

General Notice: [Notice of Public Comment Forum - Virginia Coastal Resilience Master Plan – Phase 1](#)

CLOSED Opened on 10/17/2022 and Ended on 11/18/2022

The Department of Conservation and Recreation is seeking public comment on key documents for the state's coastal resilience planning.

The **Virginia Coastal Resilience Master Plan – Phase 1** projects future coastal flooding and its impacts to the coastal regions' community, critical and natural resources. The Plan was released in December 2021.

PDF Link: <https://www.dcr.virginia.gov/crmp/document/virginiacoastalresiliencemasterplan.pdf>

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**Commenter: Marcia Drewry**

**Where is the data for rising sea levels?**

I am curious as to what historical statistical data was used to determine that the sea levels are actually rising and at what rate and how general erosion plays a factor in this determination as well.

CommentID: [195986](#)

**Commenter: Terry Blackwood**

**Good start**

This plan looks to be a good comprehensive start to addressing some of the numerous impacts coming from climate change. Hopefully it will be integrated into all urban planning in the state and we will stop building/rebuilding in high risk areas.

CommentID: [196446](#)

**Commenter: Anonymous**

**I Agree with Phase One**

I believe that the plan is written very well because it is detailed and has actionable items. There are clear statistics showing that more land will be affected from coastal flood. Phase One includes lots of information to digest and truly understand the situation.

**Commenter: Jessica DiNapoli**

**Very supportive**

As someone who lives near the coast, I'm very supportive of phase 1 of this plan as outlined in the PDF. Don't want to see it get significantly altered or diluted in its scope.

**Commenter: Anita E. Brabson**

**Pughsville's Issues**

We have flooding in subdivision Pughsville (Suffolk, VA). Years ago, in the 60's and 70's, when I was growing up, there was no such thing as floods in the Pughsville area. Since a different infrastructure has risen in this

area, we have been warring for quite sometime to get drainage in this area because of the new developments taking place and we keep getting pushed back and monies were available for the project, but 2 story houses are continuously being built in an area, almost on top of each other, and we have no storm water, but paying the fees through HRSD monthly. Ditches fill with water and cover the streets. Ditches are not maintained, water does not flow anywhere, Suffolk dug ditches deeper with equipment that was not conducive to the job. We need pipes in those ditches, large pipes.

**Commenter: CITY OF ALEXANDRIA VA**

**Request to Add 14 Resilience Projects for the City of Alexandria**

Mr. Matt Dalon  
Resilience Planning Program Manager  
Virginia Department of Conservation and Recreation  
600 East Main Street, 4th Floor  
Richmond, 23219

November 15, 2022

Dear Mr. Dalon,

Thank you for providing the opportunity to comment on the *Virginia Coastal Resilience Master Plan, Phase One, December 2021*.

The City of Alexandria is located within the jurisdiction of the Northern Virginia Regional Commission (PDC 8) and defined as a “Coastal City” per the Code of Virginia 28.2-100. The City has recently experienced more severe (100- and 500-year storms) and frequent (multiple times in the same summer) storm events which cause our sewers and local waterways to become overrun with floodwaters. These flood events damage and total property, including vehicles, homes, and infrastructure, as well as, causing health and human hazards, including restricting emergency vehicle access, performing swift water rescues, and water blowing out windows of homes and buildings. As a densely populated, highly urban City with over 10,000 citizens per square mile, these storm events have placed an ever-increasing pressure on our public infrastructure and resources. In 2021, the City launched the Flood Action Alexandria program to identify and accelerate civil engineering projects to help mitigate flooding caused by climate change induced storm events. Two such projects were identified as “Projects” in the *Virginia Coastal Resilience Master Plan, Phase One, December 2021*: Flooding Capacity Project Design: (1) Commonwealth Ave. & E. Glebe Rd. and (2) Ashby St. & E. Glebe Rd. The other two projects included focus on the Potomac River waterfront flood mitigation project which works to help mitigate the impacts of climate change-induced sea level rise.

We respectfully request Virginia Department of Conservation and Recreation consider 14 additional coastal resilience-focused projects for inclusion into the *Master Plan*. These projects range in total implementation cost from \$1 million to \$60 million with a combined total of \$141,420,000. These projects, which all help mitigate flooding and help create a more resilient Coastal Virginia, are as follows:

- DeWitt Ave. Storage and Conveyance
- E. Monroe and Wayne St. Conveyance
- East Mason Ave. Storage
- Edison St. and Dale St. Storage and Conveyance
- Hooff’s Run Culvert Bypass
- Mt. Vernon, E. Glendale, E. Luray, E. Alexandria S
- Notabene Dr. and Old Dominion Blvd.
- Russel Rd. and W. Rosemont Conveyance
- Russell Rd. and W. Rosemont Storage

- Hume Ave. Stormdrain Bypass & Check Valve
- Mt. Vernon Cul-de-sac Inlets and Alley
- Mount Vernon Dual Corrugated Metal Pipe Culvert Replacement and Optimization
- Nethergate Sewer Improvement
- Pitt and Gibbon Sewer Improvement?

The City is aggressively working to become a more resilient city in the face of climate change through Flood Action Alexandria. By updating the *Virginia Coastal Resilience Master Plan, Phase One, December 2021*, with these additional projects, Virginia DCR will provide greater transparency for the types of projects and resources required to work towards building a more resilient coastal Virginia.

Thank you for your time and consideration.

Respectfully yours,

Jessica Lassetter  
Senior Environmental Specialist  
City of Alexandria, VA  
CommentID: [205291](#)

**Commenter: Jessica Steelman, A-NPDC**

#### **CRMP Comments**

With regards to the Framework Principles, we agree on the following: best available data; socioeconomic inequities; natural and nature-based solutions; and community and regional scale planning (strongly.) We take a neutral stance on cost-effective solutions only to express concern that "cost-effective" can sometimes inadvertently result in cheap alternatives, unnecessary shortcuts, and lack of initiative to seek or advocate for increased funding. Secondly, resilience projects should restore land acreage and be economic drivers for the region at risk. If the resilience project can be economically fruitful for the region, to the point of paying for itself - there is less (or no) concern to be "cost-effective."

When considering the Framework Goals, we agree strongly agree with the goal of priority projects, with the contingency that there is a knowledge and understanding that priorities look very different depending on the location that is being assessed. What may be a priority for an urban locality is likely to look very different from what a priority in a rural locality looks like. There needs to be a method for ranking priority projects that takes this into very high consideration. We strongly agree with the goal of coordination in that resilience, sustainability, restoration efforts must align and work in tandem with each other across borders. These are federal-level issues that require looking at the big picture - the Chesapeake Bay & Atlantic Coastline - not just each locality's borders. We strongly agree in the goal of establishing a financing strategy, with the contingency that this goal also address the importance of how resilience efforts can be economically beneficial to the locality and region to the extent that the project may even generate a return on investment, so to speak, through increased transient occupancy tax, housing/full time residents, ability for large vessels to continue navigation through smaller channels when storms are imminent, bringing them into local ports, etc.

We strongly disagree with the established 4 Master Planning Regions. While rural and coastal, the Eastern Shore (Accomack-Northampton PDC) is vastly different from the other rural coastal regions (as identified by the VCRMP); the starkly apparent difference being that the Eastern Shore has an Atlantic Seaboard and the other rural coastal regions do not.

The Framework established 20 year planning horizons are good milestones, but the 20-yr span between horizons leaves a lot to the imagination when it comes to planning and requiring more time-specific data and analyses. This finer-tuned data is needed to identify priority projects (especially with regards to ranking rural vs urban), and determine the best designs to ensure sustainability and transferability.

CommentID: [205670](#)

**Commenter: RES**

**RES Supports the CRMP**

RES supports the CRMP and is currently serving on an advisory committee in other Mid-Atlantic States and have demonstrated the ability to design-build-sustain nature-based solutions that are a component of the CRMP. Based on our project experience and approach to delivery, we are positioned to identify and deliver projects that align with the goals and objectives of the CRMP and available to support the projects outlined in the CRMP.

As part of our advisory committee role, we are supporting the development of Resilient Protection Frameworks that include the development of three primary deliverables that may also be considered as part of the CRMP:

1. Coastal Resilience Easement Language: Draft language that can be integrated into existing easements to ensure the preservation of the socio-ecological goals of protected parcels given anticipated sea level rise-induced landscape change.
2. Coastal Resilience Management Plan Template: Land management outline that prioritizes management strategies that can be applied to a given parcel—depending on the landscape features of individual parcels—to improve the climate resilience of the parcel's socio-ecological resources.
3. Incentivizing Action Plan: Recommended sustainable financing structures that will support both a new industry for the development and implementation of marsh migration management plans, as well as financial incentives for landowners.

In addition, dredged material is a valuable resource and can be incorporated into beneficial use applications to support coastal resiliency strategies, such as living shorelines, wetland creation, increasing land elevation, etc. It appears the beneficial use of dredge material is not specified in the CRMP. RES is supporting another agency to develop a framework to evaluate the siting and construction of projects to accept small, local deposits of dredged material for coastal resiliency projects in other regions. The goal of this effort is to align ecological, economic, and social parameters to support regional dredging and resiliency needs using nature-based solutions.

CommentID: [205688](#)

**Commenter: Emily Steinhilber, Environmental Defense Fund**

**Part 1 of 2: Environmental nonprofit comments in support of CRMP Framework and Phase 1**

Director Matthew Wells  
Virginia Department of Conservation and Recreation  
600 East Main Street  
24th floor  
Richmond, VA 23219-2094

November 18, 2022

**RE: Comments to Notice of Public Comment Forum - Virginia Coastal Resilience Master Plan – Phase 1 and Notice of Public Comment Forum - Virginia Coastal Resilience Master Planning Framework**

Dear Mr. Wells,

On behalf of the Chesapeake Bay Foundation, Chesapeake Climate Action Network, Environmental Defense Fund, James River Association, Lynnhaven River NOW, Surfrider Foundation, The Nature Conservancy, Virginia Conservation Network, Virginia League of Conservation Voters, Waterkeepers Chesapeake, and Wetlands Watch, we are pleased to submit comments to the General Notice of Public Comment Forum – Virginia Coastal Resilience Master Plan Phase 1 and the Notice of Public Comment Forum – Virginia Coastal Resilience Master Planning Framework. We have combined our comments to these two documents in

recognition that the Virginia Coastal Resilience Master Planning Framework (Framework) and Virginia Coastal Resilience Master Plan Phase 1 (Phase 1 CRMP) are both the foundation and framework for future resilience planning and engagement the Commonwealth is required to undertake pursuant to Chapter 495 of the 2022 Acts of Assembly requiring a Virginia Flood Protection Master Plan by 2026, a revised Virginia Coastal Resilience Master Plan by the end of 2024, a Community Outreach and Engagement Plan by the end of 2022, the establishment and engagement of a Technical Advisory Committee, and the integration of these plans and regular reporting.<sup>[1]</sup>

The undersigned organizations participated in and supported the development of the Phase 1 CRMP and/or the Framework 1 documents and strongly support continued planning, implementation, and investment in the above processes as required by Virginia Code to ensure a resilient future for all Virginians.

