**Wetland Workgroup Meeting Minutes**

Chesapeake Bay Program Office

Conference Room 305A

Thursday, November 19th, 2015

1:00-3:00PM

**Particpants:**

Amy Jacobs, TNC (Co-Chair)

Erin McLaughlin, MDNR (Co-Chair)

Kyle Runion, CRC (Staff)

Patrick Raney, USC

Melissa Yearick, USC

Rob Brooks, PSU

Sara Scarborough, PA NRCS

Jill Whitcomb, PA DEP

Eileen Shader, AR

Chris Spaur, USACE

Joe Berg, Biohabitats

Denise Clearwater, MDE

Carin Bisland, EPA

Jeremy Hanson, VT

Quentin Stubbs, USGS

Greg Noe, USGS

Jenny Tripo, HRPDC

Lora Zimmerman, FWS

Jen Deeson, DOEE

Ken Murin, PA DEP

Carol Petrow, EPA

Jennifer Greiner, FWS

Cassandra Pallai, Chesapeake Conservancy

Mark Biddle, DNREC

Rich Mason, FWS

Michelle Henicheck, VA DEQ

Pam Mason, VIMS,

Elizabeth Byers, WVDEP

Peter Claggett, USGS

**Action Items**

* Action: Please everyone from the states look at our “Chesapeake Bay Wetlands Progress Toward Goals” (slide 3 of the WWG powerpoint distributed and posted online) and QA/QC. Return edits/comments to Jacobs colleagues.and McLaughlin
* *Noe*: Clarification: Management Approach 3, Key Action 2: Conduct research to optimize water quality functions in nontidal restoration designs. Action: Add this underlined language.
  + Action: The workgroup will complete participating entities and funding information for this workplan deadline of 12/17.
* Action: A call to speak about this possibility took place 11/20/15 including Raney, Claggett, Wolf, and University of Vermont
* Action: Raney, Wolf, and Claggett will use this information from U of Vermont call to refine the proposal and develop a one page summary.

**Project Updates**

* Brooks: Working on a series of short papers dealing with reference wetlands that will appear in the National Wetlands newsletter this spring. Lead articles deals with national registry on reference wetlands data.
* Jacobs: Working with DNR, FWS, and NRCS in a 275-acre floodplain reconnection project currently under construction. This is a part of a nine mile stretch of restoration projects on the Pocomoke River. Steve Strano recently completed a project of similar size on the same stretch of river.

**Update on CB Wetland Goals**

* Action: Please everyone from the states look at our “Chesapeake Bay Wetlands Progress Toward Goals” (slide 3 of the WWG powerpoint distributed and posted online) and QA/QC. Return edits/comments to Jacobs and McLaughlin
* Clearwater: Example: MD has 300 acre gain in wetlands in 2014, not 24 as listed. Discrepancy may be from federal fiscal year and (NEIEN) state fiscal year, but still too large a difference in acreage.

**Review of September field meeting**

* Visited a variety of sites on the MD eastern shore (9/10/15). See powerpoint (posted online) for pictures of site visits.
* Thanks to everyone who attended and especially those who led tours.

**Wetland Expert Panel (WEP) Update**

* Panel Charge:
  + Assessment and recommendation of wetland land use(s) for the Phase 6 Watershed Model
  + Wetland land use efficiencies
  + Wetland restoration and enhancement sediment and nutrient load reduction efficiencies (BMPs)
* Panel Recommendations (September)
  + Recommended two nontidal wetland land use classes: Floodplain (surface water dominated systems), and Other (ground water dominated wetlands)
  + Loading rate for wetland acres will be equal to TN, TP, and TSS for Forests
  + Tidal wetlands will not be a land use for the Phase 6 Watershed Model. They will be simulated in the Estuarine Water Quality and Sediment Transport Model.
* Wetland Mapping
  + The bulk of the CB watershed has not been updated since the mid-1980s. There are discussions on how to best update these maps before the final calibration of the model (9/1/2016, but maps due before then)
  + PA & VA voiced concerns about outdated, inaccurate, and inconsistent NWI data
  + PA DEP is considering a proposal from Upper Susquehanna Coalition, to be presented today.
* Panel Timeline
  + December 10, 2015 – Panel call to refine BMP definitions. Wetland Workgroup has been asked to review list of Wetland Restoration Practices after finalization from the WEP. A preliminary list is provided in Jacob’s powerpoint. Categories include Creation, Reestablishment, Rehabilitation, and Enhancement.
  + Draft of panel recommendations report will be reviewed by Wetland Workgroup in April 2016.
  + September 2016 – all model inputs must be final
  + October 2, 2016 – Final Phase 6 CB Watershed Model calibration
* *Clearwater:* Wetlands are unique in land uses as they required a demonstration in literature of loading rates. The loading rates for the Forest land use were developed through SPARROW analysis. Our request is that they (CBP modeling team) run a SPARROW analysis using wetlands, which could change the loading rate.
  + *Noe*: USGS put out a report that used wetlands in the SPARROW model. Will share this report with Runion.
* WEP is also talking over how to classify acres between various BMP categories (wetlands vs. stream restoration, etc.) for practices such as living shoreline. Hanson focusing on this with Bill Stack.
  + *Clearwater*: Already built into the modeling and tracking databases that these practices fit into certain categories. Would make tracking messy to change (But also need to accurately track the acres.)
* Tidal wetlands discussed with WEP, an offline conversation will be held soon to discuss potential with BMPs
* *Spaur:* Raising the water table in the floodplain to reconnect the floodplain can be labeled as a separate practice.

