Climate Resiliency Workgroup Conference Call

Monday, August 19, 2019
1:30 PM –3:30 PM Full Workgroup

Conference Line: 929-205-6099 Meeting ID: 552-283-903
Webinar*: https://zoom.us/j/552283903
Meeting Materials:
https://www.chesapeakebay.net/what/event/climate_resiliency_workgroup_july_2019_meeting
CBPO Location: Conference Room 305

*If you are joining by webinar, please open the webinar first, then dial in.

AGENDA

Action Items:

- ✓ Please email Breck Sullivan (bsullivan@chesapeakebay.net) or Cuiyin Wu (cwu@chesapeakebay.net) with any suggestions on the questions below for Table 2.
- ✓ Ask members of the workgroup to review Table 2 of the proposal.
- ✓ Email David Wood (wood.csn@outlook.com) if you are interested in being on a mailing list for updates on the USWG Climate Resiliency Strategy. Please provide any feedback on the questions he provided in his presentation.
- ✓ David Wood will provide updates and come back to the CRWG when they have set deliverables.
- ✓ Lew will present on the NOAA RFP once the new Coordinator has started.
- ✓ Please contact Breck Sullivan or Cuiyin Wu for the Climate Resiliency Poster files. Please also suggest areas/events these posters can be distributed too.

1:30 **Welcome, Introductions & Announcements** – (Co-Chair Mark Bennett, USGS and Co-Chair Erik Meyers, The Conservation Fund)

- The Coordinator may be in place by late September/early October. The workgroup will be informed once there is any news.

1:40 **GIT Funded Proposal – Cuiyin Wu** (CRC) **& Breck Sullivan** (CRC)
Cuiyin and Breck will provide an update on the GIT proposal submitted and next steps.

The CRWG Proposal was approved by the Director of the Chesapeake Bay Program, Dana Aunkst. The workgroup will now move forward with Table 2. A

draft is due September 6th and the final draft is due September 24th. The following are questions for the workgroup to provide feedback on to complete Table 2:

- **Qualifications List:** List skills and experience required of a qualified bidder. Be specific here - ask for expertise in applicable knowledge areas, familiarity with specific software, and experience with certain project types. Examples of qualifications include demonstrating experience of completing three fish ladder design projects in the past five years or demonstrating experience of creating two advanced educational curriculums in past five years.
    - Experience working with localities on climate resiliency
    - Familiarity with local climate planning principles
    - Experience conducting climate resilient projects

- **Bidders List:** List skills and experience required of a qualified bidder. Be specific here - ask for expertise in applicable knowledge areas, familiarity with specific software, and experience with certain project types. Examples of qualifications include demonstrating experience of completing three fish ladder design projects in the past five years or demonstrating experience of creating two advanced educational curriculums in past five years.
    - Eastern Research Group
    - Georgetown Climate Center

- **Reviewers List:** List skills and experience required of a qualified bidder. Be specific here - ask for expertise in applicable knowledge areas, familiarity with specific software, and experience with certain project types. Examples of qualifications include demonstrating experience of completing three fish ladder design projects in the past five years or demonstrating experience of creating two advanced educational curriculums in past five years.
    - Zoe Johnson
    - Katie McClure
    - Nicole Carlozo

Important Dates:

June 14th	Table 1 submitted
June 17th – 28th	Peer review comments are solicited on the top three to four proposals from each GIT for the purpose of strengthening the project designs.
July 30th	GIT Chairs, Coordinators and Staffers present and rank proposals.
August 2nd	GIT Chairs present a proposed final list of projects for funding to the CBPO Director for final approval
September 24th	Table 2 is due
October 2019	RFP is released

2:00 **Urban Stormwater Workgroup Plan to Address Climate Change and Stormwater** – **David Wood** (CSN)

David will present the work plan for the Urban Stormwater Workgroup for maintaining the resiliency of stormwater and restoration practices in the face of climate change.

The PSC gave a directive to the CBP to design and accelerate adoption of stormwater management practices that are appropriately designed for rainfall volumes and intensities that are expected in the future under climate change projections for counties in the Chesapeake watershed. Due to this ask, the USWG incorporated a new climate resiliency strategy into their workplan with a goal to deliver engineering tools and management solutions to communities so they can protect their current and future watershed restoration investments from climate change risk. There is a need to better identify how the IDF curves and other climate adaption tools need to be updated and distributed for stormwater objections and designs. The USWG wants to do a report on what is being done across the entire region, what designs they need to account for and plan for in the climate change scenarios, and what do stormwater communities need to help them improve their climate resilient practices. To complete this, their first step is do a partner and stakeholder engagement. They came to the CRWG because they want to get a lot of different stakeholders involved. They are less well connected to federal agencies and researchers in areas working on climate resiliency and want help filling stakeholder gaps. The next step is research and management synthesis. They are going to summarize forecasted changes in rainfall intensity and volume, identify existing or ongoing efforts to produce new IDF curves across the Chesapeake Bay region, assess current stormwater engineering standards and criteria, and analyze the vulnerability of urban stormwater BMPs to reduce pollutant removal performance. The final

step is to set up the CBP with a long-term workplan based on key findings from Steps 1 and 2. David Wood asked the following questions to the CRWG:

How can the CRWG help?

- Interested Stakeholders or helping us I.D. gaps
- Are there any essential resources we need to have at the outset?
- Who else is doing this kind of work?
- How frequently would you like updates at the WG?
    - There is an interested stakeholder email list if anyone on the workgroup would like to be added.