The findings of the Phase 1 CRMP are stark. Without action, the number of residents living in homes exposed to major coastal flooding will nearly triple from 360,000 people to nearly 1 million by 2080. Flood damages will skyrocket 1,300%, from \$400 million to \$5.1 billion annually. Without action, nearly 90% of tidal wetlands and almost 40% of dunes and beaches may be permanently inundated by 2080. The plan also begins the process of identifying where high flood risk overlaps with increased socioeconomic vulnerability, using the Centers for Disease Control and Prevention's Social Vulnerability Index methodology, to determine risk hotspots for potential intervention. The Department of Conservation and Recreation (DCR) hosted initial community meetings in the covered regions to share educational resources and gather community perspectives. This provides a foundation to move Virginia forward, and the undersigned groups are available as a resource and partner throughout that process.

With that in mind, we offer the following comments:

### 1. **Virginia must abide by and fulfill the principles outlined in the Framework.**

The principles set out in the Framework should be adhered to throughout subsequent planning and implementation efforts. Those principles require the following:

- Planning must be based upon **best available science**, and clear guidance should be developed to inform how and when new data will be incorporated into state code, regulations, guidance and programs.
- Underserved and over-burdened communities are often the least able to adapt to flood risk or recover from a flood and may be more vulnerable due to certain risk factors like age or discriminatory processes like redlining. All plans should work to **enhance equity** among Virginians.
- **Nature-based solutions** are often cost effective and have many co-benefits and should be prioritized.
- Plans and projects prioritized by the state should focus on the **community and regional scale** to maximize benefits and leverage resources while tailoring approaches to community need.
- Limited **resources must be leveraged and used effectively** to enhance protection and adaptation for communities, businesses, and critical infrastructure.

2. **The Framework and Phase 1 CRMP represent a crucial initial assessment, and Virginia must now develop a plan of action with careful and robust prioritization of projects and programs.**

The Framework and Phase 1 CRMP, initiated by Executive Order No 24 Increasing Virginia's Resilience to Sea Level Rise and Natural Hazards (2018),<sup>[2]</sup> were both a foundational step forward for the Commonwealth and are the building blocks upon which Virginia can build resilience to flooding for all Virginians in a changing climate. However, due to limited resources at the outset of the Framework process and constrained timelines necessary during the preparation of the Phase 1 CRMP, the resulting documents and web resources are assessments rather than plans. Furthermore, while in many ways Virginia has been a leader in flood resilience, efforts have, at times, been disconnected. The forthcoming Phase 2 Coastal Master Plan, Virginia Flood Protection Master Plan, and Community Outreach and Education Plans – coupled with true stakeholder engagement and financial resourcing for implementation – represents an opportunity to synthesize resilience efforts and mitigate the impacts of flood risk in Virginia.

3.

A. *Project Database and Data Accessibility for Local and Regional Planning and Implementation*

The open data portal and coastal resilience web explorer are excellent starting points to connect local and regional communities with tools and data. This approach should be expanded and deepened across the Commonwealth with additional tools and data sets including sample project designs across coastal and riverine areas and additional floodplain mapping. Data should be collected and available at the finest scale available and include both quantitative data and qualitative data collected from frontline communities to facilitate the incorporation of local knowledge in planning. Processes should be implemented and staffed to support updates of the project database and funding opportunities, both of which will change frequently, particularly in light of the Infrastructure Investment and Jobs Act (2021), which has dedicated over \$50 billion to resilience. This massive sum does not even include programs which do not explicitly highlight resilience but may better incorporate resilient principles into infrastructure programs.

Moreover, when Planning District Commissions (PDCs) and localities submitted “projects” to the open call, many local and regional staff spent significant time learning a new process and entering data for many projects. However, some areas opted out or did not participate fully. Statewide planning efforts would be enhanced with a complete database of existing projects and programs, which would allow effective prioritization of existing projects and programs and allow for targeted technical assistance or engagement in communities that were chronically underserved, at high flood risk, and had been unable to respond to a data call.

Connecting public and municipal outreach and engagement is essential to ensure the project database is updated continually. Additional DCR staff may be required to help coordinate this work across localities and provide technical assistance to local government staff who already lack capacity to handle this reporting on their own because assessing project needs to include in the master planning process creates a burden on local staff, especially in lower resourced communities. Furthermore, even with time to devote to sharing projects to a statewide database, lower resourced communities may not have the baseline data and planning they need to initiate engineering and design for projects that reduce community-scale flood risk.

4.

B. *Establishing Shared Vision and Goals with Measurable Performance Metrics*

Due to limitations on public meetings, data collection timelines, and the quality and diversity of data included in the final project database, the Phase 1 CRMP highlighted project examples

across regions and by type. Moving forward to the implementation phase, projects will, at some point, need to be prioritized and resourced. It is essential that clear and shared goals with broad acceptance across government and stakeholders be determined as a necessary first step. These goals will support the determination of decision-making processes, the scientific framework, and performance metrics used to evaluate the ability of a project or group of projects to meet those goals and monitor progress over time.

5.

### *C. Prioritizing Projects and Programs Across Virginia*

There is also a need to define both the types of projects and programmatic activities that would qualify for analysis and inclusion in the CRMP. The Prioritization Framework initially proposed for the Phase 1 CRMP included categories for project types (structural flood risk reduction, non-structural flood risk reduction, and nature-based solutions), but combined all programmatic activities such as policies, programs, and capacity building into the non-structural flood risk reduction project category. These kinds of programmatic activities should be considered independent from project types to streamline evaluation of similar activities against one another and benefit chronically underserved communities who need more technical assistance and capacity building resources.

Prioritization should ensure that all regions and localities have the ability to participate actively in the Master Planning process and co-develop solutions, particularly those that are chronically underserved communities facing increased flood risk, many of whom may not have projects already developed and included in the existing project database. DCR technical assistance may be necessary to work closely with communities to identify projects and the agency must be staffed and resourced accordingly.

Within any newly established prioritization schema, natural and nature-based features must be considered critical infrastructure and preservation of this capacity should be prioritized. Additionally, baseline screening is challenging without specific standardizations and measures to ensure consistency, which do not yet exist in the Phase 1 CRMP. Project criteria must be objective and consistent across project type and benefits focusing on the Framework Principles as a foundation and incorporating compound flood risk and future resilience. The Phase 2 CRMP and statewide plan must evaluate projects under a comprehensive needs assessment based upon the Framework principles.

### **6. Virginia must plan for flooding resilience statewide.**

The Phase 1 CRMP and Framework applied only to the coastal zone. However, we have seen far too frequently that Virginians outside of the coastal zone, like those in Buchanan County in August 2021 and July 2022, are increasingly impacted by severe flooding often driven by high intensity rainstorms. The Community Flood Preparedness Program (CFPP) rightly supports planning, capacity building, and projects statewide, but this results in a policy disconnect.

Effective July 1, 2022, the Commonwealth must embark on not only revisions to the CRMP but also a statewide process to develop a Virginia Flood Protection Master Plan. Though these plans have different deadlines, it is essential that these two products and the key funding source that is the CFPP are coordinated efforts. Additionally, any subsequent implementation and funding plans should be closely linked to drive incentives to participate in planning processes that are backed by capacity-building, data collection, and implementation funding.

### **7. Virginia must evaluate multiple sources of flooding and account for residual risk.**

Climate-induced flooding threatens the lives, livelihoods, and property of communities across the Commonwealth. Coastal Virginia faces the highest rate of relative sea level rise on the Atlantic coast and precipitation is increasing across the commonwealth in terms of intensity, frequency, and the duration of storms. Along with storm surge, land subsidence, and increasing ‘sunny day’ or recurrent flooding from high tides and wind, Virginians face a number of types of flood risks which are increasing due to climate change. This is a fact that the commonwealth already recognizes, as Virginia’s Department of Transportation now requires bridge designs to factor in a 20% increase in rainfall intensity and 25% increase in discharge.

Due to time and data constraints, the Phase 1 CRMP addressed only coastal flooding in the coastal plain. Phase 2 of the CRMP must instead take a comprehensive look at flood risks and the ways in which they will interact to intensify flood events. Similarly, the potential solutions DCR considers should be evaluated based on their ability to effectively address these multiple sources of flooding and reduce the impacts from compound events. Considering these flood risks in silos could result in a project that worsens one type of flooding while trying to solve another, or it could result in DCR overlooking a cost-effective solution with the potential to mitigate multiple types of flooding.

Building flood resilience requires decision-making in the face of ongoing uncertainty, particularly regarding rates of sea level rise and other flood risks. Acknowledging those uncertainties in planning is key to building a plan that achieves resilience today and into the future. The Phase 2 CRMP should consider financial, scientific, and other technical uncertainties while acknowledging that substantial uncertainties remain, especially in regard to climate change. Key uncertainties should be captured in different environmental and socioeconomic scenarios. To accommodate the dynamic nature of coastal and fluvial processes, resilience plans should lay the groundwork for an effective monitoring and evaluation process that seeks to reduce scientific and engineering uncertainty, assess the success of the plan, and support an adaptive management program. Resilience plans should acknowledge that risk reduction systems – both structural and nonstructural – and restored coastal habitats cannot eliminate all flooding risks, and that some degree of residual risk will be inevitable.

**8. Virginia must connect the plan with financial resources including those from the Community Flood Preparedness Fund.**

9.

*D. Connecting the CRMP and CFPF*

The CFPF is cited as the key source of resilience funding in Virginia by the Phase 1 CRMP, but DCR has so far failed to make an explicit connection between them. The two are natural partners: the Framework’s guiding principles and the enabling legislation for the CFPF both prioritize community-scale planning as well as nature-based solutions and equity. Explicitly connecting coastal and statewide flood resilience planning efforts with the CFPF will help DCR and stakeholders increase awareness of and interest in these initiatives, while also allowing local governments to leverage funding sources to meet their flood resilience planning and project implementation needs to adapt to a wetter future.

