M I N U T E S
Baltimore County Advisory Commission on Environmental Quality
(CEQ) January 25, 2023 7 PM Online Meeting on Webex

CEQ meeting dates, membership information, and reports are available at www.baltimorecountymd.gov/Agencies/ceq/index.html

Our thanks to Brian Lindley of EPS for coordinating Webex meetings during the pandemic.

Attendance: Brian Fath, Brian Lindley, Chris Overcash, Carol Newill, Lynda Eisenberg, Maggie Carvey, Radu Zamfirache, Mahnaz Mazaheri Assad, Kat Blair, Dustin Shearer, Steve Malen, Taylor Smith-Hams, Andy Miller, Councilman Wade Kach, Brian Bernstein

I. Welcome. Everyone mute please. Introduce new CEQ commissioner, Dustin Shearer. Dustin's interests have been natural resource policy, environmental engineering and agricultural and biological engineering as well as stream restoration. He is with Hazen-Sawyer. Maggie Cavey from DNR is joining us a guest. She works on coastal issues. Kat Blair is a staff scientist at EA. Taylor Smith-Hams is also joining us as a guest as well.

II. This is the 3rd evening of the CEQ series on the expected increases in extreme weather and water-related challenges in Baltimore County, their projected impacts and the development of plans for resiliency to protect essential infrastructure and public health. Focus is on the water-related challenges in our county, both coastal and non-coastal, that are expected due to global warming and exacerbated or lessened by local decisions and interventions. Goals are to present information and stimulate discussion in support of increasing resiliency through climate change adaptation, among County and State leaders, academia, private industry, and the public.

The full schedule has been posted on the CEQ webpage.

Background reading and viewing are at the bottom of this Agenda.

III. Dr. Chris Overcash is speaking tonight on "Coastal flooding in Baltimore County" including an overview of SLR/Storm surge/compound flooding for the area as well as more in-depth information on nature-based strategies that could be used. He is Senior Engineer, Deputy Director of Coastal Resilience at EA Engineering, Science, and Technology, Inc., and Instructor in Environmental Health and Engineering at Johns Hopkins Whiting School of Engineering and Bloomberg School of Public Health. He is a CEQ Commissioner.

Chris is director of Climate and Coastal Adaptation at EA Engineering Science and Technology and is on the faculties of Johns Hopkins and the Bloomberg School of Public Health as a program manager in the areas of environmental health and engineering.

Coastal Climate Impacts and Resilience Using Nature Based Solutions – case study of Aberdeen Proving Grounds

Coastal climate impacts in Baltimore County and surrounding area
Case study of Aberdeen Proving Ground and neighboring communities Coastal resilience Project

Intro to nature-based solutions
Examples at APG
Baltimore County Opportunities.

Venn diagram – overlapping effects of sea level rise, precipitation and storm surge leading to compound flooding. Hurricane Isabel is the storm of record with respect to this phenomenon. Fall 2021 nor'easter created storm surge that exceeded historic levels in Dorchester County and Lexington Park.

NOAA 2022 report on global and regional sea level rise scenarios for the U.S. provides a range of 1.3 – 1.7 foot increase by 2050 and 2.5-6.7 foot increase by 2100 depending on greenhouse gas scenarios.

National Climate Assessment also provides key information; last was 2017, another should be coming out soon.

Storm surge varies based on topography and bathymetry. At Fort McHenry 100-yr elevation above MHHW is 5.65 feet; Isabel in 2003 reached 6.22 feet.

Precip – expect about a 10% annual increase by 2100 and episodic >100-yr events could increase about 50% over that time.

NOAA sea-level rise viewer shows worst-case scenario for sea-level rise for 2100; 7 feet at Baltimore Harbor. Several areas like Bear Creek, Bowlleys Quarters and Bear Island are highly susceptible; surge during a hurricane by category (NOT including sea-level rise) illustrated in another frame.

Case study project: APG and Neighboring Areas – began in 2019 through a DOD-funded joint land use study to look at impacts from sea-level rise and storm surge through 2100 to look at vulnerabilities at APG and neighboring communities throughout the northern Bay area. The base is 75,000 acres and its viability depends also on civil servants living throughout the area.

