps reduce pollution and flooding.

The town of Brookline has spent over \$1 million of taxpayer money in recent years to improve our storm drain system, reducing pollution and flooding. New laws at the state and federal level, often implemented by Conservation Commissions and Planning Boards, require new development, or sites undergoing redevelopment, to manage rain that falls on their property.

But once impervious surfaces are built, it is very

*(continued on page 8)*



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Newsletter Edited by Frances Shedd Fisher



Lilacs  
by Amy Lowell  
(1874-1925)

(Final stanza)

Lilacs,  
False blue,  
White,  
Purple,  
Colour of lilac,

Heart-leaves of lilac all over New England,  
Roots of lilac under all the soil of New England,  
Lilac in me because I am New England,  
Because my roots are in it,  
Because my leaves are of it,  
Because my flowers are for it,  
Because it is my country  
And I speak to it of itself  
And sing of it with my own voice  
Since certainly it is mine.

# Yes!

I want to protect Brookline's GreenSpace heritage for generations to come.

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

- Acorn (\$25)
- Turfbuilder (\$50)
- Good Apple (\$100)
- Oak (\$250)
- American Elm (\$500)
- Tree Hugger (\$1,000)

As a member of the Alliance you'll receive our newsletter, periodic e-mail alerts to keep you informed of timely meetings and events affecting open space in Brookline, as well as invitations to educational forums and events on open space issues in our community.

Mail to BGSA  
40 Webster Place  
Brookline, MA 02445

Contributions are tax deductible. Neighborhood Associations and Friends groups are invited to join the Alliance as Organizational members. Please call 277-4777 for information

# MUDDY RIVER PROJECT

The Draft Environmental Impact Report (DEIR) has been issued for the Muddy River Project. It includes recommendations to meet the goals of flood control, improvement of water quality, habitat enhancement, and historic preservation by removing waterway obstructions, dredging of accumulated sediment and debris, rebuilding historic islands, repairing worn pathways, and replanting areas disturbed by construction. Daylighting of culverted sections of the Muddy River (including the former Sears parking lot—a section of the park paved over in the mid-1950's) and the enlargement of other pipelines and construction of new headwalls will aid in flood control. Invasive wetland species, such as phragmites and knotweed, will be replaced with wetland plantings to improve wildlife habitat and restore the historic designed landscape. Instituting Best Management Practices for stormwater runoff will reduce future pollutant loading and contribute to the

attainment of Class B water quality standards (drinking water is Class A). Environmental mitigation measures will be undertaken to comply with environmental permits. In accordance with the Certificate from the Secretary of Environmental

Affairs for the Project, a Management and Maintenance Plan identifies the management, staffing, equipment, and procedures that are needed to ensure that the dredging, daylighting, re-vegetation, establishment of Best Management Practices, and other construction that will take place, will be sustained.

The project was undertaken in response to a major flood in 1996 which caused many millions of dollars of damage to public and private property in the Longwood, Fenway and Kenmore sections of Boston

and adjacent areas of Brookline. Of particular note was serious damage to the MBTA

at Kenmore Station and damage to the Museum of Fine Arts and area colleges. In addition to the necessity for flood control, the

undertaking is necessary to save the river and its habitat. The increasing (and toxic) sediment and the oxygen-depleting invasive species will, without question, eventually reduce the Muddy River to a stagnant trickle if no action is taken. The future of the park depends on the completion of this project.

Public hearings have been held in Boston and Brookline and public comment will be incorporated into the final report. We expect the project will be undertaken by the Army Corps of Engineers



Phragmites on the Muddy River.  
Photo by Hugh Mattison

at a projected cost of approximately \$92 million. Brookline's share of the costs—to be shared by Federal, state and local governments (Boston and Brookline)—are projected at \$3 million. It is anticipated that the costly dredging, necessary to prevent future flooding, will control the Muddy River for the next 70 or so years, provided appropriate measures are taken to maintain the Riverway. Maintenance for this purpose will include managing stormwater, controlling invasive species and protecting banks through maintenance of appropriate wetland plantings. Brookline's relatively low capital contribution to the project anticipates the expectation by Federal and state governments that the ongoing cost of maintenance will be borne by local municipalities in support of the investment. Brookline GreenSpace supports this environmental project and the premise that ongoing essential maintenance will be required.