Unfortunately, since the Master Planning process was completely disconnected from the CFPF being launched concurrently but independently, that connection wasn’t clear to participating communities. Public meetings held while the Phase 1 CRMP was under development were informational but had few participants, and those who did attend asked variations of the same question: “Who is going to fix my flooding?” or “Will this work be funded?” Although the CFPF is listed as an essential source of statewide funding for resilience, DCR was not able to



communicate a path forward to connect the two DCR programs and show locality staff and members of the public that their engagement in the CRMP development process would lead to tangible projects and funding opportunities to implement them. This must be included in Phase 2, the statewide plan, and made clear throughout the engagement process. In turn, it will result in a more informed CRMP Phase 2, Statewide Plan and project database.

Other states have made the connection between community co-designed projects and implementation funding. Louisiana's Strategic Adaptations for Future Environments, or LA SAFE, was a collaboration between Louisiana's Office of Community Development and Foundation for Louisiana, this initiative engaged nearly 3,000 individual community members across six coastal parishes in a collaborative, iterative process to outline a vision of development for the next 50 years that will meet the needs of community members. Incorporating input from residents in each parish, the strategies also outline policy and land-use recommendations that are responsive to the economic, population, and social shifts that occur from repetitive flooding and disaster events. Each parish strategy is tied to a community-designed project, ranging from stormwater improvements, mental and public health services, residential buyouts, business incubator, resilient housing/street design, and more. The LA SAFE engagement process was funded by a HUD 2016 National Disaster Resilience Competition grant; funding for project implementation came from a HUD Community Disaster Block Grant - Disaster Recovery (CDBG-DR) grant following Hurricane Isaac in 2012.

10.

#### E. Federal Funding Opportunities

With the passage of the IIJA in 2021, Virginia's communities will need to take advantage of the influx of available resources, either independently or in partnership with the commonwealth. While the CFPF can serve as matching funds and the Phase 1 CRMP data portal outlines existing funding sources – many of which will receive additional funds due to the IIJA – lower-resourced localities still may not have the tools to access these funds without direct technical assistance. Considering the limited nature of Virginia's CFPF funds as compared with demand, and newly available federal funds outlined in the IIJA, some future project prioritization or scoring criteria could be added to the Phase 2 CRMP to demonstrate alignment with state planning efforts.

*Continued in Part 2*

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<sup>[1]</sup> Chapter 495 of the 2022 Acts of Assembly: An Act to amend and reenact Va Code §§ 2.2-222.4, 10.1-602, 10.1-658, and 10.1-659 of the Code of Virginia, relating to flood resiliency and protection, Available: <https://lis.virginia.gov/cgi-bin/legp604.exe?221+ful+CHAP0495+pdf>

<sup>[2]</sup> Exec Order No. 24: Increasing Virginia's Resilience to Sea Level Rise and Natural Hazards (2018). Available: <https://www.dcr.virginia.gov/crmp/document/ED-24-Increasing-Virginias-Resilience-To-Sea-Level-Rise-And-Natural-Hazards.pdf>.

CommentID: [205694](#)

11/18/22 11:52 pm

**Commenter:** Emily Steinhilber, Environmental Defense Fund

**Part 2 of 2: Environmental nonprofit comments in support of CRMP Framework and Phase 1**

*Continued from Part 1*

## 6. **Virginia must center equity and support meaningful engagement of all Virginians.**

Outreach efforts during Phase 1 of the process were severely hampered by the Covid-19 pandemic as well as tight deadlines and misalignment of engagement and technical deliverable timelines. We support DCR's efforts to complete a Community Outreach and Education Plan by December 31<sup>st</sup>, 2022 and appreciate the effort to remain in close communication with non-profits who are poised to offer assistance. However, the Department is currently under equipped to fully deliver on engaging Virginians statewide to both understand their risk and co-develop solutions and projects to build resilience and reduce risk in a manner that works for each community.

### 1.

#### A. *Implementing the Virginia Environmental Justice Act Across Agencies*

Pursuant to the Virginia Environmental Justice Act, "'Environmental justice' means the fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy" and it is "the policy of the Commonwealth to promote environmental justice and ensure that it is carried out throughout the Commonwealth, with a focus on environmental justice communities and fenceline communities."<sup>[1]</sup> Future resilience plans must fully embrace the meaningful involvement component of the Environmental Justice Act and work closely with communities that are chronically underserved and facing increased flood risk to ensure that residents understand their risk and participate in the development of solutions to be included in future project lists.

### 2.

#### B. *Centering People in Decision-Making*

Climate change will drive transitions along Virginia's coasts and waterways that will cause fundamental disruptions to communities' economies and livelihoods, mental health, and culture and way of life – particularly where communities are considering moving away from flood risks or experiencing climate-induced population growth. These transitions will raise fundamental questions of distributional equity and decision-making systems should, wherever possible, allow people to participate in choosing their own futures. The forthcoming Outreach and Engagement Plan will play an essential role in centering Virginians in decision-making processes and its implementation should be integrated with the Phase 2 CRMP and Statewide Flood Plan. Many resilience plan applications to the CFPF to date have centered community engagement and co-design of needs and projects into their planning processes. Implementing similar measures and continuing to provide opportunities for meaningful contributions from community members to inform development of the Phase 2 CRMP and Statewide Flood Plan.

The Phase 1 scope included outreach and engagement targeted initially at the Planning District Commissions within the coastal region, and in a second phase to communities with both high socioeconomic vulnerability scores and at high flood risk. Planning district commission meetings began with local and regional staff and community leaders participating in informational sessions and viewing and commenting on mapping products, and then shifted to a public facing session in the evening. At least one representative from an undersigned organization participated in most planning district meetings and public facing meetings. While state staff and the consultant were well prepared and meeting materials were informative, many of the sessions, particularly the public sessions, had few participants. Meetings were under advertised (in fact, Environmental Defense Fund ran a public media campaign to share meeting

information) and often at locations away from public transit or not frequently utilized for community events like planning district buildings. Understandably, public libraries and recreation centers, which might have been more easily accessible, were not renting meeting space due to the Covid-19 pandemic and related State of Emergency.

Moving forward, and in coordination with the Outreach and Engagement plan, strategies to make meetings more accessible for all Virginians, including advanced advertisement, convenient location near transit, and other support should be prioritized.

3.

*C. Bringing Resources and Technical Assistance to Underserved Communities*

Communities that are chronically underserved and facing increased flood risk may require extensive engagement and technical assistance from DCR to work closely with to identify projects. The meaningful involvement of and technical assistance for underserved communities could be accomplished in multiple ways.

For instance, although the Phase 1 CRMP completed an initial gap analysis, more work could be done to identify potential projects, connect them with funding sources, and highlight which data, resources, or other tools are needed to connect the dots. By identifying which localities will need the most support, DCR can better leverage their own resources and tools where they are most needed. North Carolina's [Resilient Coastal Communities Program](#) is a great example of this kind of focused technical support and engagement. With funding from the state and the National Fish and Wildlife Foundation, localities in North Carolina's coastal counties can apply for direct technical assistance and funding to help overcome barriers in coastal resilience and adaptation planning, boost local government capacity, and support a proactive and equitable approach to coastal resilience planning and project implementation. The CRMP's open access data portal makes baseline vulnerability data available to locality staff, but many do not have the time or expertise to learn how to use it. DCR and the larger CRMP team could provide trainings to localities on how to use this data for their individual resilience planning efforts, reducing duplication of efforts and increasing the pace of planning.

DCR could also consider collaborating with other state agencies to bring additional resources to bear, such as partnering with existing state programs like the DEQ Office Environmental Justice and engagement professionals throughout the DEQ regions. DEQ has six regional offices across the commonwealth with dedicated staff who work with the central office and executive team to handle community outreach, engagement, and regulatory requests. DEQ is also utilizing social media in addition to traditional methods such as public meetings and comment periods to spread awareness of their role and resources. VDEM is also a natural partner for this process, with an office of Diversity, Equity, and Inclusion and having conducted an extensive series of Hazard Mitigation Assistance Grants Equity Workshops. VDEM has established a Partners in Preparedness program to provide information and resources to community partners to break down communication barriers between the agency and socioeconomically vulnerable Virginians, though the office is new and information is not yet widely available. This effort will engage a diverse swath of NGOs, faith-based communities, businesses, education spaces, community centers, and other central hubs that can provide translation services, internet access, and other critical resources.

**6. Virginia must prioritize natural infrastructure solutions as critical infrastructure.**

Implementation of natural infrastructure solutions for flood resilience allows limited resources to be used efficiently and leveraged for co-benefits including water quality goals. When combined with non-structural adaptation measures, natural infrastructure practices are more cost-effective than gray infrastructure at reducing flood damages. For example, a case study from the Gulf Coast calculated a benefit-cost ratio of 3.5 for nature-based solutions while grey infrastructure practices of levees/dikes and home elevations ranged from 0.26 - 0.73 <sup>[2]</sup>. A global review in 2016 found that nature-based shorelines that consist of salt marsh can be 2 -5 times more cost effective than gray solutions at reducing damaging waves <sup>[3]</sup>. Nature-based shoreline restoration projects are also more resilient to the impacts of sea level rise and storms <sup>[4]</sup> - projects in North Carolina and California have withstood intense wave action while nearby gray infrastructure was inundated and damaged in the same storms <sup>[5]</sup>. The environmental processes that make natural infrastructure resilient also provide a wealth of co-benefits that have positive impacts year-round – unlike gray infrastructure practices which only have potential positive impacts during storms <sup>6</sup>. In addition to flood protection, natural infrastructure can improve water quality, trap sediments that would otherwise need to be dredged, and support fisheries, tourism, and recreation <sup>6, [6], [7]</sup>.

**8. Virginia must integrate existing state codes, regulations, programs, and agency leadership to adapt to increasing flood risk and a changing climate.**

Virginia is the first state to include climate change and sea level rise in its tidal wetlands permitting and development actions subject to the Chesapeake Bay Preservation Act, but we could lose the majority of our tidal wetlands and coastal shoreline by mid-century without vigorous enforcement of these regulations. This necessitates more consistency across planning documents and program guidelines, as well as decision-maker education by agency staff.