**Biennial Workplan**

* The next deadline for the workplan is to be due to the Management Board on 12/18 at noon.
  + Action: The workgroup will complete participating entities and funding information for this workplan deadline of 12/17.
* Review of Management Approaches & Key Actions. (see powerpoint or excel doc for the workplan).
  + *Spaur:* Should determine if we have met the no net loss goal in states other than Maryland. Could add status and trends as opportunities exist.
  + *Noe*: Clarification: Management Approach 3, Key Action 2: Conduct research to optimize water quality functions in nontidal restoration designs. Action: Add this underlined language.
* *Spaur:* Tidal wetland migration could fit in with Management Approach 4. Is this appropriate?
  + *McLaughlin*: Yes, but there may be a Management Approach 6 regarding climate change where this could fit better. The Climate Change Workgroup is working on this possibility.
* Management Appracoh 5: Based on STAC workshop “Enhancing capacity.” Identify and prioritize key actions, articulate clearly and develop a path forward. Potential workshop in January, before the final workplan is due, so we can refine at that time.
* Greiner: Other WGs using this time to reach out to interested parties lists that haven’t weighed in yet, including any advisory committee.

**Landowner’s Survey**

* The purpose of this project is to get a better understanding of why or why not agricultural landowners may be interested in wetland restoration and their views and obstacles on restoration. OpinionWorks won the bid through the Chesapeake Bay Trust (GIT Funding money) and will take that information to make recommendations that would help us with marketing.
* OpinionWorks canvasses most counties on MD’s eastern shore along with some counties in south central PA.
* Contact Jacobs or Runion if you have additional questions or input with regards to this data.
* Some preliminary results:
  + Almost half the landowners knew that they had some wetland areas on their lands.
  + ~20% said they had marginal ag land due to flooding/wetlands.
  + ~60% are aware of assistance programs meant to preserve and restore wetlands.
  + Consideration of participating in an assistance program was driven about equally by payment, creation of habitat, and improvement of water quality
* General observations
  + There are the expected reservations and suspicions about dealing with government agencies
    - But many ag landowners in MD are already engaged with government programs and understand that to receive government money, you’re going to give something up.
  + Very little outreach to these landowners
  + Programs must be linked to farmers’ underlying perspective that all land must be “useful.”
* The final report from OpinionWorks will be available in December.
* OpinionWorks is also facilitating a workshop in February that will take place in Wilmington.

