

Adaptation & Resiliency Working Group
Q2 2019 Meeting Agenda
Draft Meeting Notes

Date/Time: Monday, May 20, 2019; 2-4 PM

Location: Maryland Department of Natural Resources
580 Taylor Avenue, Annapolis, MD 21401
Conference Room C-1

Chair: Secretary of Natural Resources, Jeannie Haddaway-Riccio

Coordinators: Catherine McCall and Kim Grubert

Meeting Objective: Meeting will feature updates on 2019 Work Plan items and a look back at progress since 2008. The first half of the agenda will set the stage for full work group discussions on options for standardizing the way we track progress and on the potential need for revisions to our current adaptation strategies.

Attendance:

- DNR Matt Fleming, Kim Grubert, Catherine McCall, Joe Abe, Jackie Specht, Jenn Raulin, Megan Granato, Elliott Campbell, Christine Conn, Robert Newton; UMD Ed Link; DBM Susan Gore DBM; MDE Suzanne Dorsey, Jim George, Matt Rowe, Gary Setzer, Lisa Nissley; OAG Emily Vainiri, Anthony Cusato; MHT Nell Ziehl; MDH Allison Gost Breitenother; MDP Jason Dubow, Debbie Herr Cornwell; Consultant Thomas Perrot; Consultant Walt Zalis; DGP Spyros Papadimas; MDSG Extension Kate McClure; Montgomery County Michael Boldosson; ESLC Jim Bass, Brian Ambrette; MDA Hans Schmidt; UMCES Peter Goodwin, Dave Nemazie, Bill Dennison; CAC Kate Charbonneau; MDOT Sandy Hertz; Versar Drew Budelis; Manage Environments Richard Crenshaw; KCI Technologies Joe Brenner; MEA L.R. Fattizig; MEMA JaLessa Tate; Office of Treasurer Paul Berman; Energize Maryland David Costello; Town of Ocean City Bill Neville
- By Phone: DHCD Caroline Varney; MDE Kevin Wagner, Lee Currey

I. Welcome, Introductions & Review of Agenda **2:00 - 2:10 pm**
Maryland Department of Natural Resources

Decision: Approval of February 25, 2019 meeting notes.

Materials: Agenda
[February 25, 2018 draft meeting notes](#)
2019 ARWG Work Plan
[Phase I & II Implementation Table -- 2018 Review of Progress](#)

Notes:

- Matt Fleming welcomed everyone and initiated around the room introductions. A motion to approve the notes from the 2/25/2019 meeting was passed unanimously.
- Fleming walked through the agenda and introduced the next speakers.

II. Addressing Increased Precipitation at the Local Level **2:10 - 2:25 pm**
Megan Granato (DNR) and Jim George (MDE)

Background: The ARWG 2019 Work Plan states that MDE, DNR, and others will partner to assess the state of the science on projecting climate change impacts on precipitation, with a focus on design storms, which could help Maryland communities better assess their localized flood risks and plan to become more resilient to precipitation-induced flooding. Megan Granato and Jim George have begun collecting information on the state of the science and speaking with relevant partners engaged on this topic.

Discussion: Granato and George will present their research and seek feedback from the ARWG.

Notes:

- See presentation "[Changes in Local Precipitation due to Climate Change](#)"
- Granato mentioned the list of partners who have been engaged so far.
- Goal of this research is to understand what work is currently happening across the state in this space. Lots of work happening at the national level, and within Maryland. Granato highlighted Dr. Kay Brubaker's work at UMD's Maryland Water Resources Research Center. Doing downscaled precipitation models for 2 of 4 eastern shore counties. Another lab focused on Susquehanna, creating precipitation intensity, frequency, and duration curves. Trying to understand existing work in order to identify gaps and opportunities for moving forward.
- Two spheres of people working in this space: scientists/climatologists and modelers. Methodologies exist to do the downscaled models, but unsure if they yield the right/accurate results.
- Matt Fleming noted feedback from Climate Leader Academy that demand exists -- "we need downscaled" data
- Q: any connections to NASA Goddard? A: No, not yet, but did reach out to a NASA scientist she heard doing something in Ellicott City

III. A Decade of Adaptation in Maryland - Tracking Progress, Renewing Focus

Review of Progress on Phase I & II Adaptation Strategies

2:25 - 2:35 pm

Kim Grubert (DNR)

Background: The 2017 MCCC Annual Report included a recommendation that the ARWG review its Phase I and II Comprehensive Strategy for Reducing Maryland's Vulnerability to Climate Change to identify progress, highlight any gaps or needs, and revise as appropriate. In 2018 the ARWG undertook this review and captured measurable progress in a comprehensive table. Additionally, in the last few years, [MDP completed an analysis](#) of the integration of coastal resilience components in comprehensive plans and hazard mitigation plans, MDH launched the [Maryland Environmental Public Health Tracking](#) (EPHT) tool, and the Georgetown Climate Center completed a review of Maryland's adaptation progress and continually tracks our progress on their Maryland State Profile pages on the [Georgetown Climate Center's State Progress Tracking Tool](#). This presentation will set the stage for the remaining agenda items, including discussion of additional ways to track and communicate adaptation progress.

