

Wellesley Water Presentation to the Wellesley Green Collaborative

Presented by Raina McManus on behalf of the Friends of Brookside, September 16, 2013.

The Friends of Brookside, (formerly the Longfellow Pond Neighborhood Association), is a neighborhood group located on the eastern end of town in the areas around Longfellow Pond, Rosemary Brook and the Town Forest. The group has been broadening and growing in the last 4 years, revitalized while becoming an active neighbor-partner in Wellesley Country Club's facilities' improvement plans. The real silver lining has been in learning about our important natural resources, especially our water.

So in very layman's terms, here's what we've learned about our water, with facts and figures supplied by our Water Department and our Natural Resources Commission.

Where does our water come from?

- 44% comes from the MWRA (Massachusetts Water Resources Authority)
- 56% comes from our own Town Water Wells
- These figures fluctuate season-to-season and year-to-year.
- Also, in case of emergencies, we are connected to and can share our water with Natick, Needham, Weston and Wellesley College.

There are Several Benefits to having Multiple Water Sources:

- We get Diversity, Flexibility and Reliability
- MWRA can supplement our own water during Droughts and Peak Summer Usage, and of course,
- During an Unforeseen Emergency

The MWRA Water comes from the **Quabbin and Wachusett Reservoirs** in Central and Western Massachusetts, and from the **Ware River**

There's no limit to how much water we can source from the MWRA, but the MWRA water does cost our town more than our own water.

Where are our Town Wells Located?

- We currently have 9 Water Wells
- Three of our Wells are located near Morses Pond
- Six Wells are located along and near Rosemary Brook

The well water is replenished from the surface and ground water in what the DEP refers to as Zones I, II, and III; Zone I being the closest to the well.

The wells also draw off of our two underground alluvial aquifers, the Waban and Rosemary Brook Aquifers, on the west and east ends of town, here and here...

Refer to Groundwater Resources Map:

<http://www.ci.wellesley.ma.us/pages/FOV1-0001FDAB/7.3.pdf>

- Over by Morses Pond... the grey area is the actual aquifer, surrounded in pink by the protection area, and
- Over by Longfellow Pond and Rosemary Brook, again the grey aquifer and the pink wellhead protection area.
 - Note that the aquifer on our end of town extends into Needham
 - In fact, 60% of our aquifer is located in Needham
 - Needham does not draw off of this aquifer for its own water
 - This is Wellesley's resource
 - The DPW is aware of and monitors activities in Needham
 - Turns out it's a common occurrence for natural resources to cross town lines
 - Note Dover's wells on map on west end of Wellesley...

How does the DPW manage our Water Supply?

These facts are taken from our Town's Drinking Water Consumer Awareness Report from 2012 that each residence receives annually in its water bill. The report is also available online: http://www.ci.wellesley.ma.us/pages/wellesleyma_dpw/wat/Consumer Book 2012_pages.pdf

Our Water is tested for purity:

The EPA mandates monitoring and testing, and our DPW conducts those tests under approved techniques from the Safe Water Drinking Act.

- Over 1,600 chemical analyses are conducted by independent labs
- In addition, Wellesley staff performed more than 6,000 chemical analyses to insure proper operation of Wellesley's treatment facilities
- *You can read all about these extensive tests and results in the report.*

The DPW also treats our well water at 3 water treatment facilities, again under regulatory approved methods:

- There's a Lead and Copper Treatment Technique that the DPW follows
- Acidity is removed through aeration
- Iron/Manganese minerals are removed
- The Water is Fluoridated
- It's disinfected
- *And much, much more - again, have a look at the Consumer Report!*

The clean water is then stored in 2 large holding tanks with a capacity of nearly 6 million gallons, and pumped into distribution (that's to us!) in over 140 miles of street mains.

The DPW continually undertakes improvements and initiatives to improve yield:

- Wells are upgraded and replaced as necessary
- Pumping and filtration systems are always attended to
- Water Mains are replaced as necessary
- They are always looking for and fixing leaks
- The DPW is a Joint Partner with the NRC and the neighborhood in the Fuller Brook Park Restoration
- They've been very responsive to our group's concerns.

What can threaten the availability of a Clean Water Supply?