The report predicted that almost 50% (16-46%) of the land mass may be affected by SLR and storm surge by 2100. This is an impetus of the present project that just started in January 2022 and will last through December 2023. Open-end research grant with ACOE Engineering with Nature program. This has been in place for 10 years because a COE report in early 2000s identified that the amount of resources needed for hard solutions like concrete seawalls would be impossible to provide; and it was recognized that natural processes provide resilience that cannot be provided by hard infrastructure.

Another key point: there is currently $25 billion for nature-based solutions through IIJA and Inflation Reduction Act, and the White House released a document in Nov. 2022 with a roadmap for how to carry out this work.

1. Design and implement up to three pilot projects in and near APG.
2. Review and provide recommendations for how to refine existing DOD processes
3. Assess and refine existing engineering and science and technology approaches
4. (Missed #4)

Project team: US Army, USACE ERDC, EA Engineering, DEEDS (developing engineering practices using ecosystem design solutions – U Del, U Fl, Partnership for the Delaware Estuary); ACTIONS team; stakeholders including local government, regulatory outreach, JHU and Morgan State University.

Project is moving toward completion by December. This is just one of several sites across the country with similar studies including some national park areas such as Colonial Williamsburg and Assateague Island.

Nature-based solutions incorporates natural landscape features that can provide engineering functions relevant to flood risk management as well as providing other environmental amenities.

These include living shorelines, protecting against erosion using vegetation; can include several NNFB and combinations of hard and soft techniques; land restoration or creation; usually incorporating dredged material especially in Chesapeake Bay. Example – Battery Island north of APG and Swan Island, restored in 2019 in Dorchester County.

Wetland restoration and creation - wave attenuation and erosion reduction. More resilient than conventional structures to long-term changes in sea level through vertical accretion and landward movement. Wetlands today often cannot accrete fast enough to keep pace with SLR. Solution: thin-layer placement mimicking natural deposition processes in tidal marshes to maintain elevation relative to sea level rise. Provides protection in current footprint but would have to be repeated many times.

Living breakwater/reef structures – hybrid between traditional hard structure breakwater integrated with NNFB elements such as SAV or shellfish; can include a concrete or riprap core.

Could be made of natural material as well.

Horizontal levee – usually takes a lot of land. It would have a traditional levee at center and a seaward-sloping ecotone.

All of these elements can be combined in hybrid nature-based solutions but COE wants to get away from just using hard structures – one of the negative effects of seawalls is that it will starve adjacent areas of sediment and they will deteriorate faster and cause secondary impacts from wave activity.

Two examples out of forty in area:

Northern Spesutie Island – living shoreline concept on NE portion of APG. Would replace 1846 footprint of land. Breakwater 9500 LF in length. Placement of dredged material to 160,000 CY and estuarine emergent vegetation. Would potentially incorporate 3D printed dredged material structures using dredge material from shipping channels. Adaptability – elevations could be increased in the future to maintain until 2100.

This would be quite expensive if deployed all at once but could be implemented incrementally.

Southwestern Spesutie Island – multiple NBS elements to protect infrastructure:
Location includes infrastructure under threat from SLR, experiencing impacts now

Horizontal levee would be constructed to provide resilience to SLR for 2050 with adaptive design to be raised to protect for 2100 later.

TLP for resilience of the surrounding existing marshes which will continue to provide protection to the infrastructure. Two areas – 44 acres, 35,000 CY of material.

What could this mean for shoreline resilience in the County?

Recommendations will provide helpful roadmap of best practices, design, regulatory constructs moving forward.

Maryland Port Administration – innovative reuse/beneficial used of dredged material committee. Multiple potential vulnerable areas identified.

Tracking grant funding opportunities.

Climate impacts are having profound repercussions in coastal areas; NBS provide resilience and funding is available now.

Q: with activity at APG, what has gone on with testing – has it served to destabilize the coastline?
A: the base has been in service all the way back to WWI when they started testing weapons systems. It has not destabilized the shoreline but there is a lot of unexploded ordnance offshore and on land and it would be a huge job to remove all of that. There are also elements of ground contamination from industrial byproducts that needs to be taken into consideration with protection.

