Draft Q1 Meeting Notes

Maryland Commission on Climate Change
Adaptation & Resiliency Working Group

Date/Time: Monday, February 25, 2019; 2-4 PM

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

Purpose: This first quarter meeting will highlight recently-released resources for Eastern Shore local adaptation work; provide an overview of a 2019 ARWG exploration issue related to adaptive/managed retreat; and discuss and seek feedback and approval on the group's 2019 work plan and agenda priorities. Updates will be provided about continued progress on SB 1006/HB 1350, the marsh resilience summit and climate in the Phase III WIP.

Attendance: Jeannie Haddaway-Riccio (DNR); Joseph Abe, Christine Conn, Matt Fleming, Megan Granato, Kimberly Grubert, Catherine McCall, Sasha Land, Jenn Raulin, Jackie Specht (DNR), Kate Charbonneau (DNR/CAC); Gary Setzer, Dave Guignet, Jim George, Kevin Wagner (MDE); Paul Berman (State Treasurer's Office); Andrew Asgarali-Hoffman (MEMA); Jason Dubow, Debbie Herr Cornwell (MDP); Fredrika Moser, Kate McClure, Taryn Sudol, Eva May (Maryland Sea Grant); Sandy Hertz, Elizabeth Habic (MDOT/SHA); Brian Ambrette, Jim Bass (Eastern Shore Land Conservancy); Peter Goodwin, Dave Nemazie (UMCES); Katie Spidalieri (Georgetown Climate Center); Emily Vainieri (OAG/DNR); Steve Allen (MHT); Tom Walz (DHCD); Spyros Papadimas (DGS); Drew Budelis (Versar); Susan Payne (MDA); Richard Crenshaw; Walter Zalis (Energetics)

Conference Phone: Brandy Espinola (UMD EFC), Alison Gost (MDH)

I. **Welcome, Introductions & Review of Agenda** **2:00 – 2:15 pm**
Maryland Department of Natural Resources

Decision: Seek approval of December 3, 2018 meeting notes.

Materials: Meeting Agenda (Attachment A)
December 3, 2018 draft meeting notes[1] (Attachment B)

Notes:

- Acting Secretary Haddaway-Ricco welcomed everyone and initiated around the room introductions. A motion to approve the notes from the 12/3/18 meeting was passed unanimously.
- The meeting was then turned over to Catherine McCall who provided background information for why the group was covering these topics today. Those are: to provide technical assistance to local jurisdictions (agenda item II); and to explore adaptive retreat/managed migration (agenda item III).

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[1] https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/ARWG/ARWGNotes12032018.pdf

II. **Mainstreaming Sea Level Rise Preparedness in Local Planning and Policy on Maryland's Eastern Shore** **2:15 - 2:50 pm**

Background: On February 1, the Eastern Shore Land Conservancy released a new report to assist local governments plan for the impacts of sea level rise for the Chesapeake Bay and its tributaries in the years 2050 and 2100. This milestone resource was completed through the Eastern Shore Climate Adaptation Partnership – a regional workgroup of local government staff, partners from the State of Maryland, academic institutions, and nonprofits.

The ARWG will hear from three contributing partners, each highlighting a different adaptation component:

- Brian Ambrette, Eastern Shore Land Conservancy (Mainstreaming Sea Level Rise Preparedness in Local Planning and Policy on Maryland's Eastern Shore)
- Brandy Espinola, Environmental Finance Center (Integrating Resilience into Local Capital Improvement Programs)
- Kate Spidalieri, Georgetown Climate Center (Higher Standards: Opportunities for Enhancing Flood Resilience in the Eastern Shore of Maryland)

Materials: https://www.eslc.org/resilience/escap-materials/

NOTES:

Presentation 1: Mainstreaming Sea Level Rise Preparedness on Maryland's Eastern Shore