*a. Tidal Wetlands Act & Chesapeake Bay Preservation Act*

The Framework lists, as initial actions, to coordinate the changes to the Chesapeake Bay Preservation Act (CBPA) and Tidal Wetlands Act (TWA) and integrate project review and compensatory mitigation of unavoidable impacts, resilience, and future impacts. Though steps have been taken to coordinate the efforts by reference in the CBPA guidance and TWA guidelines, on which many signers of this letter have commented, more action is needed to realize these goals in practice. The CBPA and TWA share overlapping jurisdiction, necessitating clear regulatory coordination. To further emphasize the importance of coordination, as sea levels rise, the landward buffer under CBPA jurisdiction today will become tidal wetlands in the future. Local government staff, already overburdened and under-resourced, need examples of how local wetlands and CBPA boards should review permits under the new regulations.

*b. Coordination Across Agencies*

Although the Framework documents some departments and programs that should coordinate to leverage resources and Gov. Northam's Executive Order 45 established a workgroup to ensure statewide compliance with resilient building standards, this level of coordination does not fully leverage the commonwealth's staffing and funding resources to coordinate across state government. The Commonwealth could establish a body of resilience points of contacts at each agency charged with implementing resilience throughout programs within that agency. Several other states are taking a look at how to coordinate interdisciplinary resilience work across agencies and provide a potential path forward.

In New Jersey, Gov. Murphy's 2019 [Executive Order 89](#) established an Interagency Council on Climate Resilience comprised of 16 state agencies. The group was tasked with developing short- and long-term action plans to promote the long-term mitigation, adaptation, and resilience of the state's economy, communities, infrastructure, and natural resources. The [New Jersey](#)

[Climate Change Resilience Strategy](#), released in 2021, charts a path forward for the Interagency Council and participating agencies to actualize plans and engage stakeholders and the general public.

In Louisiana, Gov. Edwards issued [Executive Order 2020-19](#), directing each state agency to identify a resilience coordinator to lead collaboration for the [Adaptive Governance Initiative](#). The involvement of many additional agency staff helped make the project a success and a useful framework for agencies moving forward. Agencies first conducted a vulnerability assessment of their physical assets like infrastructure and social assets, including programs, services, and employees. This exercise helped agencies identify priorities around mission-critical impacts, establish buy-in by identifying concrete examples within each department, and lay the groundwork for developing adaptation options. After identifying specific adaptation needs, agencies turned to potential implementation partners and pathways, resource needs, and ways to collaborate across agencies to get the job done. Louisiana’s Adaptive Governance Initiative has momentum thanks to dedicated leadership by the Chief Resilience Officer and buy-in across agencies’ resilience coordinators, but permanent structures, processes, and resources are needed to give agencies the capacity to plan and implement long-term adaptation solutions.

As the federal government rolls out increased funding for resilience programs and incorporates resilience into other programs, increased coordination is essential and must be a component of the CRMP Phase 2 and statewide planning efforts.

**9. The recommendations of the Coastal Resilience Technical Advisory Committee formed by Executive Order No. 71 (2020) should be taken into account.**

At the completion of the Phase 1 planning process, many members and advisors of the Coastal Resilience Technical Advisory Committee signed on to a set of forward-looking recommendations as the commonwealth moved forward in its planning and implementation processes. These recommendations were sent by Dr. Carl Hershner to legislators, the Northam administration, and the incoming Youngkin administration on December 15, 2021, and while some were generally incorporated into Chapter 495 of the 2022 Acts of Assembly or reiterated above, they bear repeating. The recommendations that have not already been implemented are summarized as follows:

- Create and enhance citizen oversight with adequate funding and staff to:
  - Maintain and update resilience master planning efforts statewide
  - Administer the Community Flood Preparedness Fund
  - Align agencies flood programs and resilience planning across the Commonwealth
  - Oversee regional planning while considering the Commonwealth’s priorities
- In addition to funds from the Regional Greenhouse Gas Initiative, identify additional operating funds and additional sources of funding for resilience planning and projects.
- Improve the next iteration of plans by developing a comprehensive, spatially-explicit risk assessment of critical human infrastructure, critical natural infrastructure, and disadvantaged communities that:
  - Considers both storm surge and precipitation-driven flooding
  - Considers flood risk for both current and future conditions

- Identifies disadvantaged communities at the finest possible resolution
- Develop and implement a well-designed outreach and engagement effort to build understanding and support
- Engage and include Tribes in any regional planning effort given their unique legal status as sovereign nations

**10. Conversations around strategic relocation must be done in partnership with communities and move at the speed of trust.**

Although the Framework prioritized an initial focus on managed retreat, this was met with understandable confusion and frustration by local and regional governments. Students and researchers, in coordination with the TAC, developed a literature review and case study detailing how managed coastal retreat had been used elsewhere, which was not included in the CRMP Phase 1. In the future, conversations around strategic relocation must be done in partnership with communities and local government through an extensive engagement process. The commonwealth must move at the speed of trust to ensure communities do not feel taken advantage of or left behind in this process.

**Conclusion**

Virginia must move urgently by investing in staff, external support, data acquisition, and technical assistance programs to develop comprehensive plans, tools, and then implement these plans. Although the deadlines imposed upon the DCR for the revised Phase 2 CRMP and the Virginia Flood Protection Master Plan may appear to be years away, we have learned from the Framework and Phase 1 processes that this work is complicated and to do it well will take time. Progress can be made now by staffing and embarking on a robust engagement plan to co-develop projects and incorporate frontline community knowledge into the planning process. Moving forward with best-available science will also necessitate incorporating new data, such as the MARISA projections for increased intensity, duration, and frequency of precipitation and the revised 2022 NOAA sea-level rise projections.

Virginia can continue to build resilience across the Commonwealth by moving forward to fulfill its obligations to develop, revise, and implement resilience plans in the coming years. Environmental non-profits stand ready to provide technical advice and support meaningful engagement across the commonwealth.

Sincerely,

Victoria Higgins  
Virginia Director  
Chesapeake Climate Action Network  
Jay Ford  
Virginia Policy and Grassroots Advisor  
Chesapeake Bay Foundation

Emily E. Steinhilber  
Director, Virginia Coasts & Watersheds  
Environmental Defense Fund

Patrick Calvert  
Senior Policy & Campaigns Manager –  
Land Conservation & Healthy Rivers  
Virginia Conservation Network

Erin Reilly  
Senior Staff Scientist  
James River Association

Karen W. Forget  
Executive Director  
Lynnhaven River NOW

Matt Gove  
Mid-Atlantic Policy Manager  
Surfrider Foundation

Nikki Rovner  
Associate State Director  
The Nature Cons

Michael Town  
Executive Director  
Virginia League of Conservation Voters

Robin Broder  
Deputy Director  
Waterkeepers Chesapeake

Skip Stiles  
Executive Director  
Wetlands Watch

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CommentID: [205695](#)

**Commenter: Kelly Hengler**

One of the key focus principles involves and yet incorporates all four principles:

"Utilize community and regional scale planning to the maximum extent possible, seeking region specific approaches tailored to the needs of individual communities".

The Lower James River Watershed is challenged with containing the epicenter of coastal flooding in the axis of Norfolk, Hampton, and Newport News, and Portsmouth with a striking degree of DOD, Industrial presence, and socioeconomic disparity.

The unique nature of being in the seat of the English settlement area and having existed for over 400 years together as the entirety of a region built over centuries and also built upon for centuries is a unique challenge.

Often the highly polarizing language angle that exists in the general public around the dynamic terms of climate change auspices of emergency Readiness.

As the United States military veteran Desert Storm and train metaback coordinator we need to do better.

I believe that the coastal resilience master plan is the 1st step forward and it all charge The politicizes this matter in its entirety needs to be debunked and replaced with a formatted language and involving a key term that is understood between the significant military and Department of Defense contractors as well as federally engaged on deployed services in our region.

Emergency readiness and disaster preparedness is truly what coastal resilience is.

Again the dedicated staff have been wonderful in creating this plan but we also weave out a lot of discussion that can engage those who work in the public health sphere and are professionally geared towards addressing issues of readiness throughout entire regions.

I will forward my comments now as I am approaching the midnight hour and reserve the request that I be able to further extend to you beyond my brief in sustained thoughts that we must and shall overcome what we are facing as a major disaster issue for Virginia.

In health care we often focus on chronic care and best outcomes in managing those conditions that in the end stage process is of disease will cost us more if all efforts are not deployed To minimize and point outcomes.

I would like to be able to share more again I'm going to send this before the midnight deadline and reserve further thought to be added I appreciate you and all that you do.

Respectfully

Kelly Hengler



November 18, 2022

Mr. Matt Dalon  
Resilience Planning Program Manager  
Virginia Department of Conservation and Recreation  
600 East Main Street, 4<sup>th</sup> Floor  
Richmond, VA 23219

**Re: Public Comment on Virginia Coastal Resilience Master Planning Framework  
and the Virginia Coastal Resilience Master Plan – Phase 1**

Dear Mr. Dalon,

The Southern Environmental Law Center (“SELC”) provides the following comments on the Virginia Coastal Resilience Master Planning Framework (“Framework”) and the Virginia Coastal Resilience Master Plan – Phase 1 (“Master Plan”). SELC is a non-partisan, non-profit organization that works throughout Virginia to promote policies and laws that protect our environment, strengthen our communities, and improve our quality of life.

At the outset, we wish to acknowledge the significant steps that the Commonwealth has taken in recent years toward making Virginia’s coastal areas more resilient to flooding. These efforts include, among others, establishing—and funding—the Community Flood Preparedness Fund to assist localities with flood protection planning and projects; incorporating sea-level rise and other climate change impacts into the Chesapeake Bay Preservation Act; and developing the first phase of the Master Plan. Although the challenges confronting our coastal areas are daunting and growing larger with each passing day, Virginia has made meaningful progress in recent years, and there is real momentum behind this work. SELC welcomes the opportunity to continue working to help advance it.

Recognizing that both the Framework and Phase 1 of the Master Plan have already been finalized, we are not providing detailed comments or offering specific changes for consideration at this time. Rather, our comments below emphasize broader themes from the two documents and highlight considerations that we believe must be at the forefront of the work in updating the Master Plan over the next two years.

**Continue to follow the “Master Plan Guiding Principles” enumerated in the Framework,  
with a special emphasis on preserving natural infrastructure and promoting equity.**

The five guiding principles articulated in the Framework provide a solid foundation for Virginia’s resilience planning efforts. We supported House Bill 516 in the 2021 General Assembly session because, among other reasons, it incorporated the Framework’s guiding principles into the Virginia Code, and it requires that the Master Plan continue to be based on

those principles.<sup>1</sup> In particular, we strongly endorse the principles calling for: (1) the prioritization of nature-based solutions; and (2) enhancing equity through coastal adaptation and protection efforts.