## ALLIANCE LOBBIES FOR ENVIRONMENTAL BOND BILL

On March 13th, the Brookline GreenSpace Alliance joined concerned citizens from across the Commonwealth, in a rally at the State House in Boston as part of a Lobby Day for the Environmental Bond. This event was sponsored by a coalition of over 160 non-profit conservation organizations, cities and towns who are concerned about the decline in funding for environmental initiatives in Massachusetts.

The Environment Bond - H. 4909 "An Act Providing for the Preservation and Improve-

ment of the Environmental Assets of the Commonwealth" would provide the necessary capital authorizations for the Executive Office of Environmental Affairs and its departments for the next five years and beyond. The Bond will provide much needed funds for state environmental programs including watershed protection, flood control, farmland and habitat conservation, pollution prevention, grants to communities and stewardship of state forests, parks, beaches and trails. Brookline could greatly benefit

from this funding. For the latest updates on the Environmental Bond Bill, as well as a

sample letter to legislators and a fact sheet, go to <http://www.massland.org>



Nancy Smith, and Tina Oddleifson speaking with a Legislative Aide from Representative Brian Golden's Office. Photo by Bruce Wolff.

# CLIMATE CHANGE AND WATER - LOCAL IMPLICATIONS

Recent comments from the Arnold Arboretum and the New York Botanical Garden indicate that landscape preservationists in the northeast, including those working in the public sector, need to think about how to maintain our mature landscape given climate change. Climate change is a separate issue from holes in the ozone layer and acid rain. And climate change isn't just about milder winters, warmer spring and fall and hotter summers. It is about interrelated global changes in climate patterns of sufficient magnitude to urge analysis and response.

Climate change is well documented, and its specific cause is known (an increase in CO<sub>2</sub>). What isn't completely understood is why it is accelerating and what, if anything, we can do about it, though a number of conservative proposals are under consideration by many world governments. Perhaps the first step is to defend against the damage to the extent we can while scientists,

public policy experts and politicians are sorting out the bigger picture.

Temperate forests all over the world are under pressure, a vastly larger natural resource than the tropical rain forests. Climate change is most intense along the eastern coast of North America. The average annual minimum temperature is being destabilized. One long-term result, the sugar maples of New England, which require a period of dormancy when the average night-time temperature drops to a certain level, may not survive if current patterns continue. The tulips we enjoy in the spring also require a period of dormancy. And we've all seen flowering trees bud out prematurely only to be hit by a killing frost.

Of more general concern, drought patterns have changed significantly over the last 25 years. In the eastern U.S., the dry spell used to be August - October. Over the last several years we have experienced severe droughts in the

winter and spring. Water, a basic requirement for plant survival, is the most common limiting factor on the growth of trees. If there is a water deficit, stress occurs - well before the visible symptoms of wilt, scorch, defoliation. Not only can water stress cause premature death of plants, but plants under stress are more susceptible to insect and disease, for example birch borer and the parasite wooly adelgid that is killing our eastern hemlocks. If these drought patterns continue or intensify large old trees will have to be irrigated in order to survive, and in many cases the resources - natural and financial — and planning necessary to save, for example, 300 year old white oaks may not be available.

What can we do about these implications of climate change? First, irrigate mature plantings sensibly. That means: the right amount of water delivered correctly for highest efficacy, without waste. There are many resources available to assist

individual property owners with specific questions. Call or email the Conservation Administrator at Town Hall, or contact the Arnold Arboretum, or contact the Forestry Department at U. Mass, Amherst for instructions on the best approach to watering mature trees and shrubs.

Second, plant sustainable, drought resistant trees and shrubs. There are many examples appropriate to home gardens: Amur maple, European hornbeam, American smoke-tree (*Cotinus obovatus*), Eastern yellow birch and Scotch broom are a few. Once again, contact the experts for more possibilities. (For more information on the phenomena related to climate change, see [www.pewclimate.org](http://www.pewclimate.org) or [www.ipcc.ch](http://www.ipcc.ch), among others.)

*(Information for this article was obtained from the Arnold Arboretum, the New York Botanical Garden and Radcliffe Seminars Landscape Program.)*

The Brookline Community Fund invites you to...

## GREENSIDE OUT

BROOKLINE ENVIRONMENTAL STEWARDSHIP INITIATIVE

Please join us for an afternoon feast of information, resources and refreshments and learn about the Brookline Environmental Stewardship Initiative

SUNDAY, APRIL 21

4:00-6:00 P.M.

THE BRANDEGEE ESTATE, ALLENDALE FARM, BROOKLINE

Paperless RSVP for Greenside Out!

