Adaptation & Resiliency Working Group Quarterly Meeting
February 10, 2020 | 2:00p - 4:00p

Tawes State Office Building or by Conference Line
580 Taylor Avenue Annapolis, MD 21401 | Conference Room C-1
Conference Line: +1-385-352-0626 - Pin#: 394-149-822#

Chair: Secretary of Natural Resources, Jeannie Haddaway-Riccio
Coordinator: Allison Breitenother, allison.breitenother@maryland.gov

Attendees: Matt Rowe (MDE), Sandi Hertz (MDOT), Kate McClure (Sea Grant Extension), Dave Guignet (MDE), Catherine McCall (MDNR), Debbie Herr Cornwell (MDP), Jill Lempke (MDOT-MPA), Peter Goodwin (UMCES), Allison Breitenother (MDNR), Jeannie Haddaway-Riccio (MDNR), Charles Glass (MDNR), Jenn Raulin (MDNR), Megan Granato (MDNR), Nicole Carlozo (MDNR), Jaleesa Tate (MEMA), Susan Payne (MDA), Elliott Campbell (MDNR), Emily Vainier (MDNR), Jim Bass (Eastern Shore Land Conservancy), Christine Conn (MDNR), Kelly Collins Choi (MDNR), Matt Fleming (MDNR), Alex DeWeese (CAC), Sypridon Papadimas (DGS), Steve Farr (MCBP), Kevin Smith (MCBP), Carrie Kennedy (MDNR), Nancy Servatius (MPH), Jason Dubow (MDP), Bill Neville (Town of Ocean City), Katie May Loumann (UMCES), Anne Carew (UMCES), Amanda Yoskaitis (NWF), Paul Berman (citizen), Tim Lavalle (Commerce), Joe Abe (MDNR), Breck Sullivan (CBP), Taryn Sudol (Sea Grant), Steve Allan (MHT), Jen Didinger (Sea Grant Extension), Jim George (MDE), Karina Pujaru (MDOT-SHA)

Phone: Kevin Wagner (MDE), Hannah Brubak (Chesapeake Legal Alliance), Susan Gore, Matt Beck (MDE), Marcy Brasil (Delegate Stein)

Agenda

I.   Welcome, Introductions & Review of Agenda   **2:00 - 2:05p**
Secretary Haddaway-Riccio, will open the meeting, ask for introductions and seek approval of November 18, 2019 meeting notes.

Materials: November 18, 2019 Draft Meeting Notes

Jeannie Haddaway-Riccio opened the meeting at 2:01 with introductions. November 18 meeting notes were sent out after the last meeting with all edits included. Motion to approve by Jason Dubow, second from Susan Payne, accepted unanimously

II.   Partner & Member Updates   **2:05 - 2:50p**

Next meeting: Monday May 11, 2020 | 2:00 - 4:00p

Jennifer Dindinger, Steve Farr and Kevin Smith from the MD Coastal Bays Program will give a presentation and seek input from ARWG on the climate vulnerability assessment and development of a climate focused action plan.

- Question to ARWG: Are the activities we've laid out today in line with where ARWG envisions organizational climate adaptation efforts going. How does what you've heard today fit into the vision you and ARWG has for where climate adaptation efforts across the state are moving.

<u>Materials:</u> Presentation

Steve Farr - Watershed Coordinator at MCBP. MCBP is a 501c(3) located in Berlin, MD. It is one of 28 national estuary programs nationwide and is guided by a comprehensive conservation and management plan (CCMP) that includes over 200 actions to which they are committed. Their progress against these actions is monitored by the EPA. The CCMP's four main focus areas include water quality, habitat protection, fostering community and economic development, and providing access for recreation and navigation. The Maryland Coastal Bays Estuary is 175 sq mi but includes almost 250 mi of shoreline and 35,000 wetland acres. They are on the front lines of climate change, with shorelines that are eroding and wetlands that are degrading. The MCBP revised its CCMP in 2015 in accordance with a 10 year schedule and included a coastal resiliency chapter. However, they wanted to take a more holistic view of how climate change will impact the entirety of the CCMP. They've started a two part process with funding from the EPA - part 1 is a vulnerability assessment they completed in 2018 and part 2 is an action plan that they are currently developing. At the same time as they are working on these planning actions, they are also implementing resiliency projects on the ground, including a shoreline protection and wetland restoration project at the Assateague boat ramp, and the Tizzard Island project in partnership with DNR.