Nature-based solutions must be a key part of Virginia’s coastal resilience strategy. Solutions that focus on preserving or restoring the resiliency services that natural resources provide can enhance resistance to multiple causes of coastal flooding, including storm surge, drainage problems, tidal flooding, and groundwater inundation. Further, integrating natural solutions into flood protection and other types of resilience projects also provides multiple co-benefits that structural solutions alone do not offer. For example, nature-based solutions can improve water quality, enhance wildlife habitat, sequester carbon, and provide recreational opportunities. Yet despite their advantages, many agencies and planning staffs at all levels of government are often not as familiar or comfortable with nature-based solutions as they are with structural solutions, and it is therefore essential that Virginia’s Master Plan emphasize and prioritize solutions that focus on natural infrastructure.

Equity is another area where extra emphasis is warranted in Virginia’s resiliency efforts. Flood vulnerability is often higher in working-class neighborhoods and communities of color,<sup>2</sup> and these same communities typically face greater challenges recovering after a disaster due to unequal access to resources and government assistance. Further, these communities also face more constraints engaging in the opportunities for public that are presented with initiatives such as coastal resilience planning efforts, such that their particular interests and challenges may be under-represented in the impacts assessed and the solutions proposed. It is therefore critical that the update to the Master Plan be built on a robust public outreach plan that focuses on actively soliciting ideas and input from these vulnerable communities. We are encouraged that House Bill 516, mentioned above, also required the development of a Public Outreach and Engagement Plan a prerequisite to the Master Plan update. With a strong outreach and engagement plan the effective implementation thereof, Virginia has an invaluable opportunity to use coastal resilience efforts to narrow the flood risk gap.

As Virginia begins to refine and implement the Master Plan (and looks toward developing the statewide Flood Protection Master Plan), the massive amount of financial resources and coordinated effort that will need to be invested in this area in the coming years and decades, while challenging, also present an enormous opportunity to simultaneously make progress on multiple interconnected and important goals. Two critical goals are preserving natural resources and addressing systemic inequities that are already causing climate change’s impacts to hit some of Virginia’s most vulnerable communities the hardest.

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<sup>1</sup> See Va. Code § 10.1-658 and § 10.1-659.

<sup>2</sup> See, e.g., Lily Katz, “A Racist Past, a Flooded Future: Formerly Redlined Areas Have \$107 Billion Worth of Homes Facing High Flood Risk—25% More Than Non-Redlined Areas,” *Redfin News* (Mar. 17, 2021), <https://www.redfin.com/news/redlining-flood-risk/>; Thomas Frank, “Flooding Disproportionately Harms Black Neighborhoods,” *Scientific American* (June 2, 2020), <https://www.scientificamerican.com/article/flooding-disproportionately-harms-black-neighborhoods/>.

**Resilience efforts must focus on preserving natural resources.**

The Framework establishes a set of four goals for the Commonwealth’s coastal resilience master planning work, and two of those goals explicitly reference protecting natural assets and natural infrastructure that are at risk from sea level rise and flooding. We strongly agree that resilience includes protecting natural areas as well as developed ones, and the updated Master Plan must continue to reflect as a central goal the resilience of natural as well as built infrastructure. Further, this central goal must include more than just protecting *existing* areas that contain valuable natural resilience resources like wetlands and marsh that help absorb floodwater, but also the preservation of lands to which those wetlands can migrate *in the future* as sea levels rise.

**The updated Master Plan must assess impacts from, and solutions to, multiple sources of flooding.**

The Master Plan acknowledges in several places that Phase 1 did not examine flood hazards for riverine and stormwater flooding or assess how compound flooding will be affected by sea level rise. House Bill 516 from the 2021 General Assembly session also recognized this shortcoming, and the legislation requires that the update to the Master Plan “incorporate all major flood hazards, including precipitation-driven flooding.” We strongly support adding consideration of these additional flood threats to the Master Plan in order to provide a more complete assessment of the flood risks our coastal areas are facing, and to promote solutions that are designed to address multiple flood risks simultaneously rather than focusing on one risk to the exclusion of others.

**Resources must be focused on urban and rural areas alike.**

Virginia’s entire coast is being impacted in one way or another by sea level rise, more intense flooding, more frequent and intense rainstorms, and other effects of a changing climate. The scope of the problem and the magnitude of the resources that will be needed to address these problems requires a focus on cost-effective solutions, as the Master Plan acknowledges. However, the communities and localities in Virginia’s coastal region vary significantly in their resources and their ability to identify and implement effective resilience projects.

Thus, we believe that the cost-benefit analyses used to prioritize resilience projects and determine which projects receive state resources must not focus excessively on factors such as population levels or property values within the area that would benefit from a proposed project, as this could put a heavy thumb on the scale for projects in more populous and heavily developed areas that may well already have more resources at their disposal. Other types of project benefits should also be considered, such as the preservation of cultural, historic, and environmental resources, the protection of prime agricultural land, and the number of injuries or fatalities prevented. This will help ensure that Virginia’s resilience efforts extend to its more rural communities, too.

**More work is needed—and soon—to help localities identify and incentivize opportunities for relocation.**

Regardless of how well-funded and strategically coordinated Virginia’s coastal resilience efforts may be, there will simply never be enough resources to protect every neighborhood and every structure from flooding. As the Master Plan correctly recognizes, “[t]he reality is that there will be a need to strategically relocate and reconsider growth in some areas to avoid or reduce the potential for chronic and crippling flood loss.”<sup>3</sup> Localities will inevitably face serious political difficulties in determining those areas within their boundaries where existing communities should be relocated or where further development should be sharply restricted, and this is an area where the Commonwealth’s assistance will be crucial.

The current Master Plan includes a nod toward “beginning a dialogue” on strategic coastal relocation, and it mentions plans for an “Introduction to Strategic Relocation” handbook. These are important and helpful acknowledgments of the need for state resources to help localities confront this challenging issue. It is critical, however, that Virginia take much more significant steps and begin working with localities first to help them identify the most compelling, potential relocation opportunities, and then to assist the localities with planning for and incentivizing those potential relocations. The update to the Master Plan is a much-needed opportunity to develop a clearer strategy and make a stronger commitment to assist localities in this regard.

**Ensure projects consider impacts to adjacent and nearby communities**

Many types of structural resilience projects that might help reduce flood risk in one locality or community by blocking flood water can simply divert that danger to an adjacent locality or community. This highlights the importance of the Commonwealth carefully assessing the impacts—both positive and negative—of potential resilience projects and determining when the benefits a project presents to one jurisdiction are outweighed by the risks it poses to another. It is important for the Master Plan to ensure that potential negative impacts on adjacent localities and communities are carefully considered before a project is included and prioritized in the Master Plan.

**Maintain a significant funding stream for the Community Flood Preparedness Fund.**

The total cost of the many coastal resilience projects that will be included in the updated Master Plan will likely be well into the billions of dollars. Historically, Virginia has not had a dedicated funding source for flood prevention and resilience projects, so the establishment and funding of the Community Flood Preparedness Fund (“Flood Fund”) in recent years has been a huge step forward. The Master Plan recognizes that the Flood Fund will be “[t]he primary state-level funding mechanism for coastal resilience project development and capacity building,”<sup>4</sup> and

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<sup>3</sup> Master Plan at p. 12.

<sup>4</sup> Master Plan at p. XII.

grants from the Flood Fund are already catalyzing local and regional resilience planning and projects. This dedicated state-level funding stream for resilience work is critical, and maintaining the source of that funding is one of many reasons why Virginia must continue to participate in the Regional Greenhouse Gas Initiative.

Thank you for your consideration of these comments and for undertaking both the update to the Coastal Resilience Master Plan and development of the Flood Protection Master Plan. SELC looks forward to working with you on both of these essential planning efforts.

Sincerely,

A handwritten signature in cursive script that reads "Morgan Butler".

Morgan Butler  
Senior Attorney

Director Matthew Wells  
Virginia Department of Conservation and Recreation  
600 East Main Street  
24th floor  
Richmond, VA 23219-2094

November 18, 2022

**RE: Comments to Notice of Public Comment Forum - Virginia Coastal Resilience Master Plan – Phase 1 and Notice of Public Comment Forum - Virginia Coastal Resilience Master Planning Framework**

Dear Mr. Wells,

On behalf of the Chesapeake Bay Foundation, Chesapeake Climate Action Network, Environmental Defense Fund, James River Association, Lynnhaven River NOW, Surfrider Foundation, The Nature Conservancy, Virginia Conservation Network, Virginia League of Conservation Voters, Waterkeepers Chesapeake, and Wetlands Watch, we are pleased to submit comments to the General Notice of Public Comment Forum – Virginia Coastal Resilience Master Plan Phase 1 and the Notice of Public Comment Forum – Virginia Coastal Resilience Master Planning Framework. We have combined our comments to these two documents in recognition that the Virginia Coastal Resilience Master Planning Framework (Framework) and Virginia Coastal Resilience Master Plan Phase 1 (Phase 1 CRMP) are both the foundation and framework for future resilience planning and engagement the Commonwealth is required to undertake pursuant to Chapter 495 of the 2022 Acts of Assembly requiring a Virginia Flood Protection Master Plan by 2026, a revised Virginia Coastal Resilience Master Plan by the end of 2024, a Community Outreach and Engagement Plan by the end of 2022, the establishment and engagement of a Technical Advisory Committee, and the integration of these plans and regular reporting.<sup>1</sup>

The undersigned organizations participated in and supported the development of the Phase 1 CRMP and/or the Framework 1 documents and strongly support continued planning, implementation, and investment in the above processes as required by Virginia Code to ensure a resilient future for all Virginians.

The findings of the Phase 1 CRMP are stark. Without action, the number of residents living in homes exposed to major coastal flooding will nearly triple from 360,000 people to nearly 1 million by 2080. Flood damages will skyrocket 1,300%, from \$400 million to \$5.1 billion annually. Without action, nearly 90% of tidal wetlands and almost 40% of dunes and beaches may be permanently inundated by 2080. The plan also begins the process of identifying where high flood risk overlaps with increased socioeconomic vulnerability, using the Centers for Disease Control and Prevention's Social Vulnerability Index methodology, to determine risk hotspots for potential intervention. The Department of Conservation and Recreation (DCR) hosted initial community meetings in the covered regions to share educational resources and

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<sup>1</sup> Chapter 495 of the 2022 Acts of Assembly: An Act to amend and reenact Va Code §§ 2.2-222.4, 10.1-602, 10.1-658, and 10.1-659 of the Code of Virginia, relating to flood resiliency and protection, Available: <https://lis.virginia.gov/cgi-bin/legp604.exe?221+ful+CHAP0495+pdf>

gather community perspectives. This provides a foundation to move Virginia forward, and the undersigned groups are available as a resource and partner throughout that process.