Please let us know if you plan to attend by contacting us by telephone: 617.566.4442, e-mail: [bcf40@bellatlantic.net](mailto:bcf40@bellatlantic.net), on our website: [www.brookline-fund.org](http://www.brookline-fund.org), or by mail: Brookline Community Fund, 40 Webster Place, Brookline Village, 02445. We will send you directions for the Brandegees Estate.

The Brookline GreenSpace Alliance is our community partner in the Greenside Out Environmental Stewardship Initiative.

### THIS IS THE SEASON!

Earth Day, Arbor Day, Springtime!

This is the time of year your local park's friends group is likely planning a clean-up to welcome the season. Join in! It is a great opportunity to enjoy the renewal of nature and to greet friends not seen since fall. Show your appreciation for our Town's natural resources by pitching in.

Please contact the Alliance office at 617-277-4777 to learn more about local Earth-day activities .

# SECRET LIFE IN VERNAL POOLS

Remarkable native animals live in Brookline, but some are seldom seen. Among our knock-'em-over species is the Spotted Salamander, also known as *Ambystoma maculatum*. It is a soft, satiny animal, with alert eyes, tiny toes, and an appealing rounded belly. It is about as long as your hand, maybe longer. Oddly, for an animal that lives underground and only comes out at night, its gray-black skin is sprinkled with dazzling daffodil-yellow spots.

Vernal pools are key to the survival of these salamanders, and also their Achilles heel. A vernal pool is the only place where spotted salamanders can reproduce. Other species that cannot reproduce without access to a vernal pool include wood frogs, fairy shrimp, spade-foot toads and other, rarer, species of salamanders.

A vernal pool is a small, depressed basin that fills up with rain and snow water sometime in the fall, holds that water through spring, and usually dries up sometime in the summer. It has no fish. Trees and shrubs may grow in a vernal pool. In summer it may not look much different from the rest of the forest floor.

Some vernal pool habitat can be protected under Massachusetts law, but only if someone documents the vernal pool and submits it for certification to the Natural Heritage and Endangered Species Program of Massachusetts. We have one certified vernal pool in Brookline, in the D.Blakely Hoar Sanctuary. We are looking to certify more. Spotted salamanders and wood frogs have been found near Lost Pond, and reported near the golf course. There may be ver-

nal pools and spotted salamanders in other parts of Brookline, including on private property. The easiest way to prove that a temporary pool serves as a vernal pool habitat is to document breeding spotted salamanders or woodfrogs.

On certain rainy nights in very early spring, most often in March, the mole salamanders migrate overland to their vernal pools. They do this, in synchrony, all across the region. Afficianados call this a "Big Night" and head out in the rain, with flashlights, to watch. Although it is possible to gather documentation needed to certify a vernal pool by day, Big Night is too good to miss.

On Big Nights the salamanders gather in vernal pools "in congress". They dance. They rub against each other, they

swoop up to the surface, they duck under each other. The males deposit pyramidal packets of sperm. The females pick up these spermatophores and, a few days later, lay gelatinous egg masses on underwater vegetation. Soon after, the adults leave the pool.

If all goes well, some of the eggs will hatch into long tadpoles with fluffy external gills, undergo metamorphosis, and leave the vernal pool before it dries up. There is much that can go wrong, even without human encroachment.

Vernal pools that are certified and also lie in certain wetland resource areas can be protected under the Wetlands Protection Act. Surface water standards offer protection from filling or adverse discharges. However, some vernal pools still need the protection of a town by-law. Brookline

has not passed such a by-law. In addition to protection, certification helps us identify local populations of amphibians and invertebrates, increases public awareness, could lead to voluntary protections, and provides unusual entertainment.

To learn more about vernal pool certification, contact the Massachusetts Natural Heritage and Endangered Species Program at 508-792-7270 or visit their web site at [www.state.ma.us/dfwele/dfw/nhesp](http://www.state.ma.us/dfwele/dfw/nhesp).

*Gail Fenton wrote this piece at the request of Alliance Update. Fenton is a member of the Brookline Conservation Commission and of the Brookline*

A typical wooded vernal pool.  
Photo by Marian Lazar



# BROOKLINE GREENSPACE POLLS THE CANDIDATES

Much town staff time and volunteer time go into the creation of master plans for Town open space. These expert plans are created with taxpayer dollars for Selectmen's use, to guide and inform improvement priorities and assure thoughtful, cohesive outcomes that reflect the common good. As part of an extensive public process, master plans are always reviewed by boards and commissions as the final step of the approval process.