Jen Dindinger - Moderator for the planning process (selected by MCBP RFP). The vulnerability assessment and action plan phases each have five steps. They are using a process developed by EPA with an [online workbook](#) and a planning horizon of 25 years. The groundwork for the first two steps (communication & consultation and establishing a context for the vulnerability assessment) had already been laid through the CCMP update in 2015. They are evaluating 7 stressors - warmer summers, winters, and water; increasing drought and storminess; SLR and ocean acidification. The intent of this effort isn't to look at the entirety of what the vulnerability to each of these stressors is, but how climate stressors impact MCBP's achievement of its goals (for example, not looking at how SLR impacts a community, but how it impacts MCBP goal achievement). They had two big meetings where they brainstormed all of the risks posed by those stressors - 400 risks were initially identified, which they culled into a smaller list of 168 (much more than other estuary programs). Each risk was given a rating of low (green), medium

(yellow), and high (red) based on consequence, likelihood, spatial scale, time horizon, and habitat type. Eighty-six risks were "red" with the habitat goal having most risks that were "red." The online EPA tool was used to make the risk evaluation matrix; the group made a customized spreadsheet from there. The action plan is ongoing; they started it last year and are somewhere between steps 8 and 9a. The MCBP is a partnership, and they are working on getting partner re-affirmation of its goals. Based on capacity, they are only currently focusing on "red" risks. There are a suite of possible action responses, but they are primarily focusing on "mitigate" (most) and "accept." "Avoid" means rewriting the organizational plan around it; MCBP is not interested in this option at this point. Then looked to assign potential adaptation options for each risk to reduce likelihood, consequence, or both. Adaptation actions will then be assessed for feasibility, equity concerns, budgetary constraints, etc. They are looking now to see if selected adaptation actions may cover more than one risk (including those in yellow or green). From there, they will organize into tiers of actions.

Jason Dubow - Status of list of adaptation actions? *Jen* - Some risks will have more actions than others, all of them are still in draft.

Matt Rowe - Has the use of dredged material been considered as part of mitigation? *Kevin Smith* - some island restoration work has used dredged material, conversations are happening with USACE, whose dredging projects in this area often result in good coarse sandy material (for which there is competition from National Parks). *Steve Farr* - Dredged material is largely sourced from north of watershed, would be too expensive to move it to some projects (Tizzard Island).

Sypridion Papadimas - Were exposure, sensitivity, and adaptation capacity included as variables in the asset assessment? *Jen* - Sort of, based on how the process is set up. The first few steps look at what's coming, how vulnerability is based on the likelihood and consequence of the stressor, time, habitat type. Pieces of adaptation capacity and sensitivity may have been considered through this, but they weren't explicitly called out.

Charles Glass - Where did the process come from, the Climate Ready Estuaries Program? *Jen* - EPA's "Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans"

Jeannie Haddaway-Riccio - Part of the ARWG charge is looking at tools and plans that communities can use, so thank you for sharing this experience. *Jen* - Wants to also make sure what the MCBP is doing is in line with MCCC and ARWG.

Charles Glass - How are you financing adaptation actions? *Jen* - Step 9 will consider resources, such as grant and fundraising. This is sticky - how do we fundraise to best provide funding for the resiliency of the program? *Kevin Smith* - three ongoing projects are supported by MDNR's Resilience Through Restoration Program - Tizzard, Swans Gut and Selsey Road.

Nicole Carlozo (DNR) will provide an update on site locations, technical advisory group and efforts around the wave attenuation project. She will solicit input, suggestions and volunteers to assist in the effort
   - Questions to ARWG: 1) SLR Workgroup Participation: request for volunteers. 2) Where can this project inform other decision-making tools/processes? (ex: Saltwater Intrusion Plan recommendations) 3. How would ARWG like to be engaged moving forward