With that in mind, we offer the following comments:

**1. Virginia must abide by and fulfill the principles outlined in the Framework.**

The principles set out in the Framework should be adhered to throughout subsequent planning and implementation efforts. Those principles require the following:

- Planning must be based upon **best available science**, and clear guidance should be developed to inform how and when new data will be incorporated into state code, regulations, guidance and programs.
- Underserved and over-burdened communities are often the least able to adapt to flood risk or recover from a flood and may be more vulnerable due to certain risk factors like age or discriminatory processes like redlining. All plans should work to **enhance equity** among Virginians.
- **Nature-based solutions** are often cost effective and have many co-benefits and should be prioritized.
- Plans and projects prioritized by the state should focus on the **community and regional scale** to maximize benefits and leverage resources while tailoring approaches to community need.
- Limited **resources must be leveraged and used effectively** to enhance protection and adaptation for communities, businesses, and critical infrastructure.

**2. The Framework and Phase 1 CRMP represent a crucial initial assessment, and Virginia must now develop a plan of action with careful and robust prioritization of projects and programs.**

The Framework and Phase 1 CRMP, initiated by Executive Order No 24 Increasing Virginia's Resilience to Sea Level Rise and Natural Hazards (2018),<sup>2</sup> were both a foundational step forward for the Commonwealth and are the building blocks upon which Virginia can build resilience to flooding for all Virginians in a changing climate. However, due to limited resources at the outset of the Framework process and constrained timelines necessary during the preparation of the Phase 1 CRMP, the resulting documents and web resources are assessments rather than plans. Furthermore, while in many ways Virginia has been a leader in flood resilience, efforts have, at times, been disconnected. The forthcoming Phase 2 Coastal Master Plan, Virginia Flood Protection Master Plan, and Community Outreach and Education Plans – coupled with true stakeholder engagement and financial resourcing for implementation – represents an opportunity to synthesize resilience efforts and mitigate the impacts of flood risk in Virginia.

*A. Project Database and Data Accessibility for Local and Regional Planning and Implementation*

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<sup>2</sup> Exec Order No. 24: Increasing Virginia's Resilience to Sea Level Rise and Natural Hazards (2018). Available: <https://www.dcr.virginia.gov/crmp/document/ED-24-Increasing-Virginias-Resilience-To-Sea-Level-Rise-And-Natural-Hazards.pdf>.

The open data portal and coastal resilience web explorer are excellent starting points to connect local and regional communities with tools and data. This approach should be expanded and deepened across the Commonwealth with additional tools and data sets including sample project designs across coastal and riverine areas and additional floodplain mapping. Data should be collected and available at the finest scale available and include both quantitative data and qualitative data collected from frontline communities to facilitate the incorporation of local knowledge in planning. Processes should be implemented and staffed to support updates of the project database and funding opportunities, both of which will change frequently, particularly in light of the Infrastructure Investment and Jobs Act (2021), which has dedicated over \$50 billion to resilience. This massive sum does not even include programs which do not explicitly highlight resilience but may better incorporate resilient principles into infrastructure programs.

Moreover, when Planning District Commissions (PDCs) and localities submitted “projects” to the open call, many local and regional staff spent significant time learning a new process and entering data for many projects. However, some areas opted out or did not participate fully. Statewide planning efforts would be enhanced with a complete database of existing projects and programs, which would allow effective prioritization of existing projects and programs and allow for targeted technical assistance or engagement in communities that were chronically underserved, at high flood risk, and had been unable to respond to a data call.

Connecting public and municipal outreach and engagement is essential to ensure the project database is updated continually. Additional DCR staff may be required to help coordinate this work across localities and provide technical assistance to local government staff who already lack capacity to handle this reporting on their own because assessing project needs to include in the master planning process creates a burden on local staff, especially in lower resourced communities. Furthermore, even with time to devote to sharing projects to a statewide database, lower resourced communities may not have the baseline data and planning they need to initiate engineering and design for projects that reduce community-scale flood risk.

#### *B. Establishing Shared Vision and Goals with Measurable Performance Metrics*

Due to limitations on public meetings, data collection timelines, and the quality and diversity of data included in the final project database, the Phase 1 CRMP highlighted project examples across regions and by type. Moving forward to the implementation phase, projects will, at some point, need to be prioritized and resourced. It is essential that clear and shared goals with broad acceptance across government and stakeholders be determined as a necessary first step. These goals will support the determination of decision-making processes, the scientific framework, and performance metrics used to evaluate the ability of a project or group of projects to meet those goals and monitor progress over time.

#### *C. Prioritizing Projects and Programs Across Virginia*

There is also a need to define both the types of projects and programmatic activities that would qualify for analysis and inclusion in the CRMP. The Prioritization Framework initially proposed for the Phase 1 CRMP included categories for project types (structural flood risk reduction, non-structural flood risk reduction, and nature-based solutions), but combined all programmatic activities such as policies, programs, and capacity building into the non-structural flood risk reduction project category. These kinds of programmatic activities should be considered independent from project types to streamline evaluation of similar activities against one another



and benefit chronically underserved communities who need more technical assistance and capacity building resources.

Prioritization should ensure that all regions and localities have the ability to participate actively in the Master Planning process and co-develop solutions, particularly those that are chronically underserved communities facing increased flood risk, many of whom may not have projects already developed and included in the existing project database. DCR technical assistance may be necessary to work closely with communities to identify projects and the agency must be staffed and resourced accordingly.

Within any newly established prioritization schema, natural and nature-based features must be considered critical infrastructure and preservation of this capacity should be prioritized. Additionally, baseline screening is challenging without specific standardizations and measures to ensure consistency, which do not yet exist in the Phase 1 CRMP. Project criteria must be objective and consistent across project type and benefits focusing on the Framework Principles as a foundation and incorporating compound flood risk and future resilience. The Phase 2 CRMP and statewide plan must evaluate projects under a comprehensive needs assessment based upon the Framework principles.

### **3. Virginia must plan for flooding resilience statewide.**

The Phase 1 CRMP and Framework applied only to the coastal zone. However, we have seen far too frequently that Virginians outside of the coastal zone, like those in Buchanan County in August 2021 and July 2022, are increasingly impacted by severe flooding often driven by high intensity rainstorms. The Community Flood Preparedness Program (CFPP) rightly supports planning, capacity building, and projects statewide, but this results in a policy disconnect.

Effective July 1, 2022, the Commonwealth must embark on not only revisions to the CRMP but also a statewide process to develop a Virginia Flood Protection Master Plan. Though these plans have different deadlines, it is essential that these two products and the key funding source that is the CFPP are coordinated efforts. Additionally, any subsequent implementation and funding plans should be closely linked to drive incentives to participate in planning processes that are backed by capacity-building, data collection, and implementation funding.

### **4. Virginia must evaluate multiple sources of flooding and account for residual risk.**

Climate-induced flooding threatens the lives, livelihoods, and property of communities across the Commonwealth. Coastal Virginia faces the highest rate of relative sea level rise on the Atlantic coast and precipitation is increasing across the commonwealth in terms of intensity, frequency, and the duration of storms. Along with storm surge, land subsidence, and increasing 'sunny day' or recurrent flooding from high tides and wind, Virginians face a number of types of flood risks which are increasing due to climate change. This is a fact that the commonwealth already recognizes, as Virginia's Department of Transportation now requires bridge designs to factor in a 20% increase in rainfall intensity and 25% increase in discharge.

Due to time and data constraints, the Phase 1 CRMP addressed only coastal flooding in the coastal plain. Phase 2 of the CRMP must instead take a comprehensive look at flood risks and the ways in which they will interact to intensify flood events. Similarly, the potential solutions DCR considers should be evaluated based on their ability to effectively address these multiple

sources of flooding and reduce the impacts from compound events. Considering these flood risks in silos could result in a project that worsens one type of flooding while trying to solve another, or it could result in DCR overlooking a cost-effective solution with the potential to mitigate multiple types of flooding.

Building flood resilience requires decision-making in the face of ongoing uncertainty, particularly regarding rates of sea level rise and other flood risks. Acknowledging those uncertainties in planning is key to building a plan that achieves resilience today and into the future. The Phase 2 CRMP should consider financial, scientific, and other technical uncertainties while acknowledging that substantial uncertainties remain, especially in regard to climate change. Key uncertainties should be captured in different environmental and socioeconomic scenarios. To accommodate the dynamic nature of coastal and fluvial processes, resilience plans should lay the groundwork for an effective monitoring and evaluation process that seeks to reduce scientific and engineering uncertainty, assess the success of the plan, and support an adaptive management program. Resilience plans should acknowledge that risk reduction systems – both structural and nonstructural – and restored coastal habitats cannot eliminate all flooding risks, and that some degree of residual risk will be inevitable.

**5. Virginia must connect the plan with financial resources including those from the Community Flood Preparedness Fund.**

*A. Connecting the CRMP and CFPF*

The CFPF is cited as the key source of resilience funding in Virginia by the Phase 1 CRMP, but DCR has so far failed to make an explicit connection between them. The two are natural partners: the Framework's guiding principles and the enabling legislation for the CFPF both prioritize community-scale planning as well as nature-based solutions and equity. Explicitly connecting coastal and statewide flood resilience planning efforts with the CFPF will help DCR and stakeholders increase awareness of and interest in these initiatives, while also allowing local governments to leverage funding sources to meet their flood resilience planning and project implementation needs to adapt to a wetter future.

Unfortunately, since the Master Planning process was completely disconnected from the CFPF being launched concurrently but independently, that connection wasn't clear to participating communities. Public meetings held while the Phase 1 CRMP was under development were informational but had few participants, and those who did attend asked variations of the same question: "Who is going to fix my flooding?" or "Will this work be funded?" Although the CFPF is listed as an essential source of statewide funding for resilience, DCR was not able to communicate a path forward to connect the two DCR programs and show locality staff and members of the public that their engagement in the CRMP development process would lead to tangible projects and funding opportunities to implement them. This must be included in Phase 2, the statewide plan, and made clear throughout the engagement process. In turn, it will result in a more informed CRMP Phase 2, Statewide Plan and project database.