- Brian Ambrette (ESLC) provided quick introduction to the topic. Thanked Jim Bass who was project lead.
- Project focused on Caroline, Cecil, Dorchester, Queen Anne's, and Talbot Counties on the eastern shore. Goal was to generate the data eastern shore jurisdictions need to enable them to include high-resolution sea level rise into their planning processes ("mainstreaming" the use of that data). Took a science-to-solutions approach. Another goal was providing this data in a low-cost way ("buy in bulk" by serving multiple counties).
- Used US Army Corps of Engineers sea level rise data (same data as the MDOT/SHA Climate Vulnerability Viewer). Asked jurisdictions specific questions (e.g. how will sea level rise change coastal storm flood events?) Looked at every structure from every county and ran through HAZUS model to estimate $ of building damages. Ran 1% chance flood scenarios for 2015, 2050, and 2100.
- Walked through Town of Oxford as an example (see accompanying presentation for maps). Noted there is an obvious shift in the second half of century where Talbot and Queen Anne's become more vulnerable than Dorchester.
- Provided key messages for each county (also summarized in the report), but over key messages include:
  - Floodplain management works
  - Unless policies are strengthened, margin of safety diminishes considerably by 2050 for many places
  - The window of opportunity to make policy adjustments that adapt communities ___ (SEE SLIDES)
  - Need a landscape level to understand risk shifts

Presentation 2: Capital Improvement Plans: Imbedding Resilience Into Community Finance

- Brandy Espinola (ELC) presented virtually.
- Most counties have a Capital Improvement Program (CIP) process, but many smaller municipalities do not (not required). Goal was to provide a strategy to integrate climate considerations into CIP processes that any sized community could use.
- Looked at two small case studies in IL and NH. Purpose was to articulate incentives/benefit in incorporating resilience goals into Comprehensive Plans or other community plans. It is one thing to require considering resilience in a Comprehensive Plan, but another to require it in a CIP process (and capital improvement projects).

- Best Practices / Strategies Identified:
  - Incorporate resilience into comprehensive and other community plans
  - Require CIP to align with community resilience goals
  - Add climate resilience into CIP scoring criteria
  - Use the CIP to encourage cross-departmental collaboration; to not only look at resilience but also look at co-benefits across the organization
  - Require vulnerability assessments for proposed projects; could be a simple checklist all the way to developing full guidance and procedures.
- Ideas to Accelerate the Response to Climate Change Statewide:
  - Provide local jurisdictions with robust downscaled data on local climate hazards
  - Review state regulations and policies to determine if there are any unintentional impediments to prioritizing resilience
  - Commit state funds only to resilient projects
  - Develop state-level resilience financing mechanism
  - Train and offer technical assistance for resilience planning, budgeting, procurement, and implementation (need stronger leadership on how to operationalize into our state decision processes)
  - Mode best practices at the state-level

Presentation 3: Higher Standards: Opportunities for Enhancing Flood Resilience

- Katie Spidalieri (GCC) presented about regulatory and non-regulatory options for enhancing flood resilience. Also flagged potential legal and policy considerations to consider prior to implementing these options.
- Regulatory options include:
  - Expand regulatory floodplain beyond where flood insurance is currently required
  - Increase flood resilient design standards in new and re-development
  - Track cumulative substantial improvements - where damage is 50% or greater, it's possible to see where permits are repeatedly coming in
  - Restrict or condition new subdivisions
  - Incorporate resilience in Critical Area requirements
  - Establish a Transferable Development Rights program to phase out development in more vulnerable areas
- Case Studies: Durham, NH expanded their regulatory floodplain; New York NY post-Superstorm Sandy NYC updated it's building codes to provide guidance to communities on how to improve design standards.
- Non-regulatory options include:
  - Buyouts and conservation easements
  - Hazard mitigation projects
  - Post-disaster redevelopment
  - Capital investments and budgeting
  - State minimum floodplain standards
  - Regional Community Rating System (CRS) activities
- Case Studies: Charlotte, NC uses a stormwater fee to buyout communities in a non-disaster related context in repeatedly flooded areas -- also use that fund to restore natural systems. Sarasota County, FL developed a post-disaster development plan built off a county-wide vulnerability assessment.
- Please contact Jessica Grannis at grannis@law.georgetown.edu for additional questions related to GCC report

Question & Answer Discussion:

- Q: Curiosity about North Carolina and if/how buyout program is being considered elsewhere in the state post-Florence. A: No one knew.
- Q: Aware of any models of estimates of tax loss? A: Not aware of tax, but Ambrette referenced recent study of economic loss associated with nuisance flooding in downtown Annapolis.
- Q: Consider using Artificial Intelligence (AI) technology (e.g. using AI monitoring technology being used to get real-time stormwater flows being integrated into MDOT new investments). A: Ambrette clarified that

this project solely focused on tidal flooding events (i.e. sea level rise, storm surge, tides). Next phase aims to integrate tidal flooding and precipitation flooding concerns (project just kicked off).

