



Stormwater Spotlight: Boston Harbor

Monday, May 24 at 12 pm

Hear from the Stormwater Heroes
who protect our local waterways!



QUESTIONS AND ANSWERS FROM THE WEBINAR

Q: What is the role of trees in all of this?

A: Trees play a role in stormwater management by soaking up precipitation when it hits the ground, preventing that water from running along pavement. They are frequently used in combination with other methods, like rain gardens and permeable pavement, in order to have a greater effect. Old growth trees are especially effective. Trees have the added bonus of reducing heat and making walking more comfortable for pedestrians.

Q: Andy, what is the O&M like for those infiltration pipes that are being piloted? I can imagine that those pipes may be clogged frequently.

A: Andy Hrycyna, Mystic River Watershed Association: The trenches have observation ports and can be maintained in connection with routine (required) catch basin cleaning. For more details, see this O&M document:

<https://www.dropbox.com/s/h081ygppav736p7/CZM%20O%26M%20-%20final-.pdf?dl=0>

Note: Hung Pham: Andy, as part of the pilot I suggest that you look at sediment accumulation and blockage in the subsurface trenches. That way if it works it can be promoted to agencies such as DCR and MassDOT.

Q: Why does the Alewife Brook stink? Is there something I could lobby Cambridge to do to fix this, possibly through our participatory budgeting mechanism?

A: Andy Hrycyna, Mystic River Watershed Association: Unfortunately one major reason that Alewife Brook has generally poor water quality is the continued existence of so-called “combined sewer overflows” on the stream. Leads to the introduction of untreated sewage in large storms. The reason it continues is the huge expense it would require to completely separate sewers in Cambridge. To their credit (and to the credit of the Clean Water Act) the City has done much work to improve conditions, on the scale of \$100s millions. See: <https://www.cambridgema.gov/Services/combinedseweroverflows>

Note: Caroline Reeves, Muddy Water Initiative: Including Biochar in the Alewife brook holding pond might help with the stink—love to talk about this environmentally friendly solution!

Q: Where can I find projects to help with? Especially on invasive species removal and trash?

A: Andy Hrycyna, Mystic River Watershed Association: We are launching a trash project! We hope to focus on Alewife, among other water bodies. Please feel free to email me: andy@mysticriver.org. You can always check with your local watershed organization for upcoming cleanup projects.

Q: What does the building blue framework mean and who was the designer and author for it?

A: Janet Moonan, Charles River Watershed Association: CRWA worked under a grant from CHT Foundation with a group of advisors and authors (cited in the document). For those unfamiliar with this, it's a document that communities can use to become familiar with LID and obtain information on how to employ it locally (through guidelines, best practices, and some examples) <https://drive.google.com/file/d/1Qkr5UbGzlo4bLHZ4hf9DNOOnSSwE08otn/view?usp=sharing>

Q: How is CRWA working with Harvard on the ERC? Are they coordinating with ACA and the Harvard Task Force on the greenway?

A: Janet Moonan, Charles River Watershed Association: We are having direct meetings on an ongoing basis with a variety of involved parties including but not limited to those folks you mentioned above, as well as Tishman Speyer, Harvard decision makers leading the project, State Rep, local elected officials, etc.

Q: Do Rain gardens/water retention areas need a lot of sun? Are they compatible with use by children playing in the same open space? i.e. kicking a ball, playing catch, etc.

A: Janet Moonan, Charles River Watershed Association:

Re sun - depends on the plantings

Re safety - sometimes they need guardrails due to slope and depth of area

Q: Any trenches in Belmont feed into the Mystic River?

A: Andy Hrycyna, Mystic River Watershed Association: No trenches in Belmont yet, but hopefully some day.

Q: Thanks Andy, do you have a link to a better description (the engineer in me is curious) and how much one of these stormwater trenches cost? For Andy: Are standard Pipe Trench Infiltration systems more desirable and longer lasting rain gardens?

A: Andy Hrycyna, Mystic River Watershed Association:

For more technical details see this detail:

<https://www.dropbox.com/s/ke6a1k8j5v7lmd2/TrenchDetail.pdf?dl=0> and this O&M document: <https://www.dropbox.com/s/h081ygppav736p7/CZM%20O%26M%20-%20final-.pdf?dl=0>

Q: What are the soils that absorb Phosphorous? Do similar soils exist for Nitrogen compounds?

A: It's not so much a question of the specific type of soil, but more a question of how well the soil can soak in water. Whether the water soaks into the soils or not supports different mechanisms that work to remove phosphorus or nitrogen from the stormwater. Highly permeable soils (like sandy soils) tend to be sought after for removal of phosphorus. The mechanism for removal of nitrogen from stormwater takes place in wet conditions, so soils with low permeability are often desired where nitrogen is targeted for removal. Low permeability can be engineered into the installation, though, so even a site with highly permeable soils can be designed to remove nitrogen.

A: Andy Hrycyna, Mystic River Watershed Association: On soils, I'm no expert, but I know that phosphorus is much more readily captured by soils, especially specific particle sizes etc. Nitrogen is much more mobile across the landscape. Vegetated swales remove both phosphorus and nitrogen.

Q: How difficult is it to get municipalities to comply with stormwater best practices? Are they more likely to install storm drains because they are cheaper?

A: Patrick Hogan, Neponset River Watershed Association: I believe this question is asking whether municipalities are more likely to install storm drains or green infrastructure/best management practices. If that's correct, I would say it's not really an either/or decision - storm drains and green infrastructure/best management practices often work directly with each other. Storm drains are often used to capture/route stormwater and green infrastructure can be designed to receive that flow. In my experience, municipalities have been very interested in including green infrastructure wherever possible; they've realized the added value they provide and usually like to have a list of potential installation sites that can be completed as the situation allows.

Q: Do you use laws to force municipalities to comply with stormwater regulations?

A: Patrick Hogan, Neponset River Watershed Association: The municipalities in our area are subject to the terms of the EPA's Small Municipal Separate Storm Sewer (MS4) General Permit. That permit contains requirements for municipalities that are designed to improve and protect stormwater quality and, by extension, surface water quality. As the permit issuer, the EPA has enforcement authority for these items. While we're not able to enforce the laws ourselves, being familiar with them and regularly discussing them with the municipalities can be a motivator for action.

Q: Can homeowners do anything to reduce stormwater runoff??

A: Yes! The short answer is not to spray or dump anything on the ground that you wouldn't want in your river. Homeowners with green space can replace lawns with native vegetation that is better at soaking up precipitation, and also get a rain barrel to collect roof runoff. Check out MA native plants here: <https://www.nativeplanttrust.org/for-your-garden/>

Q: Any resources to look up about CSOs that you recommend?

A: Andy Hrycyna, Mystic River Watershed Association: Cambridge CSO information: <https://www.cambridgema.gov/Services/combinedseweroverflows>. For information on the new sewage notification law: <https://www.massriversalliance.org/sewage-right-to-know>

Check out these organizations' work!

- Charles River Watershed Association: crwa.org
- Neponset River Watershed Association: neponset.org
- Mystic River Watershed Association: mysticriver.org
- Greater Boston Trout Unlimited: Greaterboston.tu.org