As a Selectman, how would you incorporate master plans such as the Open Space Plan and the Emerald Necklace Master Plan (and others now in progress) in your decision making process?

## JOHN BASSETT

Plans are not laws. They are guides but are not usually intended to be blindly followed. Plans are our servants, not our masters.

Plans can be good starting points. The work of past planners should instruct the thoughts of present decision makers. Wheels should not need to be reinvented. Plans can be useful as targets. Want a reaction from the public? Want reactions from other agencies or committees? Show them a plan.

Some plans are better than others. When was it last updated? Who made it? Was there public participation? What has been past performance of and reaction to a plan? Plans are like carpenter's planes. If kept sharp and used adroitly, plans can help achieve pleasing and successful results.

## JOE GELLER

Having served on the Board of Selectmen for the past nine years, I have had many opportunities to review and consider master plans in decision making. Most notably, implementing recommendations in the Task Force on Open Space Report, utilizing the Emerald Necklace Master Plan while considering improvements to the Muddy River, and reviewing the Open Space Plan as it related to Hall's Pond and other open spaces in Town. I work as a Landscape Architect, a profession that relies on planning to accomplish its objectives. One of the problems with many traditional master plans is the static nature of the written plan. I am currently the chair of the Comprehensive Plan Committee involved in one of the most dynamic master planning processes the Town has participated in. The goal of the plan is to engage as much of the community in the process and then to identify short and long term goals that can be accomplished. The plan will be reviewed yearly, and updated as needed. When I was the Chairman of the Board of Selectmen, I worked with the Community Development Department to develop this approach to the plan. I am very excited about the process to date and the potential this plan has for future decision making in the Town.

## GIL HOY

One of the most important objectives of any Selectman should be to work on and implement plans to develop and maintain a clean, green, safe, accessible and well-maintained network of open spaces for passive and active recreational uses. We cannot underestimate the value of our open spaces on quality of life issues, recreation, property values, and the many other ways in which they positively touch our lives.

A significant amount of expert staff and volunteer time goes into the creation of master plans, which should serve as the blueprint for our planning. These plans are created with taxpayer dollars and thoughtful expert analysis. The Open Space and Emerald Necklace Master Plans, for example, should be used by the Selectmen to guide improvement priorities because they promote thoughtful, cohesive outcomes that reflect the public good.

Master plans lose their value unless the Town supports the process and puts real teeth into them. Such plans, after all, do not have the force of law, and no monetary appropriations are tied to them. It is, therefore, up to the Town government, most particularly the Selectmen, to implement these plans, which must provide the road map for our open spaces.

## JON KARON

Our master plans provide important guidance in making future open space decisions. The results of such careful study should not be ignored. The quality of any master plan, however, is directly related to the level of community involvement in its creation. The broader the public participation in creating any master plan, the better it will address the needs of our community. Therefore, the more community involvement there was in creating the plan, the more weight I would give its conclusions. The narrower the level of citizen involvement, the less likely I would be guided by its conclusions. Moreover, master plans should be living documents. We should not be afraid to re-examine previous conclusions as conditions change. This does not mean that our policies should be guided by the prevailing political winds. It does mean that a continuing dialogue on open space issues and how best to address them is to everyone's benefit. As a Selectman, I would be committed to involving our citizens early in the planning process and promoting continuing discussion of open space issues.

# THE PONDS OF OLMSTED PARK

## A RESTORATION WORK IN PROGRESS

Leverett Pond in Olmsted Park, named for Thomas Leverett, a 17th century abutting landowner, is continuing its history of change. More than a hundred years ago (1880-1895), Leverett Pond was transformed by Frederick Law Olmsted from a small pond in a swamp to the first in a “chain of picturesque fresh-water ponds, alternating with attractive natural groves.” The purpose was two-fold—create a stormwater drainage system for much of the area, and add parkland for abutting homes. Construction of the massive stormwater drainage system, known as Village Brook, and Leverett Park, as it was known then, was supervised by Alexis French, Brookline’s first Town Engineer. This project was, of course, part of Olmsted’s massive undertaking now known as The Emerald Necklace.