- ➢ Q: When communities get hit, most damages are often outside the regulated floodplain; can that data be leveraged to build argument for expanding floodplain? A: Ambrette said they have damage estimate numbers already, so that analysis is possible; Spidalieri said then can use that data/analysis to draft a finding to support regulatory change.
- ➢ Ambrette clarified that the GCC and EFC work is applicable to any community in coastal zone in Maryland (not just eastern shore) -- GIS data is only eastern shore right now though.

III. **Adaptive/Managed Retreat or Migration - A Practitioner's Toolkit**
Katie Spidalieri, Georgetown Climate Center **2:50 - 3:10 pm**

Background: Along the spectrum of planning and zoning tools available to decision makers, adaptive/managed retreat or migration presents a long-term adaptation option for climate impacts that threaten structures. The ARWG will hear from the Georgetown Climate Center about case studies and different policy tools from across the country and an overview of the Center's forthcoming online Managed Retreat Toolkit.

Feedback: Discussion amongst membership about managed retreat.

NOTES:

- ➢ Georgetown Climate Center researched jurisdictions around the country and developed Case Studies. Are working on an online-based managed retreat toolkit of policy and legal considerations that is anticipated to be released later 2019 or early 2020. Toolkit will include legal and policy decision-making frameworks -- will point out other considerations (e.g. impacts to ecosystem or people).
- ➢ Disclaimer: purpose of this project and toolkit is to enable discussions about managed retreat, not to promote it as the only or "best" adaptation option
- ➢ Spidalieri provided several case studies:
  - Rhode Island Shoreline Change Special Area Management Plan (a type of planning allowed under CZMA allows state to provide increased management of a particular area) -- guidance said development should occur outside special area, or if development must occur then elevate or list of other considerations about "coastal/climate-smart" development.
  - Hawaii reviewed state coastal policies and conducted a feasibility study of how managed retreat could impact all different types of infrastructure (e.g. public access sites, emergency services, shoreline armoring, utilities, roadways, locations for relocation) -- documents process Hawaii undertook to get to this point (good resource for Adaptive Retreat work plan item)
  - New Jersey Blue Acres Program is a buyout program that purchases homes in high-hazard areas during non-disaster periods to avoid risk/cost when disaster strikes. Also considers what happens to that property once buyout done (re-greening/restoration).
  - Yankeetown, FL passed a law allowing state to develop Adaptation Action Areas for focused natural resource protection (e.g. allow for ecosystem migration) -- targeted upland land acquisitions, considered permitting for redevelopment) -- similar to Maryland GreenPrint map layer and Wetland Adaptation Areas targeting layer
  - Louisiana developing "receiving areas" to migrate communities -- working through their statewide strategic master plan (LA SAFE: Louisiana's Strategic Adaptations for Future Environments); state provided funding for 10 projects in these receiving areas to pilot principles such as new design considerations
  - Chatham, MA state created conservancy district that only allows for water-dependent uses and recreation. A property owner in that district wanted to sell her house. Received an offer after the conservation district was established, so property owner lost ability to gain economic benefit from

that property (she sued arguing a taking had occurred). Case established government has right to regulate development in conservation areas.

- ➢ There are several legal questions (e.g. authority; compliance with state/federal/local law) and constitutional questions (e.g. per se takings; regulatory takings)
- ➢ Q: Has GCC worked directly with the State of Maryland to develop the toolkit? A: GCC consulting with experts at academic, state, local level to make sure toolkit is applicable; hosting workshops.

IV. **A 2019 Look Forward for the ARWG** **3:10 – 3:45 pm**

Catherine McCall & Kim Grubert, MDNR

Discussion: (1) Review and discuss 2019 priority items and issues raised at December's ARWG meeting and plans for exploring and setting targets for new issues, continuing forward progress and delivering resources. A draft work plan has been prepared for review and discussion.

(2) Seek feedback about 2019 ARWG agenda priorities, sub-group issue work, and a mid-year adaptation focused MCCC meeting.

Materials: *Draft 2019 Work Plan* (Attachment C)

Decisions: (1) Seek approval of draft 2019 ARWG work plan to forward to MCCC Steering Committee
(2) Consensus on agenda priorities, MCCC adaptation highlights and sub-group issue work

NOTES:

- ➢ Discussion and individual comments have already been incorporated into revised Draft 2019 Work Plan that was circulated by Catherine McCall on 3/5/19. ARWG members should provide additional comments on that document by 3/12/19.

