Urban Stormwater Workgroup Meeting

Tuesday, March 19, 2019
Meeting Materials and Calendar Page: Link

Welcome and Review of November Meeting Minutes.

Norm Goulet, Chair. Attach A.

Announcements and Updates

- Phase III WIP Timeline: Draft Phase III WIPs are due April 12. Major challenge for all states to address climate change. VA is including numeric projections for climate change in Phase III WIPs.
- Upcoming Webcasts: February 28 recent webcast on PAHs in stormwater. Upcoming webcasts on vegetation management and PCBs in stormwater will be announced for registration sometime in April.
- The BUBBAs: Submissions due April 5. Tell your friends, neighbors, colleagues!
- Watershed Data Dashboard was scheduled, but Emily Trentacoste was called away unexpectedly. Data Dashboard will be presented at an upcoming spring USWG meeting.
- Tom Schueler mentioned issues with shoreline management expert panel report. This was revised last year to provide nutrient credits for the first time. Doug Proctor from Stantec believes there are mistakes in the nutrient credit estimates, and that issue is being worked at with Lew Linker and CBPO staff. Participants interested in the issue should contact Tom Schueler (watershedguy@hotmail.com) for more information. There will be more talks in April with Jeff Sweeney and Lew Linker.
    - Chris Swanson: VDOT is willing to share the information behind the error in crediting. WTWG will discuss at April 4 (through James Davis-Martin), and may want to bring back to USWG depending on outcome of discussion.
    - Norm Goulet: WTWG can't just decide to change the credits on their own. I understand that VA is relying heavily on this practice in their WIPs, but we need to follow the correct process in addressing credit estimates. Let's have a discussion offline with you, me, James Davis-Martin, and Jeff Sweeney prior to the April 4 WTWG call.
- Cecilia Lane: At the last meeting, we discussed USWG priorities posting to calendar page. I just wanted to remind all that this still needs to be posted.
- Cecilia Lane: Last June, EPA Region III presented on research done on regenerative stormwater conveyance (RSC) projects in Anne Arundel County, MD. We had follow-up discussion about widening the geographic scope of the research and have toured other RSC projects in early February in Fairfax county also.

Stream Restoration Research Presentation
Tom Jordan, SERC.

As part of the USWG's ongoing efforts to provide frequent stream restoration research presentations, Tom Jordan will present findings from is work on the multi-scale impacts of stream restoration on water quality. There is a publication available for this research (link)

Looking at Muddy Creek watershed restoration, including floodplain restoration through restorative stream conveyances (RSCs). Discussion of nutrient, sediment fluxes, water quality, and iron-oxidizing bacteria colonies (iron flocculate) in restored stream reaches. Iron oxidation reduced dissolved oxygen (DO) in restored reaches. Found that raising water table during restoration resulted in greater connection to floodplain, and death of some bankside trees as their root conditions became more waterlogged. Ongoing investigation of iron transport from groundwater into stream. Study of the following changes post-restoration found decreases in P, sulfate, TSS; increases in DOC, oxygen; no change in nitrates compared to pre-restoration.

Discussion:

- Norm Goulet asked about assessing benthic communities for functional uplift.
    - Tom Jordan: Not myself, but some researchers at SERC are investigating. There is not much information yet, but we have anecdotal evidence of more amphibians and other wildlife in the stream. There is a lot more diversity of habitat types in the stream now, so it seems logical that the biological communities must be responding in some way.
- Tom Schueler: Did you monitor flow through the reach?
    - Jordan: We saw some increase in peak flows and base flows in the restored stream, but not as much as we thought we would see. During storms, floodplain flow would allow some of the excess flow to settle in the floodplain. However, it's a complicated picture.
- Sally Claggett: Would you go back to beaver ponds' effects on streams?
    - Jordan: We've looked for stream changes 5 years after building beaver ponds, but we'd like to go back and look at ponds more than 5 years after building. We see a lot more flooding with beaver ponds than we see with RSCs.
- Jason asked about long-term stability monitoring of the RSC.
    - Jordan: VT is looking at some RSCs and stability over time.
- Cecilia Lane: Is stream drying more common with the RSCs and the pool construction?
    - Jordan: We hoped to not see so much drying, but we have a drying condition. It may be due to vegetation in the floodplain taking up more water, but we're not sure.
- Claggett: Before restoration, ammonium and suspended solids are not a problem, and immediately post restoration those measures increase but the problem is treated after several months. Why is that?
    - Jordan: We think that connecting to the floodplain and pooling of water, those extra constituents may be coming from the floodplain soil as it gets washed back into the stream during storm flows.
- Sally Claggett asked about iron flocculate.
    - Jordan: We see small amounts of iron floc in pre-restoration streams, but after restoration we see a large increase. We think it's coming from the soil, or the sand that is introduced. Some RSC designs also use iron stones which could be another source of iron. But we're not sure.

WIP Data Dashboard
Emily Trentacoste, EPA

NOTE: This presentation was postponed to the April USWG meeting.

Improving Urban Tree Canopy
Julie Mawhorter and Sally Claggett, USFS

Julie and Sally provided an update on current progress towards meeting the urban tree canopy goal laid out in the 2014 Chesapeake Bay Agreement. They discussed efforts and opportunities to boost implementation of tree and forest projects in urban areas and potential collaborations with the USWG.