Q: Overbuilding in Baltimore County and outdated SWM program may be contributing to flooding we are experiencing in the county. Have you looked at our SWM requirements and have suggestions as to how they should be strengthened? Do you think SWM will be part of the solution to flooding and erosion problems?
A: EA is highly engaged in stormwater design and this includes increasing intensity of precipitation. The 100-yr storm in the future won't be the same as today and past structures are not sized to those volumes. Overbuilding can exacerbate the problem and intersects with the problem of climate-change impacts.

Q: Assumptions for some existing areas may be underestimated – have you looked at SWM requirements to see what we should be doing as a county to make improvements?

A: Radu – we will talk more about this topic and the county's 2021 climate action plan next month. In summary we recommend increasing the reference design storms; we are stakeholders in the three groups that MDE assembled as a result of the 2021 legislation requiring MDE to revise their legislative requirements to address flooding, including a 5-yr cycle for revising SWM regulations. DPW is actively working on these issues.

A: (Dustin) – there is no hard and fast rule for stream restoration and storm drains but these are things that can be addressed over time.

Q: (Dustin) – have you run into SAV issues and had any need to remove or otherwise make accommodation for that vegetation?

A: That is a key point. In the past, SAV in northern Chesapeake Bay was much more extensive. One thing we are looking at is SAV restoration. Some designs such as restoring a footprint to 1846 would impact SAV in some of those areas today. That might require changes in regulatory frameworks.

Q: Radu – as far as modeling storm drain networks, we are doing that currently for six pilot projects throughout the county – condition and capacity of network, sensitivity to climate, how it is perceived by the citizens. Also looking at implementing green infrastructure practices in order to provide flood attenuation. More on this next month.

Q: Brian Fath – two questions: One, about the Inflation Reduction Act funds – how much coming to MD? Are RFPs out yet? Who are you working with at U Florida?

A: There are a lot of different funding mechanisms and money could come through several different platforms – could be a NOAA grant, a MDDNR grant – we are just beginning to see that money filter down from the federal level. We are tracking that for the Maryland Port Administration.

Q: (Mahnaz) – Have you done any environmental impact assessments of these projects and is it general or is it on the basis of conditions in each part?

A: We are funded in the first step to go to a 15-30% design level; EIA would be done as next stage. There are standard NEPA documents put together but we could be going to newer documents.

Q: (Andy) – What about overall rate of retreat of shorelines around the whole bay area and the need for managed retreat to allow wetlands to migrate onto ag or forest land that is being inundated?

A: This is a big issue around the Bay. What is going on in the northern Bay is similar to situation in Dorchester County – this is actually lower in elevation above sea level than other parts of the Bay. This question of managed retreat is a huge question for the future.

Radu – In answer to the question about Inflation Reduction Act money – there is a $2 million fund coming in to help Turner Station (located on Bear Creek), one of the areas that is particularly difficult to manage from a technical standpoint. Other grants and funding opportunities will be showing up.

IV. Update on Forest Conservation topic - Carol Newill.
Baltimore County Green Alliance has sent a list to the Council of changes they recommend for the County Code. DEPS plans to survey conditions at planting sites, with report probably in Summer 2023.

Recommended changes include much of what is in our CEQ report. Carol has spoken with Mr. Lykens about this and he says that he plans to survey conditions at planting sites to see how they are doing with a report coming in summer 2023.

V. Update on efforts to ban single-use plastic bags at stores. Karen Wynn, Lynda Eisenberg, Valerie Androutsopoulos. Bring Your Own Bag Act was submitted this month at the County Council, sponsored by Councilmembers Marks, Patoka, Ertel. https://resources.baltimorecountymd.gov/Documents/CountyCouncil/Bills%202023/b00123.pdf Public testimony is invited at Council work session 1/31/2023 4 pm, in person or online.

Note the CEQ 2011 report "Recommendations to the Baltimore County Council on Single Use Shopping Bags", on the CEQ webpage: https://resources.baltimorecountymd.gov/Documents/CEQ/plasticsreport%20111206.pdf

Lynda – Have not talked with Karen or Valerie. Valerie went to the Sierra Club's recent meeting and wanted to put forward some main points. Some stores already require people to pay or bring their own bag. One thing Valerie raised is that SNAP or WIP recipients who depend on supplemental income might be affected; Sierra Club would rather see distribution of free reuseable bags than charging people. Businesses say they cannot afford to absorb the extra fees and the associated taxes. Howard County makes an exception for bags from greasy carryout food. One participant mentioned that many people switched to paper from plastic rather than going entirely to reuseable bags. How do we get to that point so that people always consciously bring their own bags?

