

## Virginia Coastal Resilience Master Plan

### Technical Advisory Committee – Studies, Research, and Best Practices Subcommittee

<b>Subject</b>	Natural and Nature-based Solutions Working Group Studies/Research/Best Practices Subcommittee Virginia Coastal Resilience Master Planning Framework	<b>Date</b>	April 27, 2021
<b>Facilitator</b>	Mary-Carson Stiff	<b>Time</b>	12:00am – 1:00pm
<b>Location</b>	WebEx - <a href="https://governor.virginia.gov/cvwfa">https://governor.virginia.gov/cvwfa</a>	<b>Scribe</b>	Shurui Zhang

Invitees/Attendees			
#	Name	Organization/Role	Attended?
<b>Studies, Research, and Best Practices Subcommittee Natural and Nature-based Solutions Working Group Members and Staff Advisors</b>			
1.	Mary-Carson Stiff	Wetlands Watch Policy Director, Wetlands Watch	Y
2.	Shurui Zhang - Staff	Commonwealth Coastal and Marine Policy Fellow, Virginia Sea Grant	Y
3.	Dr. Carl Hershner	Emeritus Professor of Marine Science, Virginia Institute of Marine Science at William & Mary	Y
4.	Whitney Katchmark	Principal Water Resources Engineer, Hampton Roads Planning District Commission	Y
5.	Dr. Mark Luckenbach	Associate Dean for Research and Advisory Services, Virginia Institute of Marine Science at William & Mary	Y
6.	Catherine C. McGhee	Director of Research and Innovation, Virginia Transportation Research Council	Y
7.	Dr. Karen McGlathery	Director, Environmental Resilience Institute at the University of Virginia	Y
8.	William “Skip” Stiles, Jr.	Executive Director, Wetlands Watch	Y
9.	Carlos Rivero	Chief Data Officer	Y
10.	Dr. Robert S. Young	Geology Professor, Program Director for the Study of Developed Shorelines, Western Carolina University	Y
<b>Other Subcommittee Members</b>			
11.	Robert Weiss	Director, Center for Coastal Studies at Virginia Tech	Y
<b>Other Participants</b>			
12.	Ann Phillips	Rear Admiral, US Navy (Ret.) – Office of the Governor	Y
13.	Matt Dalon	DCR	Y
14.	Connor Winstead	DCR	Y

Agenda/Minutes		
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1.	Welcome and Chapter 1289 Reading	<p>Mary-Carson Stiff provided an introduction on how the meeting will proceed, meeting etiquette, and requested participants to ask questions through the chat box. Public comments will be taken during the last 30 minutes of the meeting from the chat box from those attendees who registered to speak. She then read through the required Chapter 1289 virtual meeting language.</p> <p>Please contact Shurui Zhang at phone: 217-979-8438 if you have any connectivity issues.</p>
2.	Roll Call and Quorum Affirmation	Mary-Carson Stiff took roll and advised that a quorum was present. She then asked for a motion to move forward with the virtual meeting. Cathy McGhee moved and Mark Luckenbach seconded. Motion Passed unanimously.

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3.	Discussion of Meeting Agenda	Mary-Carson Stiff provided a meeting agenda for the Natural and Nature-based Solutions working group. Mary-Carson Stiff asked for comments on the discussion topic outlined below.
4.	Expanding Group names/Focus	<p>Mary-Carson Stiff stated that there is an interest emerged from the last subcommittee meeting to expand the working group name to include alternative methods in addition to natural and nature-based solutions.</p> <ul style="list-style-type: none"> <li>• Dr. Carl Hershner – Having worked on the development of the framework and the guiding principles, I would second Mary-Carson’s inclination to emphasize natural and nature-based solutions. There are no other subcommittees in the TAC which focus on it, so I am in favor of having the working group focusing on nature-based solutions.</li> <li>• Dr. Mark Luckenbach – I agree with Carl’s statement. Though non-nature-based solutions will be used in some places, I don’t see a specific focus out of this group. I presume our discussion will include some hybrid approaches which are largely categorized as natural and nature-based solutions.</li> <li>• Dr. Karen McGlathery – I am noting the EO-24 language you cited on your slides, and I would add that beyond land conservation, restoration is also important. We should not lose sight of it.</li> <li>• Dr. Rob Young – I would love to see if we could draw the line between grey and green infrastructure, for example, there are erosion control methods that are called living shorelines but are not. It would be helpful for the state of Virginia to discuss it.</li> <li>• Whitney Katchmark – I would like for the Coastal Master Plan to include grey infrastructure, but I don’t know if it will fit in with the purpose of this particular working group. As a starting point, I would like to focus on defining what natural and nature-based solutions are.</li> <li>• Dr. Robert Weiss – As a subcommittee, we are supposed to keep track of living shorelines. For me, grey infrastructure is involved with nature-based infrastructures, because nature-based indicates engineering design criteria that work on a sliding scale from marsh to sea wall. As a subcommittee, we need to provide advice to the Commonwealth, the TAC, and Dewberry. We need to be as comprehensive as possible with limited time and resources. We also have to understand that this is a long process, so we can focus more on the low-hanging fruit, and for now, we may want to develop a midterm and long-term view.</li> <li>• Q - Whitney Katchmark – Is this working group providing technical assessments of solutions?</li> <li>• A – Mary-Carson Stiff – We will discuss it for the next part of the agenda.</li> <li>• Dr. Carl Hershner – One of the challenges or opportunities for this working group is to remind Dewberry or potential project proposers that the focus of the Master Plan is to not only using natural and nature-based features to protect existing infrastructures but also preserving the landscape as critical natural infrastructures. What’s missing right now is the definition of critical natural infrastructure.</li> </ul> <p>Mary-Carson Stiff concluded that grey infrastructure will be included in the hybrid approaches.</p>