V. **Updates, Meeting Recap & Next Steps** **3:45 - 4:00 pm**

Updates:
- SB 1006/HB 1350: Saltwater Intrusion Plan & Nuisance Flood Plan (MDP/DNR)
- Marsh Resilience Summit and Chesapeake Bay Sentinel Site Cooperative (Taryn Sudol)
- Climate & Maryland's Phase III WIP
- Updates from the membership

Upcoming Dates:
- Work plan feedback due to MDNR by March 8 for transmittal to MCCC Steering Committee
- Next MCCC meeting: April 18, 1-3 pm at MDE
- 2019 ARWG meeting dates:
  - May 20
  - August 5
  - November 18

NOTES:

- ➢ Taryn Sudol shared that the Marsh Resilience Summit took place February 5-6, 2019 in Williamsburg, VA with 230 participants and 115 organizations represented. Note takers produced over 100 pages of notes, CBSSC digesting those now: need for social science; need for flexibility in funding and regulatory structure;

need for cost-benefit analysis (e.g. which marshes to conserve and which to let go). A 2-page summary is included at the end of this document.

- ➢ Dave Guignet asked when the ARWG will begin to address messaging about being aware of major storm, hurricane, storm surge impacts. The group agreed this is a topic that must be addressed sooner rather than later, and identified this is a good place to coordinate with the ECO Working Group.
- ➢ It was noted that the March 12 MWG meeting will discuss land use/conservation/healthy soils.
- ➢ There is a clear need to increase collaboration among the four MCCC working groups. To that end, it has been suggested at the MCCC Steering Committee that all working groups identify key individuals that each attend multiple working group meetings and tag that person to be a liaison between the groups. Grubert will identify which ARWG members attend other working group meetings to begin to make those connections.
- ➢ MCCC Chair Ben Grumbles requested at the MCCC Steering Committee to begin to reference our group as the Adaptation and Resiliency Working Group, instead of Adaptation and Response Working Group. McCall and Grubert will made adjustments in future communication.

MEMBER ACTION ITEMS:

1. **Review updated Draft 2019 ARWG Work Plan (circulated via email by McCall on 3/5/19) and send comments to kimberly.grubert@maryland.gov by 3/12/19**

2. **Send email to kimberly.grubert@maryland.gov if you regularly attend any of the other working group meetings (e.g. ECO, MWG, STWG)**

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Marsh Resilience Summit
February 5-6, 2019 in Williamsburg, VA

The Chesapeake Bay Sentinel Site Cooperative, with support from Maryland Sea Grant and other funders, hosted the Marsh Resilience Summit. 230 practitioners, managers, regulators, and academics were in attendance, representing 115 different organizations.

Agenda highlights:
Opening remarks from Ben Grumbles, Secretary of Maryland Department of the Environment &
The Hon. Rob Wittman, U.S. Congress, the 1st District of Virginia

Eight sessions with five presentations each and 40 minutes of discussion in small groups.
Sessions:

Marsh Migration	Environmental Market Mechanisms	Wetland Conservation and Community Resilience	Cobenefits of Marsh Conservation
Management Techniques and Restoration	Dredge and Beneficial Use	Living Shorelines and Thin Layering	Marshes, Agriculture, and Industry

Resulting themes and identified needs:

- Communication exchange:
  - Clearinghouse of ideas
  - Translation of science to end-users
  - Need for community liaisons
- Need for social science to understand community perspectives
  - Marsh migration vs encroachment
  - Adoption of living shorelines
  - Educating elected officials
- Flexible funding and regulatory structures that are adaptable to site-specific needs.
  - Include funding for maintenance and monitoring
  - Aid or cut requirements for resource-limited, underfunded communities
- Cost-benefit analysis of land-use change, including doing nothing
  - Phragmites research
  - Who would pay to restore coastal habitats?
  - Incorporating different time scales and geographic scopes
- How do we prioritize which marshes to conserve and let go?
  - Loss of agricultural lands
  - No not loss for forests
  - Sediment supply
  - Sea-level rise impacts on groundwater and stormwater management

Comprehensive review and summary of notes and lessons-learned with be shared as a Maryland Sea Grant publication in the coming weeks.