Over a hundred years later

the Brookline portion of Olmsted Park continues to be transformed. Following the prescriptions in the Emerald Necklace Master Plan, approved by Selectmen in 1991, Riverdale Parkway—a pothole-filled redundant roadway adjacent to Leverett Pond, has been changed into a bicycle/pedestrian pathway, largely with the use of Federal Community Development Block Grant funding. The elimination of the roadway and automotive traffic has provided acres of useable parkland, a safe and environmentally benign place for passive and active recreation. The Allerton Overlook—at the intersection of Allerton Street and Pond Avenue, has been reopened with a grant from the Mass. Historic Landscape Preservation Program. The recreation of Olmsted’s design at the Overlook has restored access and opened the view to

Leverett Pond. Following Olmsted’s planting plan, beds of yellowroot, viburnum, and fragrant sumac have been added, as well as beeches, oaks and tupelo.

In the next few years, more change is planned. To increase stormwater-carrying capacity and improve water quality, the Muddy River Project (see [muddyriverproject.org](http://muddyriverproject.org)) will dredge from Charlesgate to Ward’s Pond. This will remove from Leverett Pond the sand bar of accumulated sediment at the Village Brook outfall under the Brook House. The project also calls for the reshaping of one of the islands in Leverett Pond to reflect Olmsted’s original plan.

South of Leverett Pond is Willow Pond, long defiled by oil leakage from the Town Garage on Kendall Street. Willow will also be dredged to remove sediment and debris. The bridge between Spring

Pond and Willow Pond will be restored and the shoreline replanted to restore the historic designed landscape. (Spring Pond is noteworthy as habitat for a rare species of fish—the three-spined stickleback.)

At the same time, eroded shorelines will be stabilized and the Babbling Brook between Ward’s and Willow Ponds will be redefined and landscaped. With the redemption of the Babbling Brook, one of the most refreshing sounds of nature will finally be restored to this urban Pleasure Ground.

*Hugh Mattison wrote this article at the request of Alliance Update. Mattison is Co-Chair of the Friends of Leverett Pond, a member of the Muddy River Environmental Master Plan Committee, the Olmsted Design Review Committee, and the Town’s Tree Planting Committee.*

# Fisher Hill Reservoir

## HISTORY OF AN UNTAPPED RESOURCE

Fisher Hill Reservoir is symbolic of Boston’s and Brookline’s shared history. In the early 1880’s, the Boston Water Board realized that water consumption was rapidly increasing and bought the Fisher Hill site from private owners for use as a reservoir.

The beginnings of the Fisher Hill Reservoir were mired in controversy. In 1885, two members of the Boston Water Board were accused of conspiracy to defraud Boston by delaying purchase of the 10-acre site for several months. The result was that the price more than doubled. Through-

out the summer of 1885, an investigative committee held twenty-six sessions and examined forty-four witnesses. These hearings resulted in a conclusion that there was no fraud involved in the transaction.

To set the stage—the 1880’s were a period of explosive growth for Boston. Boston was annexing surrounding towns (Dorchester, Roxbury, Charlestown, etc.); Brookline was widening Beacon Street, developing Fisher Hill, Pill Hill and Corey Hill into residential

*(continued on page 9)*



Pumping station at Fisher Hill. Photo by Marian Lazar

# STORMWATER (CONTINUED FROM PAGE 1)

difficult and expensive to manage the rain that lands on them. Brookline's open spaces are vital to the water cycle, because they are the parts of town where the ground is still open to water, where rain can soak into the ground and not rush off to the river. Where it is appropriate, open space can even be enhanced and engineered to accept rainfall from surrounding paved areas, reducing the amount of water that the storm drains must carry. Brookline is still in the early stages of these kinds of forward thinking with respect to engineering programs, but bit by bit, with enough open space, we can make changes and begin to reverse the effects of the "man-made" water cycle.

## WHAT CAN A HOMEOWNER DO?

Many of us own property in Brookline, and there are a lot of things we can do to try to reduce the effects of our own impervious surfaces. Ideally, all homes should try to keep as much of the rain that falls on their property in their own ground. Here are a few ideas to think about on your property and in your neighborhood:

- Let your roof drains run out over lawn and gardens, or even dig a trench to a drywell. Try not to run the water right out to the driveway or street. Better yet, put a rain barrel at the bottom of your roof drain and save the water for your garden later, when it needs it. If you are adding or reconstructing a driveway, try to minimize its size, grade it away from the street, and consider using permeable material such as pavers or gravel instead of pavement.
- Plant less grass and more trees. Grass is actually not very permeable. Trees and shrubs hold and absorb the most water. They also need less fertilizer, pesticides, and "mowing!"
- Hand-water the trees on your property and your street in the summer. Street trees are a significant stormwater benefit. (Use a garden hose, not a sprinkler, and direct the hose to an area inside the drip line or to the mulched area under the tree. A dripping hose running for many hours is often most effective. If in doubt, check with the town's tree warden, Tom Brady, (617) 730-2088.)
- Avoid dumping anything into a storm drain—for example, dog waste. This is a major pollutant that citizens' will have to pay to eliminate from the Charles and the harbor.
- Finally, support open space protection in Brookline, the Commonwealth, our nation and beyond!