Materials: Presentation

Nicole: I mentioned this project at the last ARWG meeting, and am providing more information and soliciting feedback now. This project was funded through NOAA's EESLR program, designed to help researchers understand local vulnerability and risk solutions. It is also designed to develop data that is relevant to state and local end users needs. George Mason University (GMU) and The Nature Conservancy (TNC) are the project partners; an advisory group at DNR includes members from ARWG. Project goals: quantify benefits of natural and nature-based features (NNBF) (wetlands and SAV; also monitoring one or two living shorelines to quantify benefits of these features) and inform conservation and management under future SLR scenarios. We have a number of tools and processes to feed info into but we want to not just look at tools for today's conditions but consider future conditions as well. One of reasons behind the project is to better understand where NNBF and NNBF used in conjunction with gray infrastructure can help provide coastal resilience benefits. The project kicked off late last year and has four main objectives, two of which are focused on today:

1. Enhance understanding of flood protection capacity and performance of NNBF under extreme and chronic events
   - Site selection on western and eastern shores - TNC story map has a "recommended sites" tab that shows the sites being considered for initial monitoring, the "back up sites" tab has the rest of the sites considered. The project team is also considering monitoring at tidal freshwater wetland sites and will be investigating this spring. **Request to the group for site recommendations.**
   - Field-based NNBF and nearshore habitat monitoring
   - Field-based hydrodynamic modeling (water levels, wave levels, currents, etc) - before, during and after storm events

2. Increase understanding of statewide flood protection capacity of NNBF under current and future SLR scenarios.
    - Site level data being put through numerical models - GMU
    - TNC to re-run the SLAMM model, also testing new module that will show how SAV will be impacted, previously run on west coast
    - Will then run scenarios through models for 2 to 3 focus areas and conduct outreach to stakeholders
    - Results will be used to help form management strategies

Outputs will include spatial datasets, targeting tools, management recommendations, and communication materials. Project timeline - immediate goals are to select SLR scenarios and to initiate run of SLAMM model in year 1/ year 2 will be selection of next set of sites and scenario modeling/year 3 will be more site selection and scenario modeling plus outreach to stakeholders

There is a MTAG advisory group (1 meeting per year) plus workgroups (meet a few times per year) to help guide project. **Invitation to the ARWG members to participate in the workgroups:** SLR, living shoreline (spring-summer 2020), marsh model (fall 2020 - spring 2021), SAV model (fall 2020 - spring 2021), and risk reduction (2021), management actions (2021), data integration (2022), and scenario modeling/community outreach (2022).

Jason Dubow - Are parts of the management actions to include protection of uplands for marsh migration? *Nicole* - possibly, GMU will be looking at a "do nothing" scenario versus actions (protection, thin layer placement, etc)

Jennie Haddaway-Riccio - How will recommendations be framed? Will there be a menu of options, or more pointed recommendation of types of habitats would benefit from different project types? *Nicole* - Envisioning that certain areas will be identified as being very important for providing resilience, with recommendations on how to intervene as necessary to assist them. Not sure what the format will be.

Jim George - Is gradual SLR as well as extreme events being considered? *Nicole* - GMU can model a variety of different types of events but they haven't added SLR to their scenarios yet. They could look at today's extreme events as one scenario, with a second scenario of today's extreme events plus SLR.

Slides to be provided with meeting notes

III.   2020 Work plan Discussion   2:50 - 3:45p

The working group will have a discussion around the 2020 draft work plan, with focus on each of the 2019 recommendations (not in priority order)

    a. **Development of Adaptation Indicators** - *Allison Breitenother (DNR)*

This project is being conducted through a partnership with UMCES that is currently underway. The team has begun the research and inventory (phase 1) process. They had previously solicited feedback from the ARWG on the types of indicators, metrics, or approaches that should be considered with some response provided, but **more feedback is still welcome.** Phase 1 to be finished by the end of April, and the May meeting will include a project update. Phase 2 will start at the end of April, which will include stakeholder engagement to develop the scorecard and metrics to be used to measure progress. This was in direct response to MCCC request for this type of feedback. ARWG members will be asked for input in phase 2, including both content and other stakeholders to be included. Phase 3 will wrap up at the end of the year; another update is likely to be provided at the November meeting. Project progress is on schedule so far.

Carl - Emphasized the importance of this work as it relates to bond ratings. To the extent that MD can adopt meaningful metrics, the better we can assure that Maryland will retain its AAA bond rating. This is crucial, both in the future and now. The Board of Public works discussed Charles County's recent bond review. *Jim George* - Do we have specific examples of criterion to be used by bond rating agencies? *Carl* - No, they are either being kept secret or haven't been developed yet.