**Wetland Mapping**

* PA is preparing for potential updates to their wetland data due to the outdated nature of their NWI data. The Upper Susquehanna Coalition has put together a pitch to improve PA’s (and possibly the entire watershed’s) wetland mapping based on an integrated GIS and statistical modeling platform which includes topographic predictive layers and uses available environmental data layer available to predict where missing wetlands (in other mapping data) might exist.
* Tasked with trying to quickly and accurately map wetland resources. We’re making use of available databases on environmental data layers that are useful in predicting how water lays in the landscape. Works by taking the locations of existing wetlands, viewing the data we have on those locations, then having a statistical model decide which attributes on the landscape are most predicative of wetland areas.
  + 10 meter resolution, derive topographic conditions at site and adjacent cells.
  + Have used SSURGO and STATSGO soils databases. Currently doing comparative work on the two databases in NY State to determine if detailed SSURGO database is necessary if the bulk of the variance is from the topographic data.
  + Using 800m PRISM climate data. Focusing on long term climate normal over the last 30 years.
    - Mean long term temperature and precipitation are important factors in finding fens in NY.
  + National Land Cover data used as both a predictor and a post-hoc filter to differentiate between existing wetland areas and areas that are likely to provide reestablishment or enhancement potential.
  + Approach doesn’t require much adjustment state-to-state, as long as the data is available.
  + Model runs on a 0 to 1 scale of probability of a wetland being present in the area.
* Products
  + Wetland polygon maps denoting shallow emergent marshes, scrub shrub, forested wetlands, derived at 10 m resolutions.
  + Can also infer restoration opportunities.
  + Give insight on which environmental factors are associated with wetland occurrence.
  + Wetland locations were predicted with a 91% correct classification rate.
* Questions
  + *Jacobs*: Have you performed this in any other physiographic regions? This area of NY is mostly piedmont
    - *Raney*: To date, we have been focusing on central NY as showed. We have crept into northern PA, and have had success in these areas.
      * *Brooks*: Agrees with Jacobs, interested in trying out this mapping option. Wetlands are more abundant and sizable in the glaciated regions compared to the unglaciated sections of PA.
  + *Brooks*: Would like to see a broader selection of typing then Heritage Program sites as they focus on high quality sites.
    - *Raney*: We are looking into obtaining other data sets to balance the program.
      * *Brooks*: We have a number of sites we can offer to help with this.
  + *Clearwater*: Though the model shows some wetlands as isolated polygons where they seems to be connected by streams. Can the model pick these up?
    - *Raney*: The focus hasn’t been riparian wetlands, but if that is what the workgroup wants, we can focus on those
      * *Biddle*: Probably a result of those streams being less than 10m wide – resolution issue.
  + *Claggett*: A lot of the measures are topographically derived… have you tried using the 2007-08 LiDAR data in PA?
    - *Raney*: Used for our own planning at site scale. Found that from a computing standpoint, it is a too cumbersome data set at the state/watershed scale.
  + *Claggett*: How does the model deal with herbaceous wetlands such as those of converted agricultural field? Are these excluded because they are not scrub shrub or forest?
    - *Raney*: Did specifically map emergent wetlands in first rendition of the model/paper with good success. Fairly accurate for PEM wetlands but still difficult to determine what is an existing degraded marsh and what has already been converted to upland.
  + *Claggett*: Commission vs omission in the errors?
    - *Raney*:Compared commission and omission to null model, low slopes, and hydric soils. In every case, the null model underperformed this technique.
  + *Stubbs*: What classes can you create in the final product (final raster/ feature dataset)?
    - *Raney*: Will be honing in on with WWG. Discussed major NWI classes as polygons for mapping. Sounds like there is a growing interest for riparian to join palustrine.
  + *Jacobs*: Timeline?
    - *Stubbs*: July is a target date for the classification for them to be created and handed to the modeling team in September.
      * *Claggett*: Need to deliver land uses by September 1, but there’s a lot of work to do before this, so we ask for all data by July 31 for our time to work with the data. Cuts the deadline by one month.
    - *Raney*: Need to have a contract in place by 12/15/15.
  + *Murin*: Do we have workgroup support in moving forward with this?
    - *Clearwater*: MD supports PA in receiving this, but MD would like to see a bit more of a robust model.
    - *Byers*: WV would be interested in receiving mapping.
    - *Biddle*: DE has NWI+, and we would be interested in the model but it would be cost dependent. Also shows support of PA receiving the update. Agrees that one Bay-wide map would be helpful.
      * *Mason*: Bay wide mapping would reduce QA/QC concerns. Lean towards mapping the whole watershed (VA).
        + *Claggett*: Specifically for VA, there is a data issue of about ½-2/3 being covered in LiDAR. Where LiDAR doesn’t exist, there is a degradation in quality of data.
      * *Claggett*: We are taking the best available data we have for the model so in states with more up to date data (DE), we might not expect a large change with any new dataset. If you are going to focus on PA, we should try to incorporate the available LiDAR. Working with the University of Vermont can help with the computing power. Would still be in the same price range but would deliver a higher quality result. Action: A call to speak about this possibility took place 11/20/15 including Raney, Claggett, Wolf, and University of Vermont colleagues.
      * *Biddle*: Could also pick and choose areas to cut down on cost as a Plan B.
      * *Clearwater*: Could also ask for funding to adjust the model to pick up small headwaters and coastal areas (if we’re being ambitious).
    - *Raney*: Most comfortable sticking with the general wetland types and restoration opportunities for this timeline.
  + *Greiner*: How to divide up the additional $40k of cost in PA vs. entire watershed? Acreage?
* *Jacobs*: Next steps: have conversation with U Vermont. Action: Raney, Wolf, and Claggett will use this information from U of Vermont call to refine the proposal and develop a one page summary. Email to Workgroup. States weigh in, show opinion (support for entire watershed, just PA, or none. Amy will email results and ask for response to questions.

**Next meeting in January**