Lew asked if there is a target year the workgroup is interested in for the updated IDF curves. Could forecasted climate assessment for the IDF curves be used? David answered part of the stakeholder engagement is to see how comfortable they are with using those approaches. Certainly, some would like to use projected IDF curves, but that might not be the case everywhere.

Zoe asked if in the end with the workplan if it would get towards regulatory mechanisms. David responded the goal of this strategy is to get to implemental change and how they reach that goal will be found based on the stakeholder engagement. The USWG hopes to make some recommendations that leads to updates.

Zoe recommends adding DOD to the stakeholders list.

Mark mentioned we have talked about putting out a RFP to look at the IDF curves Baywide so how does the timeline match with the GIT funding proposal from the USWG. The GIT Funding Proposal could help us write the RFP, but that would require to wait a year. Lew said the work David is doing is developing the strategy of who is doing what for IDF needs. The GIT proposal is for a specific high development region in the Chesapeake and finding out what it looks like to do an IDF curve for it. David said the longer workplan will have the recommendation to the Program based on looking at what work has already been done on updating IDF curves.

Mark asked what is the timeline for this workplan. David said it will take 15 months. The first 3 months is the engagement stage, next spring and summer they will be doing the synthesis and summary, and hopefully the plan of action moving forward will be at the end of 2020.
Mark stated that it seems the RFP would be on hold until the USWG workplan is released. Lew confirmed NOAA feels comfortable with preparing the RFP for next year around summer 2020 so the RFP can be informed by the work the USWG is doing. The RFP is also going to be a lot broader than the work the

USWG is doing because it will be for management actions to respond to climate change.

2:30 **Modeling Pollution from Tidal Flooding on the Coast – Dr. Margaret Mulholland** (ODU)

Dr. Margaret Mulholland is a professor at Old Dominion University in the Department of the Ocean, Earth and Atmospheric Sciences. She will discuss her research on tidal flooding and the pollution brought back to water from the events.

Article on Dr. Mulholland's research

Hampton Roads area is having flooding problems even when the sky is blue due to coastal flooding. It happens every month during high tides. Researchers have thought about stormwater and the nutrients that go back into the water, but they haven't talked about tidal flooding – "blue sky flooding." Winds can also exacerbate tidal flooding. It pushes water through the bay mouth and makes tides really high. When it floods, whatever was on the land is going into the drain such as dog poop, trash, oil.

Dr. Mulholland and her team questioned how they could quantify N inputs during coastal flooding, because there is no rain necessarily associated with it. They need it to flood, need to sample as floodwaters recede, and need to sample multiple sites at the same time which requires a lot of people. To gather these people, they tapped into the Citizen Science project "Capture the King" at the Lafayette River. They used sea level rise application to track samples and trained the volunteers to collect water samples while mapping. More than 200 water samples were collected during each King Tide event to measure dissolved nitrogen. With these samples, they calculated the amount of nitrogen concentration in the flood zone as the volume of the water on the streets multiplied by the ammonia in the flood water minus what was already in the river when it came onto the land. During this one blue sky event, approximately 185 lbs N of ammonia was delivered and approximately 1,602 lbs of Nitrate was delivered for a total of 1,786 lbs of N. Their next steps include establishing sentinel sites to assess variability in loading during tidal flooding.

Norm Goulet stated they were discussing this research with Gary and asked if they were incorporating this into the modeling. Gary said not now, but it is something else he will need to add due to the magnitude of what she is showing. Norm is hoping to set up a presentation with the Stormwater Workgroup once there is a bit more research.

Lew asked if she thought if this is a surface wash off event. If there were two events close together, would she expect the same intensity in the events? She said no she doesn't think the load would be the same every time, because if the

landscape is washed off once pretty recently, there probably won't be as much of a load the second time. And there are other processes that happen on the landscape that help lessen the load such as street cleaners and raking up leaves. Norm mentioned there will probably be other factors in play such as inundation times and rainfall events. Do you predict higher loads than a rainfall event? She doesn't know but can see more for a precipitation event because it covers more of the land than tidal flooding. However, with tidal flooding, the water is sitting longer so it can accumulate more. For the tides, there is some planning that can be done because they are based on the cycle on the moon which could help with some additional cleaning of those areas or blockages. Lew asked if she thought this would happen in other metro areas? Margie thinks this is the case in other metro areas. She is hoping to expand into other Elizabeth River systems and not just the Lafayette.

3:00 **Climate Resiliency Project Update – Cuiyin Wu** (CRC), **Breck Sullivan** (CRC) **& Wuilliam Urvina** (CRC)

CBPO interns have pursued producing posters to communicate climate risks to vulnerable populations. They will present their posters and the workgroup will have the opportunity to provide feedback.

If anyone is interested in the posters and would like to put their own organization's logo on them, please contact Cuiyin Wu or Breck Sullivan for the files.

Urban Heat Island – Laura Exar
Hurricane Preparedness (Spanish Version) – Wuilliam Urvina
Hurricane Preparedness – Wuilliam Urvina
Planting Your Own Rain Garden – Sara Ramotnik

Next Meeting Dates: September 16th

Participants: David Wood, Wuilliam Urvina, Cuiyin, Breck Sullivan, Zoe Johnson, Julianna Greenberg, Krista, Nicole Carlozo, Katie Krueger, Margaret Mulholland, Matt Konfirst, Karl Berger, Norm Goulet, Rebecca Chillrud, Kate McClure, Ian Yue, Lewis Linker, Melissa Deas