*Kate Bowditch wrote this piece at the request of Alliance Update. Bowditch is a member of the Brookline Conservation Commission and of the Brookline GreenSpace Board.*

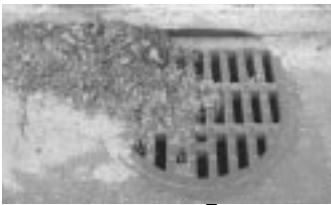
## DOWN THE DRAIN—STORMSEWERS AND OPEN SPACE

Did you ever wonder how wetlands get their water? How ponds fill up? Where brooks begin? In Brookline, the answer very often is storm

drains. And where do storm drains come from? As the town developed, naturally flowing streams were channeled into underground culverts or drains, which ultimately flow into the Charles. Storm drains allow water to flow from the streets into these culverts. How do the drains get to the Charles? Some flow directly into the

Charles River. Some, like the Village Brook Drain, flow into the Muddy River, which then empties into the Charles. Others flow into the town's few remaining open brooks. Two of Brookline's Conservation Sanctuaries, Hall's Pond and the D. Blakely Hoar Sanctuary, receive their water supply from storm drains. Unfortunately, storm water

from the streets carries pollutants, including sand, salt, dog waste, and gasoline and oil from cars. **Anything thrown onto the street or into storm drains will end up in the nearest wetland, pond or stream, contaminating them.** Sand obstructs the natural flow of water and fills in ponds and streams.



Down the drain and into a green space.  
Photos Marian Lazar



Sand from street drains obstructs Saw Mill Brook.



Many acres around Coolidge Corner drain into Hall's Pond. Reclamation efforts are underway to prevent the pond from filling in completely.



Several street drains empty into the Hoar Sanctuary.



# EXCERPTS FROM ERIN CHUTE'S MONTHLY OPEN SPACE REPORT

## PARKS AND OPEN SPACES

### Longwood Playground

The Town has finalized negotiations with Carol Johnson Associates, Landscape Architects, for the Longwood Playground/Lawrence School Grounds construction bid package. The conceptual plans for the park are complete and were voted on by the Design Review Committee on Monday March 4, 2002. The Park and Recreation Commission will review the plans on Monday March 11, 2002 at 6:45pm.

### Dane Park

The Division coordinated the removal of 4 old telephone/cable poles that bisect Dane Park. The removal was part of a clean-up effort to increase the standard of care to Dane Park. The Town is looking into educational and appropriate signage for unique rock formations within the park and is planning a major removal of materials, includ-

ing concrete and poles, that have been in Dane Park for many years. In addition, the Division flagged wetlands within the park, which are being incorporated into a site survey plan.

The Friends of Dane Park and the Town are looking to collaborate on a grant proposal this spring for a natural resources inventory and master plan for the park.

### Muddy River Restoration

The Town of Brookline held a public meeting for the Muddy River Restoration Project DEIR (Draft Environmental Impact Report) on Tuesday March 6, 2002. (see page 3)

### Larz Anderson Park

A design for replacing the dilapidated chain link fence along Newton Street with a low two rail wood fence (similar to the fence along Goddard Street) is planned.

## FORESTRY

### Tree Planting Contract

The TPC approved the

spring tree-planting contract for approximately 160 trees. The contract was completed and put out to bid in February. Due to the severe drought conditions, the Town is investigating options for watering the Town street trees this spring.

### Sanctuary Restoration

Northern Tree, Inc. provided services to prune and maintain trees within Amory Woods, Olmsted Park and D. Blakely Hoar Sanctuary.

### Streetscape Beautification Program

The Division held a meeting among its Landscape Architects, Operations Manager, Director and a Horticulturalist from Boston to talk about improving the quality of the Towns new and existing streetscape flower planters. As a result of the meeting, three separate color and design schemes were completed.

## CONSERVATION

### Climate Change Action Plan

The Climate Change Action

Plan was completed and presented to the Board of Selectmen on February 12th. The plan is available on the Town's website at: <http://www.townofbrooklinemass.com/Conservation/climate-change.html>. The next phase of the project is to secure funding to complete a strategy (cost/benefit analysis) for implementation. The Division is looking at the feasibility of NSTAR partnering (financially) out of their Community Outreach program.