Other states have made the connection between community co-designed projects and implementation funding. Louisiana's Strategic Adaptations for Future Environments, or LA SAFE, was a collaboration between Louisiana's Office of Community Development and Foundation for Louisiana, this initiative engaged nearly 3,000 individual community members across six coastal parishes in a collaborative, iterative process to outline a vision of

development for the next 50 years that will meet the needs of community members. Incorporating input from residents in each parish, the strategies also outline policy and land-use recommendations that are responsive to the economic, population, and social shifts that occur from repetitive flooding and disaster events. Each parish strategy is tied to a community-designed project, ranging from stormwater improvements, mental and public health services, residential buyouts, business incubator, resilient housing/street design, and more. The LA SAFE engagement process was funded by a HUD 2016 National Disaster Resilience Competition grant; funding for project implementation came from a HUD Community Disaster Block Grant - Disaster Recovery (CDBG-DR) grant following Hurricane Isaac in 2012.

### *B. Federal Funding Opportunities*

With the passage of the IIJA in 2021, Virginia's communities will need to take advantage of the influx of available resources, either independently or in partnership with the commonwealth. While the CFPF can serve as matching funds and the Phase 1 CRMP data portal outlines existing funding sources – many of which will receive additional funds due to the IIJA – lower-resourced localities still may not have the tools to access these funds without direct technical assistance. Considering the limited nature of Virginia's CFPF funds as compared with demand, and newly available federal funds outlined in the IIJA, some future project prioritization or scoring criteria could be added to the Phase 2 CRMP to demonstrate alignment with state planning efforts.

## **6. Virginia must center equity and support meaningful engagement of all Virginians.**

Outreach efforts during Phase 1 of the process were severely hampered by the Covid-19 pandemic as well as tight deadlines and misalignment of engagement and technical deliverable timelines. We support DCR's efforts to complete a Community Outreach and Education Plan by December 31<sup>st</sup>, 2022 and appreciate the effort to remain in close communication with non-profits who are poised to offer assistance. However, the Department is currently under equipped to fully deliver on engaging Virginians statewide to both understand their risk and co-develop solutions and projects to build resilience and reduce risk in a manner that works for each community.

### *A. Implementing the Virginia Environmental Justice Act Across Agencies*

Pursuant to the Virginia Environmental Justice Act, "Environmental justice' means the fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy" and it is "the policy of the Commonwealth to promote environmental justice and ensure that it is carried out throughout the Commonwealth, with a focus on environmental justice communities and fenceline communities."<sup>3</sup> Future resilience plans must fully embrace the meaningful involvement component of the Environmental Justice Act and work closely with communities that are chronically underserved and facing increased flood risk to ensure that residents understand their risk and participate in the development of solutions to be included in future project lists.

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<sup>3</sup> Virginia Environmental Justice Act, Va. Code Ann. § 2.2-234-5 (2020).

### *B. Centering People in Decision-Making*

Climate change will drive transitions along Virginia's coasts and waterways that will cause fundamental disruptions to communities' economies and livelihoods, mental health, and culture and way of life – particularly where communities are considering moving away from flood risks or experiencing climate-induced population growth. These transitions will raise fundamental questions of distributional equity and decision-making systems should, wherever possible, allow people to participate in choosing their own futures. The forthcoming Outreach and Engagement Plan will play an essential role in centering Virginians in decision-making processes and its implementation should be integrated with the Phase 2 CRMP and Statewide Flood Plan. Many resilience plan applications to the CFPF to date have centered community engagement and co-design of needs and projects into their planning processes. Implementing similar measures and continuing to provide opportunities for meaningful contributions from community members to inform development of the Phase 2 CRMP and Statewide Flood Plan.

The Phase 1 scope included outreach and engagement targeted initially at the Planning District Commissions within the coastal region, and in a second phase to communities with both high socioeconomic vulnerability scores and at high flood risk. Planning district commission meetings began with local and regional staff and community leaders participating in informational sessions and viewing and commenting on mapping products, and then shifted to a public facing session in the evening. At least one representative from an undersigned organization participated in most planning district meetings and public facing meetings. While state staff and the consultant were well prepared and meeting materials were informative, many of the sessions, particularly the public sessions, had few participants. Meetings were under advertised (in fact, Environmental Defense Fund ran a public media campaign to share meeting information) and often at locations away from public transit or not frequently utilized for community events like planning district buildings. Understandably, public libraries and recreation centers, which might have been more easily accessible, were not renting meeting space due to the Covid-19 pandemic and related State of Emergency.

Moving forward, and in coordination with the Outreach and Engagement plan, strategies to make meetings more accessible for all Virginians, including advanced advertisement, convenient location near transit, and other support should be prioritized.

### *C. Bringing Resources and Technical Assistance to Underserved Communities*

Communities that are chronically underserved and facing increased flood risk may require extensive engagement and technical assistance from DCR to work closely with to identify projects. The meaningful involvement of and technical assistance for underserved communities could be accomplished in multiple ways.

For instance, although the Phase 1 CRMP completed an initial gap analysis, more work could be done to identify potential projects, connect them with funding sources, and highlight which data, resources, or other tools are needed to connect the dots. By identifying which localities will need the most support, DCR can better leverage their own resources and tools where they are most needed. North Carolina's [Resilient Coastal Communities Program](#) is a great example of this kind of focused technical support and engagement. With funding from the state and the National Fish and Wildlife Foundation, localities in North Carolina's coastal counties can apply for direct technical assistance and funding to help overcome barriers in coastal resilience and adaptation planning, boost local government capacity, and support a proactive and equitable

approach to coastal resilience planning and project implementation. The CRMP's open access data portal makes baseline vulnerability data available to locality staff, but many do not have the time or expertise to learn how to use it. DCR and the larger CRMP team could provide trainings to localities on how to use this data for their individual resilience planning efforts, reducing duplication of efforts and increasing the pace of planning.

DCR could also consider collaborating with other state agencies to bring additional resources to bear, such as partnering with existing state programs like the DEQ Office Environmental Justice and engagement professionals throughout the DEQ regions. DEQ has six regional offices across the commonwealth with dedicated staff who work with the central office and executive team to handle community outreach, engagement, and regulatory requests. DEQ is also utilizing social media in addition to traditional methods such as public meetings and comment periods to spread awareness of their role and resources. VDEM is also a natural partner for this process, with an office of Diversity, Equity, and Inclusion and having conducted an extensive series of Hazard Mitigation Assistance Grants Equity Workshops. VDEM has established a Partners in Preparedness program to provide information and resources to community partners to break down communication barriers between the agency and socioeconomically vulnerable Virginians, though the office is new and information is not yet widely available. This effort will engage a diverse swath of NGOs, faith-based communities, businesses, education spaces, community centers, and other central hubs that can provide translation services, internet access, and other critical resources.

## **7. Virginia must prioritize natural infrastructure solutions as critical infrastructure.**

Implementation of natural infrastructure solutions for flood resilience allows limited resources to be used efficiently and leveraged for co-benefits including water quality goals. When combined with non-structural adaptation measures, natural infrastructure practices are more cost-effective than gray infrastructure at reducing flood damages. For example, a case study from the Gulf Coast calculated a benefit-cost ratio of 3.5 for nature-based solutions while grey infrastructure practices of levees/dikes and home elevations ranged from 0.26 - 0.73<sup>4</sup>. A global review in 2016 found that nature-based shorelines that consist of salt marsh can be 2 -5 times more cost effective than gray solutions at reducing damaging waves<sup>5</sup>. Nature-based shoreline restoration projects are also more resilient to the impacts of sea level rise and storms<sup>6</sup> - projects in North

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<sup>4</sup> Reguero, Borja G., Michael W. Beck, David N. Bresch, Juliano Calil, and Imen Meliane. "Comparing the Cost Effectiveness of Nature-Based and Coastal Adaptation: A Case Study from the Gulf Coast of the United States." *PLOS ONE* 13, no. 4 (April 11, 2018): 1–24.  
<https://doi.org/10.1371/journal.pone.0192132>.

<sup>5</sup> Narayan, Siddharth, Michael W. Beck, Borja G. Reguero, Inigo J. Losada, Bregje K. van Wesenbeeck, Bregje K. van Wesenbeeck, Nigel Pontee, et al. "The Effectiveness, Costs and Coastal Protection Benefits of Natural and Nature-Based Defences." *PLOS ONE* 11, no. 5 (May 2, 2016).  
<https://doi.org/10.1371/journal.pone.0154735>.

<sup>6</sup> Sutton-Grier, Ariana E., Kateryna Wowk, and Holly Bamford. "Future of Our Coasts: The Potential for Natural and Hybrid Infrastructure to Enhance the Resilience of Our Coastal Communities, Economies and Ecosystems." *Environmental Science & Policy* 51 (August 1, 2015): 137–48.  
<https://doi.org/10.1016/j.envsci.2015.04.006>.

Carolina and California have withstood intense wave action while nearby gray infrastructure was inundated and damaged in the same storms <sup>7</sup>. The environmental processes that make natural infrastructure resilient also provide a wealth of co-benefits that have positive impacts year-round – unlike gray infrastructure practices which only have potential positive impacts during storms <sup>6</sup>. In addition to flood protection, natural infrastructure can improve water quality, trap sediments that would otherwise need to be dredged, and support fisheries, tourism, and recreation <sup>6, 8, 9</sup>.

## **8. Virginia must integrate existing state codes, regulations, programs, and agency leadership to adapt to increasing flood risk and a changing climate.**

Virginia is the first state to include climate change and sea level rise in its tidal wetlands permitting and development actions subject to the Chesapeake Bay Preservation Act, but we could lose the majority of our tidal wetlands and coastal shoreline by mid-century without vigorous enforcement of these regulations. This necessitates more consistency across planning documents and program guidelines, as well as decision-maker education by agency staff.

### *A. Tidal Wetlands Act & Chesapeake Bay Preservation Act*

The Framework lists, as initial actions, to coordinate the changes to the Chesapeake Bay Preservation Act (CBPA) and Tidal Wetlands Act (TWA) and integrate project review and compensatory mitigation of unavoidable impacts, resilience, and future impacts. Though steps have been taken to coordinate the efforts by reference in the CBPA guidance and TWA guidelines, on which many signers of this letter have commented, more action is needed to realize these goals in practice. The CBPA and TWA share overlapping jurisdiction, necessitating clear regulatory coordination. To further emphasize the importance of coordination, as sea levels rise, the landward buffer under CBPA jurisdiction today will become tidal wetlands in the future. Local government staff, already overburdened and under-resourced, need examples of how local wetlands and CBPA boards should review permits under the new regulations.