Wade Kach – The hearing is on Tuesday and I am a proponent of the concept but not thrilled with the bill. Everyone should participate in this effort to rid us of the plastic bag problem and every part of the population should participate. Mixed feeling about lowering the paper bag fee from 10 to 5 cents but the bill stands a good chance of passing. Any CEQ input would be appreciated. The state legislature spends a lot of time on research and study whereas we don't have those resources in the county, so any input from this group would be appreciated especially with regard to exemptions, costs, energy used to produce paper bags, what percent of trees used for paper are being replaced by new planting.

Andy spoke on behalf of the bill, mentioned that Karen Wynn had issues with some terms and urged that CEQ find some position we can take on behalf of passing a bill to accomplish this goal.

Brian Fath asked about when the vote will take place; currently it is scheduled for Monday Feb. 6. He pointed out that Baltimore County is not the first to do this and there is now a track record. Wade Kach supports the Sierra Club's concept including not exempting certain groups and including a fee for bags.

Dustin: What does the city do with regard to this? Some businesses in the city give you a credit back if you use your own bag or charge you if you use their bags.

Our working group will convene before testimony needs to be given on Tuesday.

VI. Update on Oregon Ridge Master Plan. Carol Newill and Brian Bernstein

Oregon Ridge Park is at high risk of flooding according to a report that Radu will tell us about next month – the climate change action and resilience plan. The final version of the Master Plan report will be out in a month or two with one last public meeting to review. Hopefully this report ‘s finding will be considered in the final version of the master plan.

VII. Steve Malan will chair a working group with Dustin Shearer and other CEQ members who volunteer to recognize farmers who are using effective means of protecting their soil from erosion related to extreme storms or taking mitigation steps to follow the law. Anyone who has a water feature on or affecting their farm should be eligible. Steve is talking to people in other counties to see what they are doing and to identify whom they recognize for this. There are some farmers who farm in three adjacent counties and there are some inspiring stories. Steve will get biographies of potential candidates from local soil conservation districts and share them with the committee and sort this out in one or two sessions. There could be an award from a farm equipment supplier or a nursery that supplies native plants. Carol would like to have a companion organization that could cosponsor an award. The Soil Conservation District may not want to be seen as picking favorites so they can stay neutral. A nonprofit organization might be a good choice if we can find the right one. Steve will make a couple of phone calls and see if he can drum up some interest.

VIII. Note that the minutes of 10/26/2022 meeting were approved last month with the caveat that Andy could amend the section describing his presentation; that has been done. Minutes of 12/7/2023 meeting, correct and approve.
Thank you, Andy and Valerie.

Minutes approved without additional corrections or changes.

IX. Closing Comments: Carol Newill
Next month we will hear from Radu and we may have someone attending from the County Executive’s office.

Upcoming CEQ Meeting dates: 2/22, 3/22, 4/26, 5/24

Adjourned at 8:21 p.m.

Background reading and viewing for CEQ Series on climate change, extreme storms, floods and resilience in Baltimore County:

Most important to read: https://www.washingtonpost.com/climate-environment/ 2022/08/23/flood-united-states-climate-explainer/

Additional information:
The current Balt County webpage on sustainability: https://www.baltimorecountymd.gov/departments/executive/initiatives/sustainability/initiatives/
Brief WYPR 10/10/22 article on plan to control Middle Branch flooding, Harbor Hospital: https://www.wypr.org/wypr-news/2022-10-10/major-south-baltimore-environmental-restoration-project-to-combat-flooding
Longer background reading on “Hell and High Water” https://www.baltimoremagazine.com/section/historypolitics/climate-change-wreaking-havoc-baltimore-infrastructure-public-health/

CEQ May 2019 report encouraging climate change resiliency work: https://resources.baltimorecountymd.gov/Documents/CEQ/climateresiliencyreport.pdf