### Stormwater and Erosion Control By-Law

The Division is working with the Conservation Commission, Engineering Division and the Planning and Community Development Department on a Stormwater and Erosion Control By-Law that would be presented to Town Meeting in the Fall.

## UNTAPPED RESOURCE (CONTINUED FROM PAGE 7)

neighborhoods, and, jointly with Boston, also constructing the Muddy River Sanitary Improvement, later to become part of Olmsted's Emerald Necklace park system. Along with residential and commercial development came the need for infrastructure, much of which is hidden from casual view.

A September 1885, Brookline Chronicle editorial laments that land taken by Boston for the Reservoir cannot be taxed and that, moreover, it is "unwarranted" that Boston contractors should be paid to work in Brookline.

To supply water to this new "high-service" reservoir, the Chestnut Hill Pumping Sta-

tion was built in 1886. Two steam engines, each capable of pumping 8 million gallons a day, were installed to pump water a mile through a 2 1/2' pipe to the new reservoir. To give a sense of the massive size of these engines—the foundation for each was a solid block of concrete 14 feet thick, with anchoring bolts 1 3/4" thick. The source of this water was the Cochituate and Sudbury River aqueducts. (This was before the construction of Quabbin Reservoir, our current water source.)

The reservoir itself is rectangular, 500' by 295' at the top, surrounded at the top by an 8' gravel path, with a

16-million gallon capacity. It was completed late in 1887, and started service to Boston in January 1888. Boston used the reservoir until it was made obsolete by the Quabbin Reservoir, sometime after the 1930's. The MWRA currently owns the property but has given the Town of Brookline a right of first refusal to acquire the property.

Today, the 9.9-acre site is under discussion for use by the Town for housing, as well as active and passive recreation. A Master Plan is being created to address the many issues and options. While the Chestnut Hill Pumping Station, along with the Chestnut Hill and Brookline Reservoirs, are

now inactive they, like the Fisher Hill site, provide visual amenities.

The future of the Fisher Hill Reservoir is still to be decided. Brookline GreenSpace urges citizen interest in this important process which will determine the future use of one of our community's last remaining "unused" open spaces.

*Hugh Mattison wrote this article at the request of Alliance Update. Mattison is Co-Chair of the Friends of Leverett Pond, a member of the Muddy River Environmental Master Plan Committee, the Olmsted Design Review Committee, and the Town's Tree Planting Committee.*

# THE MUDDY RIVER—History Revisited

The opening paragraph of the Vision Statement of Phase 1 of the Muddy River Rehabilitation Project eloquently describes Olmsted's achievement:

"The Emerald Necklace is an internationally renowned 19th-century linear park system and a nationally significant work of landscape architecture, sanitary engineering, and city planning. Frederick Law Olmsted Sr., the leading landscape architect of that era, created these public spaces to solve a difficult series of public health and civil engineering problems and provide verdant scenery to "bring peace and refreshment to the city dweller." The spine of the Emerald Necklace, the Muddy River, a 3.5 mile linear system,

integrates glades, dells, sweeping vistas, reflecting pools, the Babbling Brook, bike paths, walkways, tree-lined parkways, shorelines and "beaches." This unified system of linked parks is one of the most uniquely designed historic urban waterways in the nation."

As planning for this massive restoration project nears completion, it bears reflecting on how we arrived at this place. Quoting from the Brookline Chronicle of October 29, 1881, "A very large proportion of the (typhoid) cases have occurred in the immediate vicinity of the brook, and nearly all on the low ground through which it runs. The stream is filthy beyond description and the stench arising from it at times almost

unbearable." This describes the problem Olmsted was hired to solve. His vision, however, went farther, here understated, "A possible course now suggested for the Muddy River would look towards the preservation of the present channel with certain modifications and improvements adapted to make it permanently attractive and wholesome..." ("Suggestions for the Improvement of the Muddy River" from Sixth Annual Boston Park Department Report, 1880).

The integrity of Olmsted's vision is striking. Quoting from an Olmsted report in 1868 while he was planning a Parkway in Brooklyn, New York, "Civilized men while they are gaining ground

against certain acute forms of disease are growing more and more subject to other and more insidious enemies to their health and happiness and against these the remedy and preventive cannot be found in medicine or in athletic recreations but only in sunlight and such forms of gentle exercise as are calculated to equalize the circulation and relieve the brain."

