Wetland Workgroup Meeting Minutes
CBP Conference Room 305
Thursday, May 18th, 2017
1:00 - 2:30PM

Attendees:

Erin McLaughlin, MD DNR (Co-Chair)	Denise Clearwater, MDE
Amy Jacobs, TNC (Co-Chair)	Steve Strano, NRCS
Kyle Runion, CRC (Staff)	Jeremy Hanson, VT
Diann Prosser, USGS	Melissa Yearick, USC
Jennifer Greiner, USFWS	Alison Rogerson, DE DNRC
Ken Murin, PA DEP	Greg Noe, USGS

Action & Decision Items

- **Action**: Please vote on approval of the scope by May 24th, 2017 by an email to ajacobs@tnc.org, erin.mclaughlin@maryland.gov, and runion.kyle@epa.gov. Any concerns can also be brought to jchanson@vt.edu.
- **Action:** Runion will distribute 2016 wetland restoration data to state contacts for QA/QC before the wetland indicator will be updated.
- **Action:** Workgroup members should send any thoughts for future meeting speakers or topics of discussion to Jacobs and McLaughlin.
- **Decision**: The charge and scope of work for the next wetland panel are approved.

Updates

- Murin: The Pennsylvania technical guidance for assessment of riverine, lacustrine, and palustrine waters has been published as final. We expect the guidance to be in use early this summer. Webinars and classroom trainings are ongoing for the functional based protocols.
- Jacobs: TNC is collaborating with NRCS to establish about 60 acres of pollinator habitat on a TNC preserve. Most of these acres are wetland habitat. The project is part of a larger restoration effort on 350 acres of former marginal cropland on the lower eastern shore. We are experimenting in types of establishment procedures over the next few weeks. Please contact Amy if you are interested in participating or would like to learn more.
- Yearick: The Upper Susquehanna Coalition is hosting training workshops for soil and water conservation districts. Practitioners will be trained on wetland delineation and identifying potential restoration sites. We hope to make this an annual event.
- **Action:** Workgroup members should send any thoughts for future meeting speakers or topics of discussion to Jacobs and McLaughlin.

Effects of local shoreline and subestuary watershed condition on waterbird community integrity in the Chesapeake Bay, Diann Prosser
Diann spoke about the waterbird component of a larger study called the NOAA Shorelines Project. Diann's presentation is available here [insert hyperlink].

- The project aimed not only to improve scientific knowledge about effects of stressors in near-shore environments, but also to transition this knowledge to managers to have a practical effect. Four main groups focused on tidal wetlands, water quality, SAV, and macrofauna.
- Shoreline types of natural marsh, *Phragmites* marsh, rip-rap, bulkhead, beach, and forested were examined with land use types of residential development, and agricultural at three different spatial scales.
    - A *Phragmites* marsh was defined as any 25m stretch that was over 50% *Phragmites*.
- Waterbird community usage is measured by the Index of Waterbird Community Integrity (IWCI) which can easily compare habitats across estuaries. This index was also examined at spatial scales of shoreline (within 15m of shore), within 500 meters of the shoreline, and watershed.
    - The IWCI gives a sense of the waterbird community as in what species are there and how sensitive they are to disturbance. The species richness and abundance is weighted for sensitive versus tolerant species within the index and gives a waterbird habitat score to each area of shoreline.
        - Indices include: foraging breadth, nesting sensitivity, migratory status, breeding range, state listing, and native status.
        - IWCI scores ranged from 21 at most sensitive (Royal Tern) to 5 at least sensitive (Domestic Duck).
    - The project team realized during the study that resident populations are much different than migratory populations and the importance to distinguish between the two. For example, the Canada Goose was separated into resident and migratory categories. These categories were distinguished during surveying by differences in behavior including feeding patterns and toleration to disturbance.
    - Additional species were added to the original IWCI species database from Deluca et al 2008. 64 different species were found in the Bay.
- Study sites were selected to include salinity ranges throughout and both shores of the Bay. Each site was visited in two seasons of the year: late summer and late fall. Three visits were done per site per visit, with area counts done on the shoreline and open water. Calculations were done to develop the IWCI, species richness, and species density by subestuary and season.
- During the shoreline study, all shorelines in the study sites were delineated from GIS and ground-truthing.
- Non-significantly, we see a higher IWCI in forested landscapes over agriculture and developed and generally higher scores in the fall season.
- A univariate regression (alpha <=0.2) determined that in the summer, shoreline types of bulkhead, *Phragmites*, and natural marsh had a significant effect on waterbird communities. At the 500m scale, only wetland was significant. None were significant at the watershed scale. In the Fall, bulkhead, rip rap, and natural marsh were significant variables at the shoreline, and development at the 500m scale.
- A backwards model selection found that in the summer, shoreline types of bulkhead and *Phragmites* drive the IWCI score. In the fall, only bulkhead did so. When examining hardened