Notes:

- See presentation "[ARWG Meeting Slides](#)"
- In 2016/2017 the Georgetown Climate Center completed an analysis of adaptation progress in Maryland, much of which is documented on their Maryland Adaptation page. The ARWG used this analysis in 2017 and 2018 to refine our work plans.
- 2018 was an important year, as it marked a decade of focused adaptation work across the state. Given that, partners were encouraging the ARWG to communicate more about what adaptation progress has been made, and to consider pushing the envelope further. In our 2018 & 2019 work plans we agreed to undertake work to develop metrics for tracking progress.

- Also in 2018 the ARWG work plan mentioned work underway by MDP to identify and track how communities were considering climate change in their local planning. Jason Dubow & Debbie Herr Conwell presented this analysis in December 2017. The number of local jurisdictions considering climate change in their long-term planning could be one metric for tracking progress, and this 2017 analysis could serve as a baseline.
- Also in 2017/2018 MDH launched the Maryland Environmental Public Health Tracking mapping portal, which allows the user to select certain health and environmental indicators and overlap social/economic indicators to reveal trends.
- One of the largest major tracking efforts that has happened since the Phase I & II Adaptation Strategies were completed was our 2018 Review of Progress table. Sector leads worked to complete this table throughout 2018. The table was separated by Affected Sectors and the 88 action strategies were listed beneath each sector. Sector leads input narrative on progress made since 2008/2011 and assigned a color of green for major progress, yellow for some progress, and red for no progress. The value of this table is the ability to now look at the Implementation Priority level that action was assigned, and identify which items were high or medium priority but may not have realized progress yet. ARWG should consider how to use this table in the context of the next two agenda items.

Options & Discussion for Metrics to Track Progress

2:35 - 3:00 pm

Bill Dennison & Dave Nemazie (UMCES)

Background: A decade out from Maryland's Phase I and II adaptation strategies there is an increasing need to demonstrate and quantify sustained progress. The MCCC 2018 Annual Report called on the ARWG to develop metrics for tracking adaptation progress, and while the [2018 Review of Progress table](#) was a start, more could be done to standardize metrics. The 2019 Work Plan states that DNR will convene a group to discuss possible metrics for tracking progress, which could include any of the metrics above, or others. This agenda item will provide the opportunity to discuss the development of meaningful indicators or measures of adaptation and resilience. Through UMCES' leadership in the MCCC Scientific and Technical Working Group and their [report card](#) work demonstrating trends on a wide variety of topics, Bill Dennison and Dave Nemazie will highlight some of these tools and the story-boarding process undertaken to develop these reporting metrics.

Discussion: ARWG members should come prepared to discuss metrics for adaptation, experiences with other metric approaches or other issue areas that might be potential candidates for demonstrating adaptation progress. Members will discuss how to organize the work group to discuss metrics and future action.

Action Item: ARWG members will be tasked to return to their respective organizations and assess potential issues that could demonstrate adaptation progress or other examples of national/international climate metrics that would be meaningful to the work they are advancing. ARWG members interested in serving on a committee to develop these metrics should contact DNR.

Notes:

- See presentation "[Using Report Cards to Enhance Environmental Intelligence](#)"
- We have data; we are collecting it continuously, but it is like drinking from a firehose. Need to figure out how to build knowledge about different information streams and constant data collections. It's not good enough to do good science, but have to communicate about it in a timely manner, and that generates environmental intelligence. Report cards can help create environmental intelligence. Chesapeake Bay as an example -- data is rich, but synthesis is poor. CBP had 101 indicators listed, no hierarchy or combined indices, conflicting stories and stories cherry picked for the story they wanted to tell. 2018 Report Card being released May 21, 2019. Report cards generate media attention. Examples include: Choptank, Severn, Chester, Nanticoke, Baltimore Health Harbor, Coastal Bays etc. 2014 Chesapeake Bay Report Card was the first time resilience was mentioned. Resilience is conceptually different than measuring conditions.
- How would UMCES IAN assist the ARWG with this work?

- 1) create conceptual framework 2) choose indicators that convey meaningful information and can measure reliably 3) define thresholds and reporting regions to establish environmental benchmarks and spatial details 4) calculate scorecard for dissemination to decision-makers, resource managers, and interested public 5) communicate results effectively through mass media with supporting materials. Communicates not only a grade, but also the trend up or down.
- Report cards vs. integrated assessments -- ARWG should consider the value of pursuing either of these options.
 - Integrated assessments allow opportunity to communicate a desired endpoint. Then you figure out what is different between the bad and desired, and figure out which direction the indicators need to be changed to achieve desired outcome. Developed a "how to" guide for creating report cards.
- Must have a vision first; the vision helps create the desired endpoints. Must get the right people in the room.
- Emailed comment received after the meeting: "One thought on the indicators/metrics, could be to assess primary areas of concern in terms of short term dollars estimates/scenarios needed, medium, and long term dollars needs per category and then rank them according to 2-3 primary criteria and see. Circulate by the stakeholders most affected by the estimated impacts to get their input/ideas. In terms of orders of magnitude the many \$billions involved. In terms of opportunities, try to do the same. What are the opportunities for MD, how can we benefit?"