Breck Sullivan - The same process being used for Bay program project - we should work together on this and help each other instead of being competitive. Allison to set up a meeting to discuss further.

    b. **Phase III Scoping** - *Catherine McCall (DNR)*

Many workgroup members signed up to participate in the research phase, which will focus on the 6 sectors and 2 focus areas previously presented. In 2019 we spent a lot of time discussing evolution of adaptation work in Maryland and nationwide. Since then, we (MDNR) has had discussions with the UVA IEN team to see if they could help facilitate and provide support to the sector teams.   Work items will include figure out what actions are completed, which are still outstanding, and what other examples we can learn from. We are hopeful to move forward with getting that capacity under contract next month. In the last 12 years, the landscape of who is working on these issues has changed, and there is a groundswell of partners wanting to address them. Whereas the first 2 phases had higher level focus, next phase we are hoping to focus on integrated approaches to help local level needs and priorities. Co-leads for each sector and focus area will reach out to the rest of their team members in the next few weeks.

- Water quality - Matt Rowe, Jim George, Megan Granato
- Natural Resources and Ecosystems - Catherine McCall and Kelly Collins Choi

- Local Government Actions and State Service Delivery - needs a lead/colead - Jim Bass (added during meeting)
- Health - Allison Breitenother and Cliff Mitchell
- Natural and Working Lands - Susan Payne and Hans Schmidt
- Infrastructure and Transportation - needs a lead/colead - Sandy Hertz and Dave Guinet (added during meeting)
- Focus Area: Diversity and environmental justice - Nell Ziehl
- Focus Area: Climate jobs and training - MDNR is going to reach out to Dept of Commerce

Dave Guignet - Will the outputs from this communicate things that the public can do to help protect their community and homes, increase bond ratings, etc? *Allison Breitenother* - Are you asking if we are providing education around certain topic areas? This is a request we can make to Eco. *Matt Fleming* - They have done some of that. *Susan Payne* - That is what they are supposed to be doing. *Allison Breitenother* - We could ask them to help develop a suite of actions. *Matt Rowe* - Is economic resiliency being reflected in the outputs (flood insurance, etc)? Sandy Hertz - Dave Guignet should join the Infrastructure and Transportation group. Dave Guignet - Agreed.

c. **Further Saltwater Intrusion Plan recommendations -** *Jason Dubow (MDP)*

The plan was sent to the governor and general assembly at the end of last year. Two MCCC recommendations were selected as the most important for next steps: 1. Conservation easements to help farmers with transitional land uses (agriculture to salt marsh) 2. First phase of wetland adaptation plan to help make wetlands as resilient as possible and also seek opportunities for migration. MDP is hoping for collaboration and discussion of pathways forward. They are conducting interviews and facilitating discussion amongst those already working on these issues. For item 1 (easements) they will be reaching out to Christine Conn, Nicole Carlozo, UMD, George Mason (Kate Tully, Karen McMan?). The hope is to develop a coastal resiliency easement at DNR with a management plan associated. For item 2 (wetland adaptation plan) they will be reaching out to Elliott Campbell, looking at the EESLR study, and looking for more studies that would inform priorities for wetland preservation and upland preservation for marsh migration. MDE had a priority plan in 2006; trying to figure out if it should be updated. They are really just hoping to drive the conversation and then put together the next steps from there. They will reconvene saltwater intrusion advisory team for their input and keep ARWG informed.

Matt Rowe - We've looked into how climate is built into comprehensive plans; would it be appropriate to open up the water resources element? Water and sewer plans at MDE have to be consistent with comp plans, so that is where they can leverage. *Jason Dubow* - Maryland law requires a "water resources" element/theme in comp plans; climate change doesn't have to be involved but could be. MDP wants to help provide better guidance on this subject. *Matt Rowe* -

MDE would be happy to help. *Jaleesa Tate* - MEMA has partnered with FEMA and EPA on a training course to integrate hazard planning into local planning; she would like to be involved in these discussions too. State hazard planning will be starting in the next few months.

      Materials: <u>2019 Saltwater Intrusion Plan</u>

  d. **Nuisance Flood Plan review** - *Allison Breitenother or Sasha Land (DNR)*

MDP and DNR published guidance in November of 2019; local plans are due to MDP by October 2020. If asked, the ARWG will help with the review process, and could come up on the ARWG agenda. There isn't currently a review or approval process. There is a group developing the work flow for plan input and review, which will be shared once its available. More discussion to be had this fall.