### *B. Coordination Across Agencies*

Although the Framework documents some departments and programs that should coordinate to leverage resources and Gov. Northam's Executive Order 45 established a workgroup to ensure statewide compliance with resilient building standards, this level of coordination does not fully leverage the commonwealth's staffing and funding resources to coordinate across state government. The Commonwealth could establish a body of resilience points of contacts at each agency charged with implementing resilience throughout programs within that agency. Several

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<sup>7</sup> Jean Judge et al., "Surfers' Point Managed Shoreline Retreat Project, Case Studies of Natural Shoreline Infrastructure in Coastal California: A Component of Identification of Natural Infrastructure Options for Adapting to Sea Level Rise (California's Fourth Climate Change Assessment," The Nature Conservancy, at 9-15 (2017), [https://scc.ca.gov/files/2017/11/tnc\\_Natural-Shoreline-Case-Study\\_hi.pdf](https://scc.ca.gov/files/2017/11/tnc_Natural-Shoreline-Case-Study_hi.pdf).

<sup>8</sup> Davis, Jenny L., Carolyn A. Currin, Colleen O'Brien, Craig Raffenburg, and Amanda Davis. "Living Shorelines: Coastal Resilience with a Blue Carbon Benefit." *PLOS ONE* 10, no. 11 (November 16, 2015): e0142595. <https://doi.org/10.1371/journal.pone.0142595>.

<sup>9</sup> Gittman, Rachel K., Charles H. Peterson, Carolyn A. Currin, F. Joel Fodrie, Michael F. Piehler, and John F. Bruno. "Living Shorelines Can Enhance the Nursery Role of Threatened Estuarine Habitats." *Ecological Applications* 26, no. 1 (2016): 249–63. <https://doi.org/10.1890/14-0716>.

other states are taking a look at how to coordinate interdisciplinary resilience work across agencies and provide a potential path forward.

In New Jersey, Gov. Murphy's 2019 [Executive Order 89](#) established an Interagency Council on Climate Resilience comprised of 16 state agencies. The group was tasked with developing short- and long-term action plans to promote the long-term mitigation, adaptation, and resilience of the state's economy, communities, infrastructure, and natural resources. The [New Jersey Climate Change Resilience Strategy](#), released in 2021, charts a path forward for the Interagency Council and participating agencies to actualize plans and engage stakeholders and the general public.

In Louisiana, Gov. Edwards issued [Executive Order 2020-19](#), directing each state agency to identify a resilience coordinator to lead collaboration for the [Adaptive Governance Initiative](#). The involvement of many additional agency staff helped make the project a success and a useful framework for agencies moving forward. Agencies first conducted a vulnerability assessment of their physical assets like infrastructure and social assets, including programs, services, and employees. This exercise helped agencies identify priorities around mission-critical impacts, establish buy-in by identifying concrete examples within each department, and lay the groundwork for developing adaptation options. After identifying specific adaptation needs, agencies turned to potential implementation partners and pathways, resource needs, and ways to collaborate across agencies to get the job done. Louisiana's Adaptive Governance Initiative has momentum thanks to dedicated leadership by the Chief Resilience Officer and buy-in across agencies' resilience coordinators, but permanent structures, processes, and resources are needed to give agencies the capacity to plan and implement long-term adaptation solutions.

As the federal government rolls out increased funding for resilience programs and incorporates resilience into other programs, increased coordination is essential and must be a component of the CRMP Phase 2 and statewide planning efforts.

**9. The recommendations of the Coastal Resilience Technical Advisory Committee formed by Executive Order No. 71 (2020) should be taken into account.**

At the completion of the Phase 1 planning process, many members and advisors of the Coastal Resilience Technical Advisory Committee signed on to a set of forward-looking recommendations as the commonwealth moved forward in its planning and implementation processes. These recommendations were sent by Dr. Carl Hershner to legislators, the Northam administration, and the incoming Youngkin administration on December 15, 2021, and while some were generally incorporated into Chapter 495 of the 2022 Acts of Assembly or reiterated above, they bear repeating. The recommendations that have not already been implemented are summarized as follows:

- Create and enhance citizen oversight with adequate funding and staff to:
  - Maintain and update resilience master planning efforts statewide
  - Administer the Community Flood Preparedness Fund
  - Align agencies flood programs and resilience planning across the Commonwealth
  - Oversee regional planning while considering the Commonwealth's priorities

- In addition to funds from the Regional Greenhouse Gas Initiative, identify additional operating funds and additional sources of funding for resilience planning and projects.
- Improve the next iteration of plans by developing a comprehensive, spatially-explicit risk assessment of critical human infrastructure, critical natural infrastructure, and disadvantaged communities that:
  - Considers both storm surge and precipitation-driven flooding
  - Considers flood risk for both current and future conditions
  - Identifies disadvantaged communities at the finest possible resolution
- Develop and implement a well-designed outreach and engagement effort to build understanding and support
- Engage and include Tribes in any regional planning effort given their unique legal status as sovereign nations

**10. Conversations around strategic relocation must be done in partnership with communities and move at the speed of trust.**

Although the Framework prioritized an initial focus on managed retreat, this was met with understandable confusion and frustration by local and regional governments. Students and researchers, in coordination with the TAC, developed a literature review and case study detailing how managed coastal retreat had been used elsewhere, which was not included in the CRMP Phase 1. In the future, conversations around strategic relocation must be done in partnership with communities and local government through an extensive engagement process. The commonwealth must move at the speed of trust to ensure communities do not feel taken advantage of or left behind in this process.

**Conclusion**

Virginia must move urgently by investing in staff, external support, data acquisition, and technical assistance programs to develop comprehensive plans, tools, and then implement these plans. Although the deadlines imposed upon the DCR for the revised Phase 2 CRMP and the Virginia Flood Protection Master Plan may appear to be years away, we have learned from the Framework and Phase 1 processes that this work is complicated and to do it well will take time. Progress can be made now by staffing and embarking on a robust engagement plan to co-develop projects and incorporate frontline community knowledge into the planning process. Moving forward with best-available science will also necessitate incorporating new data, such as the MARISA projections for increased intensity, duration, and frequency of precipitation and the revised 2022 NOAA sea-level rise projections.

Virginia can continue to build resilience across the Commonwealth by moving forward to fulfill its obligations to develop, revise, and implement resilience plans in the coming years. Environmental non-profits stand ready to provide technical advice and support meaningful engagement across the commonwealth.

Sincerely,

Victoria Higgins  
Virginia Director  
Chesapeake Climate Action Network

Jay Ford  
Virginia Policy and Grassroots Advisor  
Chesapeake Bay Foundation



Emily E. Steinhilber  
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Michael Town  
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Robin Broder  
Deputy Director  
Waterkeepers Chesapeake

Skip Stiles  
Executive Director  
Wetlands Watch

MEMBER  
JURISDICTIONS

November 17, 2022

## CHESAPEAKE

Mr. Matt Dalon  
Resilience Planning Program Manager  
Virginia Department of Conservation and Recreation  
600 East Main Street, 4<sup>th</sup> Floor  
Richmond, VA 23219

## FRANKLIN

## GLOUCESTER

Flood.Resilience@dcr.virginia.gov

## HAMPTON

RE: Public Comments – Virginia Coastal Resilience Master Plan – Phase I

## ISLE OF WIGHT

Dear Mr. Dalon:

## JAMES CITY

On behalf of the Hampton Roads Planning District Commission's board and seventeen member jurisdictions, I write to you to provide these comments on the Virginia Coastal Resilience Master Plan (Phase I), dated December 7, 2021.

## NEWPORT NEWS

## NORFOLK

## POQUOSON

## PORTSMOUTH

The HRPDC appreciates the effort and resources the Northam Administration put into the creation of the Master Plan. Developing an effective plan for addressing the current challenges of recurrent flooding and the future challenges of sea level rise is a critical need for the Commonwealth and Hampton Roads in particular. We appreciate the leadership of the Department of Conservation and Recreation in developing this plan, and we look forward to working with the Commonwealth on implementing resilience practices and projects.

## SMITHFIELD

Support for Local and Regional Plans

## SOUTHAMPTON

## SUFFOLK

## SURRY

## VIRGINIA BEACH

## WILLIAMSBURG

Given that most adaptation strategies will be implemented at the locality level, the HRPDC recommends that the Phase I Plan better reflect the principles and goals of the Coastal Resilience Master Planning Framework by supporting and building on local and regional planning efforts. This would be similar to the Commonwealth's planning approaches for water supplies and transportation, where localities participate in a coordinated process to develop regional plans that are aggregated to form a state-wide plan. In addition, many communities are already developing or have adopted resilience plans, such as the Norfolk Coastal Storm Risk Management Study and Virginia Beach's Flood Protection Program. The Coastal Resilience Master Plan should incorporate these locally adopted plans by reference.

## YORK

Mr. Matt Dalon  
November 17, 2022  
Page 2

### Lafayette River Storm Surge Barrier

The Norfolk Coastal Storm Risk Management Project includes several components throughout the city that will help reduce the near-term and future impacts of flooding on the city's residents, businesses, and infrastructure. One of the main components is the Lafayette River Storm Surge Barrier, which is the largest individual structural coastal resilience project currently programmed in the Commonwealth, with a total estimated cost of \$554,024,000. This project will consist of a 6,634 linear foot storm surge barrier tying into high ground and incorporate levees, dikes, living shorelines, and oyster reef restoration. This transformational project is a prime example of the large-scale structural protections that will be needed in some of the more developed areas of Coastal Virginia. The HRPDC therefore recommends that it be highlighted in the Phase I Plan as an Example Structural Project.

### Guidance and Tools for Local Governments

The HRPDC appreciates the level of technical work completed as part of the Coastal Resilience Master Plan. The HRPDC supports state-led research and analysis efforts that directly support local and regional planning and decision-making. We recommend that the Department of Conservation and Recreation coordinate with local governments and planning district commissions to identify the datasets, analyses, and other technical products that would be of the most practical use to localities and that will empower them to make more informed decisions. Specific examples of such products include resilience project concepts and designs, floodplain maps, and design storms.

### Process for Updating and Implementing the Plan

The HRPDC supports developing a process to regularly consider updates or amendments to the Coastal Resilience Master Plan. As local governments complete their planning efforts and develop projects, it will be necessary to have a mechanism for adding those projects and other outcomes to the Master Plan more frequently than once every five years.

We appreciate the opportunity to provide comments on the Coastal Resilience Master Plan (Phase I). We encourage the Administration to continue engaging with planning district commissions and local governments as stakeholders. We would welcome the opportunity to discuss these comments further.

Sincerely,



Andria P. McClellan  
Chair