Resiliency Milestones - Past and Future Adaptation Progress

3:00 - 3:30 pm

Catherine McCall (DNR)

Background: Since the 2007 Executive Order was signed establishing the MCCC, Maryland has been a national leader in advancing climate adaptation. The ARWG developed Phase I and II adaptation strategies in 2008 and 2011 for advancing resilience across sectors. After a decade of strategy implementation and as we learn more about how risks are evolving and ways to build adaptation, steps are needed to evaluate progress and define future opportunities.

Discussion: ARWG members will participate in a discussion about past and future adaptation action, how to quantify progress and ways to identify needed next steps to advance Maryland's next decade of climate resiliency progress. Members should bring ideas about (1) issues and sectors that would be priorities for their organizations and (2) organizational approaches that they would prefer to discuss metrics and future milestones.

Notes:

- In the past, multiple people from multiple sectors participated on previous ARWG subworkgroups. ARWG should consider similar structure moving forward into the next decade of adaptation.
- What does climate awareness, integration or institutionalization currently look like in your organization?
 - MEMA - historically have been mitigation focused, but starting to share more and grow institutional awareness through Climate Leadership Academy.
 - MDP - not statutorily required to do anything related to climate change adaptation, so their regional planners have varying levels of awareness; trying to grow, but not required so difficult.
 - All - knowledge exists in pockets in their agencies.
- Is there a desire to set net targets and pursue a Phase III of adaptation?
 - MDE - there's a lot going on and good reasons to communicate and coordinate better; also sense of urgency always growing; need for focused coordination.
 - MDP - strategies on water resources side focused on reducing impervious cover, which is a little too vague for where we are now; the visions for what we want to see in the ideal world are tied to what is achievable.
 - MDE - issue of scale, local community adaptation vs. state agency adaptation and also issue of location/region, indicators may be different for different regions.
 - Time scale is also important; adaptation strategies/goals need to adapt every few years, not every 20 years like the mitigation work.
- McCall called for volunteers to think through this more. Group will meet early July to hash more details in advance of August ARWG meeting.
 - **Volunteers:**

- **MDOT Matt Rowe/Jim George**
 - **MDOT Sandy Hertz**
 - **MDA Hans Schmidt**
 - **MDP Jason Dubow**
 - **Richard Crenshaw Managed Environment (richard@solarvillages.org)**
- If anyone else would like to volunteer, contact Kim Grubert & Catherine McCall asap.

IV. Additional Work Plan Updates

3:30 - 3:50 pm

Background: This section of the agenda allows for brief updates each quarter on several work plan items and allows ARWG members to ask clarifying questions and provide feedback on work plan progress. Topics include:

- Phase III Watershed Implementation Plan, *Matt Rowe (MDE)*
- Coast Smart Legislation Amendments, *Emily Vanieri (OAG)*
- Nuisance Flood Plans, *Catherine McCall (DNR)*
- Saltwater Intrusion Plan, *Jason Dubow (MDP)*
- Climate Leadership Academy, *Matt Fleming (DNR)*

Discussion: Speakers will provide a 5-minute update on each topic. ARWG members are encouraged to come prepared with questions for clarification or discussion.

Notes:

- Matt Rowe -- Phase III WIP out for review now; there is a climate change section, so ARWG is encouraged to review. By 2021 intend to have additional science for how climate will impact the Bay. By 2022 will have targets and BMP modifications based on impacts. There are many overlaps with work happening within ARWG, so want to continue coordination.
- Emily Vanieri -- See presentation "[Coast Smart Legislation Update](#)"
- Jason Dubow -- developed very early draft of Saltwater Intrusion Plan and state agency work group provided feedback; next step is an external review process with experts across the nation to get additional technical feedback; next draft will be shared with ARWG for August meeting (will be an agenda topic for meeting), so review will occur late summer/early fall.
- Matt Fleming -- Climate Leadership Academy was an idea that originated at ARWG in conversations about how to institutionalize climate thinking into all agencies. Cohorts A, B, C included 220 enrollees, 170 on track to complete, with half pursuing certification. Planning 3 more cohorts. Montgomery County class filled 95 spots within 2 weeks. Looking for locations for Cohorts E & F. Will be 1-day local elected officials training; looking for volunteers to help develop curriculum for local elected officials.
 - **Volunteers: Kate McClure (MD Sea Grant Extension)**

V. Meeting Recap & Next Steps

3:50 - 4:00 pm

Department of Natural Resources

Upcoming Dates:

- Next MCCC meeting: Thursday, June 20, 2019 1-3 pm at MDE
- 2019 ARWG meetings at DNR:
 - Summer TBD - Membership Metrics or Milestones Meetings
 - August 5
 - November 18

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