**[Wetland Workgroup Meeting](http://www.chesapeakebay.net/calendar/event/24084) Minutes**

Chesapeake Bay Program, Conference Room 305

Thursday, July 28th, 2016

1:00-3:00 PM

**Participants:**

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| Amy Jacobs, TNC (Co-Chair) | Denise Clearwater, MDE |
| Erin McLaughlin, MD DNR (Co-Chair) | Alison Armocida, MD DNR |
| Kyle Runion, CRC (Staff) | Sarah Hilderbrand, MD DNR |
| Jennifer Greiner, USFWS  Paige Hobaugh, CRC  Greg Noe, USGS  Carol Petrow, EPA  Rich Mason, USFWS | Pam Mason, VIMS  Rebecca Diehl, DC DOEE  Melissa Yearick, USC  Alana Hartman, WV DEP  Michelle Henicheck, VA DEQ |

**Actions and Decisions:**

* **Action:** Ad-hoc group will form to continue the Agricultural Landowner Survey discussion and work on improving outreach and marketing in a targeted area(s): Yearick and Henicheck are interested. Jacobs or McLaughlin will initially organize. Others interested should contact Jacobs, McLaughlin, and Runion.

**Welcome and Updates**

* Mason: FWS has 12 projects in progress with partners for the remainder of 2016.
* Pennsylvania to share an update of their mapping project at our September meeting.
* Diehl: DC plans to publish an online geodatabase wetland registry and an update to the wetland conservation plan (1997) by the end of the year.
* Clearwater: Will be meeting soon with USDA to sync latest numbers on wetland gains for Maryland.
* Hartman: The new progress data collection milestone in West Virginia is happening now and will have more to share later.

**GIT Funding Update**

* The Wetland Workgroup submitted two proposals to the Habitat GIT for GIT Funding, one of which was forwarded to the next round of the process. The proposal is based on the agricultural landowner survey and creating a central online location to provide information for landowners as well as practitioners. Selections should be made by early September.

**Update on the Wetland Expert Panel**

* The Wetland Expert Panel is developing a report to inform the Phase 6 Watershed Model with regards to wetland restoration nutrient reduction.
* Panel decisions thus far: Include two classes of wetlands, floodplain and other. Cite and use reductions for TN, TP and TSS from the Shoreline Management Panel as reductions for tidal wetland restoration BMP.
* The WEP had two calls last week, where the group reached an agreement on removal efficiency rates from a literature review excluding constructed wetlands for wetland restoration: 42% TN, 40% TP, and 31% TSS (similar to the forestry rates currently in use). The panel is working on developing ratios of upland aces treated by physiographic region to apply these removal efficiency rates and hopes to have the report out in the coming weeks.
  + Jacobs: The Wetland Workgroup remains in their request to have the first review of the report, even if that review period is short.
  + The report will be distributed to the Habitat GIT, Water Quality GIT, and Ag Workgroup, among others.
    - During the comment period, any comments or dissentions will be included in the report. Dissent must be provided with a rationale and alternative solution.
* Contact [runion.kyle@epa.gov](mailto:runion.kyle@epa.gov) for additional info about the panel.

**Climate Resiliency Analysis**

* Zoe Johnson gave an introduction to the Climate Resiliency Analysis and Decision Making Matrix Project at the last meeting. The goal of the project are to advance CBP outcomes with respect to climate by developing a structured, science-based framework for climate-smart adaptation planning. The Wetland Workgroup was selected as one of the pilot groups. A kick-off call is scheduled for August 1st for the group steering committee, and a one day workshop will take place between November 14th and 16th at NCTC in Shepherdstown, WV.

**Landowner Survey Results**

* [Presentation available online](http://www.chesapeakebay.net/channel_files/24084/ag_landowner_analysis.pptx)
* Key Findings: Wetland program participation may be increased by increasing staff visitation, targeting younger Maryland landowners, and pitching an environmentally friendly focus.
* **Action:** Ad-hoc group will form to continue the Agricultural Landowner Survey discussion and work on improving outreach and marketing in a targeted area(s): Yearick and Henicheck are interested. Jacobs or McLaughlin will initially organize. Others interested should contact Jacobs, McLaughlin, and Runion.

**Optimizing design of non-tidal wetland restoration/creation to improve water quality function**, Greg Noe

* [Presentation available online](http://www.chesapeakebay.net/channel_files/24084/noe_2016_cbp_wetland_working_group.pptx)
* [Papers available at Greg’s professional page](https://profile.usgs.gov/gnoe)
* Study and recommendations focused solely on water quality functions with regard to hydrology. Biological conditions and habitat considerations are not included.
* Hydrologic connectivity is important to improve functions. Many created wetlands have a “bathtub” design, as this makes construction easier, but this disconnection to the stream reduces trapping of nitrogen and sediment.
* Microtopography (tortuosity and elevation) increases coupled nitrification and denitrification. Disking increases microtopography, which resulted in greater plant diversity, richness, and hydrophytic vegetation.
* Older wetlands develop soils conducive to coupled denitrification. Created wetland soils become less dense and more organic through time.
* Planting richness decreased denitrification (unexpected); obligate annual plant increased denitrification. Planting richness increased resilience of denitrification following disturbance.
* How to increase mitigation wetland functions:
  + Connect to stream hydrology
  + Build microtopography
  + Let age
  + Include annual plants
  + Plant more diverse for resilience to disturbance.
* Stream restoration in a low bench, two stage style have potential for greater deposition and trapping of sediment compared to higher benches.
* Breaching spoil levees as a form of floodplain connection may release phosphate from the previously disconnected floodplain soil. The presence of aluminum above ~20mg/g helped retain phosphate. This aluminum measure can serve as a screen for potential phosphate release.
* Floodplain diversion - the Morganza spillway on the Mississippi River opened in 2011 flood. The spillway trapped most of the sediment sent through the spillway. 1% of nitrogen and 2% of phosphorus loads from the Mississippi River were also trapped in the spillway.
* Location (physiographic region as well as existing soil biogeochemistry) is a huge factor of the effectiveness of created/restored wetlands.
* The USGS Chesapeake Floodplain Network: goal is to measure, predict, and scale the sediment/N/P fluxes of bank erosion and floodplain deposition for the entire watershed using an online viewer using regression models populated by GIS databases. Hope to be done in a couple of months.
* Sedimentation rates along Savannah, Waccamaw, Choptank, and Pocomoke rivers suggests that upstream tidal freshwater forested wetlands (TFFW) cast “sediment shadow” on downstream TFFW to Estuarine Turbidity Maximum.

**Adjourned**

(Not discussed during meeting) The Wetland Workgroup is working with USGS to use SPARROW to better understand the effect of nontidal wetlands on nutrient and sediment loads throughout the watershed. Please contact McLaughlin and Runion if you are interested in participating.