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5.	Deliverables Plan	<p>Mary-Carson Stiff opened the discussion.</p> <ul style="list-style-type: none"> <li>• Dr. Robert Weiss – A set of questions from Dewberry will be distributed across expertise and advisors. In my opinion, the working group will not be working directly with Dewberry, but we can provide advice. We should focus on the science and keep a high-level scope to see what worked out in other areas. We should focus on being a proactive, long-term scientific advisory, and a reactive part for Dewberry to approach us with questions.</li> </ul> <p>Mary-Carson Stiff showed the study plan from Dewberry’s deliverables timeline in a slide and stated that she believes the working group will fit with the “Adaptation Strategies and Prioritization” milestone (See Slide Attachment). However, the deliverables are prioritization and a framework. If the working group takes the policy route, is the deliverables a general development of the framework and recommendation for how the Commonwealth should approach the use of nature-based features and the protection of the existing natural coastal infrastructures? Though November is the end goal, a large amount of work needs to be done by June/July. Mary-Carson then opened the discussion for deliverables.</p> <ul style="list-style-type: none"> <li>• Whitney Katchmark – I would be curious to know what Dewberry is counting for critical infrastructure and natural infrastructure. There are two concerns: one, what is the natural infrastructure we are trying to protect long-term; two, in terms of scoring projects, we might want to work on defining whether a project count as having natural and nature-based solutions.</li> <li>• Ann Phillips – The subcommittees are advising the Commonwealth, and they are not micromanaging Dewberry’s work. Dewberry knows that they need input from subcommittees and expert advice, but they know the limited timeline. There is little use in trying to change the timeline, and the TAC is a sustainable process that will continue. The Coastal Flood Hazard Framework is how Dewberry will approach the first version of a dynamic model concept. There are additional contracts that allow them to do a detailed process, but there is not enough time. In terms of recommending policy change, the recommendation will be for the Commonwealth instead of Dewberry. All of the subcommittees now have primary points of contact from Dewberry, so you will be seeing a more dedicated presence from individuals.</li> <li>• Mary-Carson Stiff – My specific concerns are duplication of efforts and creation of resources no one will use. I just want to make sure that what we produce will be useful. It’s good to know our directives are to do what’s best for the Commonwealth.</li> <li>• Dr. Mark Luckenbach – We have guidelines that favor nature and natural-based solutions, but we don’t have a concentrated effort to look across the geography of the marshes in Virginia. What actions do we want to do to stabilize them where we can but also let them migrate?</li> <li>• Dr. Carl Hershner – As sea level comes up, private property owners and the public will be protected at the expense of natural resources regardless of what the current regulations and laws require. I think what’s useful for this working group to tackle is to consider: if we are going to give up some natural infrastructures, what is the science say about the losses and what are the</li> </ul>

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		<p>options for preserving ecosystems services capacities somewhere in the Commonwealth? We need to actively look at the conversion of land.</p> <ul style="list-style-type: none"> <li>• Dr. Rob Young – What Carl and Mark suggested is a crucial study, but it's different from the task of evaluating nature-based solutions to shoreline stabilization for the protection of the built environment. They are two different approaches. As a working group, are we going to do both: defining what best practices are, or focusing on the long-term preservation of coastal habitat and ecosystems? Or are we going to decide on one or the other?</li> <li>• Dr. Robert Weiss – If we think a certain topic should be done, it's our prerogative to communicate with the Commonwealth. As a subcommittee, we need to show the signs of why certain actions are important, and at the same time, we need to establish the notion at these practices need to be considered together. We can advise the state on what is important and why it is important from a scientific point of view. We need to embrace uncertainty, and uncertainty is an opportunity that we can chart our way. I think it's too soon to discuss what is in or out of our scope.</li> <li>• Mary-Carson Stiff – Let's frame our interests and list them. We have a large swath of existing wetlands. Let's assess the wetlands, what's at stake, will they migrate, etc. Another topic is what is the role of hybrid approaches. I would like to highlight the legal implications of migrating wetlands, and if prioritization of those areas is paramount, what happens to the private property? What are other concepts or ideas?</li> <li>• Dr. Karen McGlathery – There has been a lot of work done on oyster reefs and restoring oyster reefs particularly in the context of these large wetlands in rural areas. Understanding oyster reefs as a different kind of hybrid should be in our conversations.</li> <li>• Whitney Katchmark – Also riparian buffers.</li> <li>• Dr. Carl Hershner – We are proposing a literature review of what is currently known. I think we will need a consensus view of what the service capacity of natural and nature-based features is for risk reduction.</li> </ul>
6.	Working Group Capacity/Support	<p>Mary-Carson Stiff asked for the capacities of research support from universities. Both Robert Weiss and Rob Young will have summer interns. Are there others who can support the work with summer interns?</p> <ul style="list-style-type: none"> <li>• Dr. Robert Weiss – Elizabeth Andrews will also have summer students. We will have three or five students. It would be great if they can work together under different working groups to also make it worthwhile for the students. They can research and prepare the information in a digestible way for us so we can make recommendations.</li> <li>• Dr. Karen McGlathery – We also have a student for works in the Socioeconomic Equity working group. I think having the students meet together would be great.</li> <li>• Dr. Robert Weiss – Shurui Zhang is already doing some research works, so I propose she would be the ringleader of the group.</li> </ul> <p>Mary-Carson Stiff – Excellent. If anyone else has some support, please email us.</p>
7.	Public Comment Period	There is no public comment.

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8.	Adjourn	Mary-Carson Stiff asked for any final comments from the working group members. No comments. Meeting adjourned at 1:00 pm.

DRAFT