(bulkhead and rip-rap) to other, non-hardened shorelines, a significant relationship exists with regards to IWCI score with hardened being negative and non-hardened being positive.

- A threshold limit of bulkhead development on IWCI may have been found around 10%. More analysis is being done to this point.
    - Greiner: If a threshold can be shown, it would be very relevant to managers for possible inclusion into WIPs such as there are with imperviousness and fish.
- Invertebrate biomass is directly related to IWCI scores. Littoral fish communities also seem to rise with IWCI.
- In summary: "Birds Boycott Bulkheads," "Birds say Phooey to *Phragmites,*" and "Waterbirds are Wild for Wetlands."
- There is a hope for Estuaries and Coasts to devote a special issue in 2017 for impacts of coastal land use and shoreline armoring on estuarine systems with 14 research papers and one overview paper. We are trying to make this issue open-access.

<u>Discussion</u>

- Clearwater: Did the study eliminate any additional effects from activities such as boat traffic?
    - Prosser: We did count the number of boats but this was not included in the analysis. The impression from data collection was that this would not have a big effect.
- Clearwater: How were living shorelines counted?
    - Prosser: We were hoping to incorporate living shorelines but there wasn't a sufficient database to do so. Other studies found at first a decrease in benthic invertebrates from construction but a later increase. WE didn't have specific living shoreline included.
- Jacobs: When comparing areas that are bulkheaded to others with this index, do you feel the change was due to areas without bulkheads having wetlands or a difference in bird community in open water?
    - Prosser: It was a mix – there was a range of wetland percentages across subestuaries and other shoreline types.
    - Back River had highest IWCI. in the most developed at the watershed scale but a high amount of natural marsh and low amounts of bulkhead at the shoreline scale allowed for better habitat. Generally, watersheds with low development had higher IWCI scores but the shoreline impact was greater.
- Jacobs: How could this help prioritize wetland restoration? TNC & MD DNR online restoration tool for tidal wetlands could incorporate this information.
    - Clearwater: This could fit into co-benefits discussion by including these other parameters into the model.
    - Prosser: Could also help targeting within subestuaries because we know where waterbird communities are strong.
    - McLaughlin: Results from this study could allow more beach incorporated into a living shoreline project for diversity of shoreline habitat.

Wetland Expert Panel Scope and Charge, Jeremy Hanson

- The first Wetland Expert Panel (WEP) was charged with developing retention efficiencies for wetland restoration, creation, enhancement, and rehabilitation. Only recommendations for wetland restoration were made. This panel will be charged with the remaining three practices.
    - The first panel did make progress in other issues such as land uses, which will help the next panel.
- At the last meeting, Jeremy asked for volunteers to help write the scope of work for the next wetland expert panel. Thanks to Clearwater, Noe, McLaughlin, and Jacobs for their help in doing so.
    - Document is posted here for review.
- Expertise desired for the panel is outlined, including one member from the previous panel and a representative from NRCS.
- The panel should deliver a draft report within 12 months of convening. An additional 3-6 months are expected for partnership review, comment, and approval.
- **Action**: Please vote on approval of the scope by May 24th, 2017 by an email to ajacobs@tnc.org, erin.mclaughlin@maryland.gov, and runion.kyle@epa.gov. Any concerns can also be brought to jchanson@vt.edu.
- Clearwater: Feedback from previous panel: receiving early feedback from modelers on any restraints and being more expansive on the literature is recommended.
- An RFP will be released through Virginia Tech for groups to determine the panel chair, members, and methods of work including a literature review. The RFP budget is unknown but the last panel received about $45,000 of direct and indirect funds.