The tree canopy goal is to increase tree coverage by 2400 acres, which must offset additional loss through development in addition to increasing canopy. A tree canopy indicator is being developed. Sally discussed updates to BMP crediting for TMDL/WIP efforts in the three urban tree BMPs.

Useful tools for assessing and managing tree canopy practices include data on the Watershed Data Dashboard, Vibrant Cities Lab (vibrantcitieslab.com), and iTree, and new development of a mobile-friendly tree-tracking app. Strategies are to promote tree canopy through state and local WIP efforts, new funding and policy, and local engagement, emphasizing co-benefits, including in planning the Chesapeake Tree Canopy Summit 2.0 with LGAC.

Discussion:

- Sally Claggett: I still have a lot of Urban Forestry manuals that have great information to be disseminated. Please help spread the word and get these manuals into the hands of other practitioners.
- Jason asked who updates the data in ReVitalize.
    - Claggett: Anyone with knowledge of the tool can update the data for the tree tracking tool.
- Sally Claggett asked how the Forestry Workgroup can do more with USWG for tree BMPs, and member observation from states and local governments on tree canopy, and possible individual champions.
    - Norm Goulet: We just submitted northern VA's portion of the VA WIP and our biggest problem was tracking and reporting of tree BMPs. That's a major issue in northern VA. The state is shoving acres into the Phase III WIP for tree planting, and I wonder if they can grow enough trees by 2025. That is going into tree canopy.
    - KC Filipino: Hampton roads is planning on 4,000 acres of tree canopy. James Davis-Martin has been made aware of the issue given the overall tree canopy goal for the watershed. We may be walking this number back to something more realistic for Hampton Roads.
- KC Filipino: Are there resources for preserving trees, since loss is such a big factor?

    - Claggett: There is a new publication from the Center for Watershed Protection (CWP), "Making Your Community Forest Friendly." That's on how to protect, ordinances and messaging that works.
- Julie Mawhorter: We need to know from the local level what kinds of regulation or messaging is helpful for tree preservation.
- Julienne Bautista: We have heritage tree preservation regulations in DC. If a tree is over a certain circumference/age, anyone who is removing those trees would have to pay into a fund for planting of new trees. We know down to individual trees and locations through that program.
- Claggett: Does the revenue from that program go straight back to the urban forestry DOEE program?
    - Bautista: I'm not sure where the money goes, but our stormwater management funding does go in some part towards that kind of green infrastructure.
- Jason Bernagros asked if there are plans for trainings or outreach on those resources. Stormwater utilities that don't use these models or review their codes and ordinances, may not be aware of these resources.
    - Claggett: Good point.
    - Mawhorter: That's in our workplan to do additional trainings and collaborative workshops in the watershed, so we would be interested in working in those kinds of partnerships.
- Norm Goulet: We've come a long way but still have a long way to go.
- Julie Mawhorter: Anyone with follow-up ideas or examples of local tree champions in the stormwater world, please contact me and Sally.
- Tom Schueler: We are having a discussion on how to better use tree practices at our next stormwater retreat.

12:00 Stream Restoration Team Updates and Next Steps
Tom Schueler and David Wood, CSN

Tom and David discussed the current progress of the four stream restoration teams and the current vision for the path forward for each group. A similar update was provided to the WQGIT in March. There has been involvement from all states and EPA in all four groups. The goal will be one guidance document that includes all the updates from the stream restoration groups, as a one-stop shop for stream restoration.

Group 1 (Verification):

- Stream restoration projects are on 5-year cycles for verification, and will conclude in April with a memo on visual indicators and field inspection methods. Memo will include quantification of visual indicators, determining compromised projects and project failure.

Group 2: Crediting Outfall Restoration Projects:

- There will be a new protocol 5 to cover outfall restoration techniques.
- This group has general consensus, will reach final resolution in a month or so.

Group 3: Prevented Sediment Protocol

- Looking at field and office standardization techniques, working through erosion rates and curves
- Some disagreement over armoring definitions, and what should and should not be creditable.

Group 4: Floodplain Reconnection and Hyporheic Exchange (protocol 2 and 3).

- Will have some research presented in April USWG meeting on work in PA.
- This group is still in research phase, expected to run to fall 2019.
- Product will be a technical memo and potentially revised protocols 2 and 3.

Tom Schueler: We will take all the products to the USWG for comment when the documents are ready. This will probably be done by presentation and written comment from the workgroup.

Adjourned

Call Participants:
Norm Goulet, NoVA Regional Commission (Chair)
Tom Schueler, CSN (Coordinator)
David Wood, CSN (Coordinator)
Michelle Williams, CRC (Staffer)
Julienne Bautista, DOEE
Cecilia Lane, DOEE
Sebastian Donner, WV DEP
Alana Hartman, WV DEP
Alan Brockenbrough, VA DEQ
Ruth Minich-Hobson, VA DEQ
Jason Bernagros, EPA
Christina Lyerly, MDE
Margot Cumming, CRC
Jesse Maines, Alexandria
KC Filipino, HRPD
Ginny Sneed, AMT
Chris Swanson, VDOT
Liz Ottinger, EPA Region III
Adrienne Kotula, CBC
Mark Hoffman, CBC
Renee Reber, American Rivers
Heather Gewandter, City of Rockville