The result of Olmsted's work in Boston was a system of linked parks beginning with the Back Bay Fens and ending ultimately at Franklin Park. While Olmsted's plan turned a disease laden 'no man's land' into a democratically conceived oasis, within 15 years of the completion of the project



A 1907 view of the Muddy River from a point below Longwood Bridge, looking toward Sears Chapel. Photo courtesy of National Park Service, Olmsted National Historic Site.

## HISTORY REVISITED (CONTINUED)



The Muddy River today.  
Invasive phragmites at right.  
Photo by Marian Lazar.

the reversal had begun. The damming of the Charles River in 1910 forever changed the Fens, which Olmsted had conceived as a restored natural tidal marsh. In keeping with changing tastes and interests, beginning in 1910 Arthur Shurtleff redesigned the Fens over a period of years, including active recreational facilities and ornamental gardens in place of Olmsted's more contemplative design. No attention was given, however, to ways to mitigate the impact the damming of the Charles had on Olmsted's design solutions for the Fens.

More destructive yet, by 1924 permanent road surfaces were installed along the length of the Riverway. As the romance of the automobile and the post-war boom economy progressed, by 1955 the Boston Parks Commission had agreed to sell a section of

the Riverway to Sears Roebuck for installation of a parking lot, forcing a section of the river underground and creating a break in the park system. During the 1960's a variety of engineered responses to increasing traffic further intruded on the parks.

All these actions, and numbers of others with similar impact, have taken their toll. Olmsted's vision to create the experience of being in the country—a brilliant design achievement, has been eroded. And the roadways and parking lots which we all believe indispensable today have had the additional unintended consequence of polluting the river, ponds and streams that comprise the Emerald Necklace system of waterways. Further, invasive species such as the reed phragmites are choking the river, destroying habitat and impeding views of

the water so important to Olmsted's plan.

Despite years of advocacy by devoted park lovers—leading to the national Olmsted movement beginning in the late 1970's, progress has been slow where restoration of the waterway is concerned. Finally, as with all things essentially political in nature, a collaboration of interests and jurisdictions working in a complementary fashion came together and now appears poised to take the necessary steps to restore Olmsted's waterway. Not surprising, the impetus was largely economic—and its corollary, vested self-interest: two major storms in the late 1990's were so devastating to public and private property that the need for a solution could no longer be denied. Bear in mind that Stony Brook and the Muddy River combined drain 13,200 acres, or

almost half of the Charles River basin. If no action is taken to dredge the waterway and reconnect the river to increase water flow, it is just a matter of time before more floods occur.

While much of Olmsted's vision is lost forever, much remains, and much can be regained. A walk through Riverway Park on a late spring day is convincing; the values that drove Olmsted's vision are as American as those that are, at root, driving the restoration of the parks today. The continuity of that vision, even if deterred for a time, speaks volumes about Olmsted's inspiration and character, and our own.

*Alliance Update is particularly grateful to Alan Banks, Lead Ranger at the Olmsted National Historic Site, for his assistance in preparing this article.*

The Brookline GreenSpace Alliance supports placing the Community Preservation Act question on the ballot. This important question deserves a full discussion and consideration by Brookline citizens.

**PHOTO CREDITS**

- Page 1 Canada Goose, Marian Lazar  
Brookline Reservoir, Jean Stringham  
Storm drain, Marian Lazar
- Page 2 Lilacs, Jean Stringham

**THE NATIONAL PARK SERVICE SEEKS VOLUNTEERS**

Frederick Law Olmsted National Historic Site  
99 Warren Street, Brookline  
Contact: Mark Swartz (617)566-1689 ext. 216

**CORRECTIONS**

The photo that appeared in the Winter newsletter, of the Tea held at Minna Hall's House, was taken by Bruce Wolff of The Friends of Hall's Pond.

The Winter newsletter introduced the Alliance's new Executive Director, Tina Oddleifson. In that introduction we incorrectly indicated that Tina was previously with the Nature Conservancy for 12 years; her tenure there was seven years.



Third time win for GreenSpace team in Brookline Foundation Spelling Bee. From left to right: Gary Gross, Sara Smith and Pat Harvey. The team was sponsored by Century Bank and Trust Company. Photo by Jean Stringham.

THANKS TO SOFTWARE TOOL AND DIE FOR HOSTING THE BROOKLINE GREENSPACE WEBSITE - [WWW.BGSA.NET](http://WWW.BGSA.NET)  
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**SPECIAL ELECTION ISSUE**

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