Update on the WWG's GIT Funding project, Kyle Runion

- The WWG's GIT Funding project: Increasing landowner participation in wetland restoration programs has a contractor in place and the award should be made by the end of May. A small committee of workgroup members has been working with the Chesapeake Bay Program's Web and Communications Team to develop the project. The Web Team has made great contributions to the project and has agreed to host the web page. The contractor will develop content and collect information about available wetland programs while the Web Team will host and integrate the site into chesapeakebay.net.

Wetland Indicator

- Data for 2016 wetland restoration has been received by CBP.
    - **Action:** Runion will distribute 2016 wetland restoration data to state contacts for QA/QC before the wetland indicator will be updated.

Meeting Adjourned

Tentative 2017 Meeting dates

July 20 – Guest Speaker – Brittany Haywood, DNREC (Wetland outreach work in Delaware)

Sept 14

Nov 16
Each of these meetings will take place from 1-3pm in CBP Conference Room 305, conference line: 866-299-3188, code: 267-985-6222.

Post-Meeting Note: Comments below from Jim Curalto and PA DEP have been noted for the record and will be conveyed to the panel as it forms and begins its deliberations. The provided comments can be addressed under the charge and scope of work as written. **DECISION**: The charge and scope of work for the next wetland panel are approved.

Responses to the WEP Charge Approval (Included to minutes on June 7th, 2017)
Jim Curatolo, The Wetland Trust:
Because you all only care about wetlands as they affect nutrient reductions it narrows the focus greatly to just that functional service "nutrient reduction".

I think you already have done good job and your BMP description is about as good as you are going to get:

"Non-tidal wetlands are simulated as specific landuses in the Phase 6 modeling tools (as "Floodplain" and "Other") with loading rates equal to pristine forest, which has the lowest nutrient and sediment loading rates among all Phase 6 land uses."

I suggest you just consider "created" wetlands just as wetlands, as they are wetlands. They have the same basic functions and will reduce nutrients the same. Nutrient reduction is about as basic a function you can get so don't over-think it. I doubt if you can tell a created wetland from a natural one once it matures, unless there is a water control structure giving it away.

You will find that enhancement and rehabilitation will not consistantly reduce nutrients in any one way. How will you ever tag each wetland differently in the model?

And you will surely have a tremendous pushback: Dr. Weixing Zhu (wxzhu@binghamton.edu) found that cattails are one of the best plants for nutrient reduction. I doubt there will be great support for planting aggressive species just because they reduce nutrients the best.

I strongly suggest you contact Dr. Zhu and get him on you panel (He is involved with CBP now I believe)

Ken Murin, PA DEP:
This email is to provide my approval, on behalf of Pennsylvania, for the Charge and Scope for the Nontidal Wetland Creation, Enhancement and Rehabilitation Phase 6.0 BMP Expert Panel.
We are providing this approval with some reservations and recommendations. In general, we disagree with some of the assumptions and behind the other expert panel reports. The expert panel should use reliable/defensible/peer reviewed/accurate data on water quality benefits for these types of "BMP's". The panel should also provide a methodical approach to filling these data gaps and include a

timeline for identifying and completing any relevant monitoring. Lastly, we agree with Jim Curatolo's response earlier today to "consider "created" wetlands just as wetlands, as they are wetlands." In Pennsylvania, as in other jurisdictions, we have state requirements that regulate restored, created, enhanced, etc. wetlands equally as natural wetland systems. It is not only infeasible to carve these systems out but also not practicable.
Thanks for the opportunity to comment.