Jason Dubow - MDP has received some plans. *Debbie Herr Cornwall* - Kent, Somerset, Salisbury, and Wicomico (finalizing). Plans are posted on each jurisdictions websites as required. *Jason Dubow* - Some jurisdictions may want input as they develop the plans, the ARWG may also want to read the plans to have better understanding of what resulted from legislation

      Materials: <u>2019 Nuisance Flood Plan</u>

  e. **Maryland Climate Leadership Academy** - *Matt Fleming (DNR)*

The last Board of Public Works included the recognition of 40 Certified Climate Change Professionals (CCPs) that have gone through the course and exam. To date, more than 450 people have completed the coursework. The next cohort is to be hosted by Anne Arundel County; it filled within a week (75 slots) and starts 2/20. A second cohort will be planned later this spring/summer. Conversations have been had with MDOT on transportation and infrastructure-specific training, there is also demand for a lower Eastern Shore shore training. There is a lot that has been asked of ARWG - thanks to all for involvement. Please continue to engage others from your agencies to help support these actions. **Invitation to ARWG to participate as teachers or provide case studies.** People who have completed the courses said they want to hear more state and local examples - think of this as a vehicle to reach local partners. Reach out to Matt or Allison if you are interested. Allison Breitenother showed the modules.

Peter Goodwin - Feedback is that content as well as networking has been wonderful. UMCES can help support by filling gaps on the academic side.

      Materials: <u>Maryland Climate Leadership Academy website</u>

  f. **Water Quality and Resiliencey Portfolio** - *Christine Conn (DNR)*

This strategy has been integrated into WIP and GGRA. The idea is to start building portfolios of projects that optimize water quality, resiliency and greenhouse gas benefits. Because MDNR is

developing it, the focus will be on natural or nature based restoration and conservation projects. The intent is to perform long-term planning to identify a set of projects in a geographic focus area. We could then start to see how they work together to avoid "random acts of restoration" and use this opportunity to investigate long term financing. We work on yearly budget cycles - with this we want to look at state budgets with long term lense, and do the same with our partners. This could open opportunities for additional leveraging - private sector, federal partners, etc. and give us a better handle on what the long-term benefits are for developing resiliency. The question now is how are we going to get there. Our approach will use the land conservation (TEAs) model as inspiration to create NNBF opportunity zones. We will do statewide assessment of where opportunities are, where the vulnerable assets are, and start drilling down into smaller geographic areas. From there we would reach out to those communities to see if there are interested partners, and also look to leverage with other state agencies. The partners would then focus at the community level to do long-term planning. Once complete, we would do the same process elsewhere. This is still in a formative stage and all ideas are welcome.

Charles Glass - What is the timeframe? *Christine Conn* - The scope of work is to be developed in this fiscal year, with the intent to engage public and private talent.

Charles Glass- How will this be funded? *Matt Fleming* - Federal funds and indirect. *Charles Glass* - I'm in.

Jason Dubow - Will the assessment going to be informed by the EESLR project? Christine Conn - The timelines dont jive for first phase but we can't wait until we have the perfect dataset.

IV.   Updates, Meeting Recap & Next Steps   3:45 - 4:00p

Allison - ARWG work plan is to be developed and issued for review as it is available. We are not sure yet when draft is required by MCCC. Next ARWG is Monday, May 11 from 2-4. All meetings have been updated on the MCCC website.

<u>Next MCCC Meeting</u>: Tuesday February 18, 2020. 1pm - 3pm - MDE (1800 Washington Blvd. Baltimore, MD 21230).

*** November ARWG meeting has been moved to Monday November 16th due to a full commission meeting conflict. ***

Joe Abe - The nuisance flood plans could be a great check on review by bond rating agencies. Jason Dubow - Is having a plan good enough? Who decides what is good enough as an indicator to check a box? Seems somewhat arbitrary/opaque. Charles Glass - There was a meeting in

Next meeting: Monday May 11, 2020 | 2:00 - 4:00p

Baltimore City with economic advisors last year. MDOT has a lot of information on how they are evaluating climate impacts.

Motion to adjourn at 3:36.