- Use of Pesticides
- Contamination in Storm Water Runoff (hold up DPW brochure)
 - What's storm water? It's water that falls from the sky as rain or snow and is not absorbed into the ground. Therefore it flows over pavement, landscaped surfaces... impervious surfaces... picking up debris, chemicals, dirt and pollutants that can wind up in our water bodies.
- Spills and Improper Storage and Disposal of Toxic Materials
- Reduction in Wetlands or poor management of Wetlands where water amasses to replenish our sources
- Reduction of Permeable Surfaces
- Overuse of our Resource
- Activities above the Aquifer, like the removal of trees and vegetation,
- **Fact from the Consumer Awareness Report: *The Aquifers in our town have a high vulnerability to contamination due to the absence of hydrogeologic barriers, like clay, which can prevent contaminant migration.***

Now fortunately for us, Nature has provided some of her own defenses to protect water, and our NRC has borrowed one of those natural defenses in their Rain Gardens, which can be properly positioned in our own yards to collect storm water from our driveways before it gets into our water resources. The Rain Gardens mimic actual Wetland areas, which can capture, store and filter out toxins before they reach our water. See the NRC website for how to easily create a Rain Garden, and for lots of other valuable conservation information: http://www.wellesleyma.gov/Pages/WellesleyMA_NRC/index

There are other things Nature has given us to protect us from ourselves:

- In addition to Wetlands, we have Riverfront Areas, Trees, Soil and Vegetation.

These resources are protected under Government Regulations, they are deemed so important to our water. We have...

Town Laws:

- Zoning Bylaws
- Wetland Protection Bylaw

Federal and State Laws to Protect our Drinking Water:

- Clean Waters Act
- Safe Drinking Water Act
- Wetlands Protection Law
- Riverfront Act

There are Zoning Overlays that regulate Land Use Practices in Protected Areas. These are:

- Well Head Protection Areas
- Water Supply Protection Districts
- Aquifer Protection Areas

(Watershed Drainage Basins Map showing Water Supply Protection Districts in Wellesley:
http://www.ci.wellesley.ma.us/pages/WellesleyMA_NRC/WatershedDrainage.pdf

We also have Wastewater, Storm Water and Septic Systems to properly manage contaminated water.

All of these regulations and systems are overseen locally by our:

- Department of Public Works
- Board of Health
- Wetlands Protection Committee
- Natural Resources Commission
- Planning Board
- Building Inspector
- Selectmen

So as you can see, there are many employees, boards and regulations governing our water.

And in addition to all this, the DPW gets input from the State on how well we're managing our water.

In adherence to the Clean Waters Act, the Massachusetts Department of Environmental Protection, (MassDEP), conducts a

SWAP Report, which stands for: Source Water Assessment and Protection. They do one on each municipality. Wellesley's was last done in October 2002...

And not surprisingly Wellesley gets good grades, but as in everything we do, there are always ways to improve.

The SWAP Report details land use in the protected wellhead areas (Zones I, II and III), and makes specific recommendations based on each town's unique situation and resources. This report is online, and it's really worth a look.

SWAP Report 2002:

<http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3317000.pdf>

Hopefully this report conveys a little about how our town's water works and how it's protected. Four years ago many of us took our water for granted. While we'd always considered ourselves environmentally aware, we didn't know exactly *where* our water came from, fully understand the value of wetlands, and only *kind of knew* what an aquifer was. And sadly, we're not alone. At our neighborhood cookout this summer a friend asked me where our aquifer was, and I said, "We're standing on it right now. It's the cracks and crevices in the ground below us that collect and hold our water." Our neighbor was shocked, and kind of amazed, that we work, play, and live right above our water supply.

When I first started researching the Brookside Area I came across this little fact in a Wellesley history book: Wellesley has always been known for its clean water. In the 1800's Wellesley water from Rosemary Brook was bottled and shipped to Boston for drinking.

Wellesley water has always had a great reputation! Let's continue that legacy, as we all have a stake in clean water. Preventing contamination protects our health and saves money. Together we can enlighten people and make them fall in love with water. Thank you.

Online:**Wellesley Green Collaborative:**

http://wellesleyma.gov/Pages/WellesleyMA_SustEnergy/GreenCollaborative07262013-2.pdf

Friends of Brookside: friendsofbrookside.org

Town of Wellesley Water and Sewer:

http://www.wellesleyma.gov/Pages/WellesleyMA_DPW/wat/index