Crater Planning District Commission
Technical Assistance Program
FY22 Final Report

Virginia Coastal Zone
MANAGEMENT PROGRAM

Virginia Coastal Zone Management Program

NOAA Grant: NA22NOS4190187

Grant Year 2022

Task 42

November 2023

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Virginia Coastal Zone Management Program

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Cover: Photograph taken by John A. Rooney Jr. Used as part of the Department of Conservation and Recreation Scenic Rivers Program "Scenic Rivers 50th anniversary Gallery".

19.2 miles of the Appomattox River received Scenic River Designation by the General assembly originally in 1977 with the newest extension added in 2011.Paddlers are traveling downriver through a section that separates Petersburg Virginia on the right and Virginia State University, Chesterfield Virginia, on the left. The cement towers in the background are what remains of an old rail trestle. These pillars are in plans to use and construct a bike/pedestrian bridge to cross the Appomattox River as the southernmost portion of the Fall Line Trail connecting it to the Appomattox Regional Trail in Petersburg. The river provides spectacular views of the many water features, historic sites, and beautiful treelined riverside, highlighting the very things FOLAR seeks to preserve.

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Crater Planning District Commission
Virginia Coastal Zone Management Program
Technical Assistance Grant FY 22, Task 42 Final Report

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Introduction

For Crater Planning District Commission, the CZM Technical Assistance program has continued to be a source of opportunities to enhance communication regarding resiliency issues across the region and to implement planning and projects to address the Crater member localities' needs. One of the most important benefits of the CZM TA Grant has been the generation of discussion on the topic of resilience in rural communities in South Central Virginia. Whereas communities closer to the coast – especially those with more funding and resources – have challenges that involve wave energy, direct hurricane hits, coastal erosion, and sea level rise, the Crater region has concerns around hazard mitigation, energy, communications, flooding that impacts transportation, funding mechanisms, and even determining what "resilience" means to diverse rural, low-income communities. These issues often coincide with special concerns of environmental justice communities near tidally-influenced waterways.

Although addressing coastal resilience in the region has always been a challenge due to several constraints, Crater PDC has sought to bolster its member communities against current and future climate threats through six (6) CZM products:

Product #1: Environmental Impact Review Comments

Product #2: Report on Coastal Meetings

Product #3: Coastal Trainings

Product #4: Friends of the Lower Appomattox River (FOLAR)

Product #5: Benefits Accrued from Prior CZM Grants

Product #6: Resilience Planning

- Regional Resiliency Coordination
- Regional Resiliency Priorities
- CZM Resilience Database Support
- State Resilience Planning Support

This report aims to detail the challenges and accomplishments that the CZM TA Grant has helped with since October 2022

Product #1: Environmental Impact Review Comments

Crater Planning District Commission staff provided continuing support to the eleven local governments (7 counties and 4 cities) located in the south central region of Virginia. Crater PDC staff provided assistance to its coastal communities with environmental impact reviews (EIRs) of local, state, and

federal projects. The objective of these reviews is to ensure that the goals of the Virginia Coastal Zone Management Program are adequately and fully considered and that the Crater Region provides a coordinated response.

During the 2022 CZM Program grant year several EIRs were formally conducted. The projects were varied and included public access, multi-unit housing, road expansion, agricultural operations, and state and federal grant funding applications, studies, and rule amendments. In addition, environmental CZM and Chesapeake Bay funding programs were reviewed per the request of the Virginia Department of Environmental Quality.

A listing of coastal and coastal-related environmental impact reviews that assisted localities and partner entities of local, state and federal projects follows:

- Swift Creek Renewables Shoosmith Point of Delivery, Chesterfield County, (#22-187F)
- Horner Apartments, Chesterfield County, (#23-005F)
- Charles City Landfill Expansion, Charles City County, (#23-010F)
- Virginia Reliability Project, Prince George & Surry Counties, (#23-024F)
- Thomas Rolfe Court Demolition, City of Hopewell, (#23-033F)
- Yard Works Skinquarter Expansion, Chesterfield County, (#23-046F)
- Attain Apartments at Swift Creek, Chesterfield County, (# 23-053F)
- Charter Colony West, Chesterfield County, (# 23-049F)
- Moore's Lake Phase III Apartment Complex, Chesterfield County, (#23-068F)
- Corporate Village Parkway, Chesterfield County, (# 23-082F)
- Swineford Rd Development, Chesterfield County, (# 23-084F)
- Ironbridge Substation, Chesterfield County, (# 23-103F)

For a sample environmental impact review memo, see **Appendix 1**.

Product #2: Report on Coastal Meetings

Crater PDC staff coordinated ten (10) meetings of the Environmental Resources Management Task Force. Crater PDC conducted meetings for the regional environmental managers and other stakeholders on:

- November 16, 2022
- January 25, 2023
- February 22, 2023
- March 22, 2023
- April 26, 2023
- May 31, 2023
- June 28, 2023
- July 26, 2023
- August 30, 2023, and
- September 27, 2023

In addition to local government and Crater PDC staff, representatives from the following entities attended meetings at least once:

- Richmond Planning District Commission (PlanRVA),
- James River Soil and Water Conservation District (JRSWCD),
- Appomattox River Water Authority (ARWA),
- Virginia Department of Health (VDH),
- Virginia Department of Conservation and Recreation (DCR),
- Virginia Department of Environmental Quality (DEQ),
- Friends of the Lower Appomattox River (FOLAR),
- Tri-Cities MPO,
- University of Virginia (UVA), and
- Wetlands Watch

During each of these meetings, time was set aside for training sessions and a stakeholder roundtable to discuss local environmental planning issues.

Crater PDC staff have been approached by Hopewell (and with interest from other localities) to add environmental language to their Comprehensive Plan and to review their ordinances. In addition, Crater PDC consultants have helped add language representing resilience, sustainability, preservation, and other CZM goals to the City of Petersburg and Dinwiddie County's Comprehensive Plans.

Environmental Resource Management Task Force agendas and meeting minutes can be found on Crater PDC's website at https://craterpdc.org/our-works/environment/environment-meeting-resources.

Product #3: CZM Trainings

Crater PDC hosted four CZM training events:

1. **January 25th, 2023** (16 participants): Chesapeake Bay Preservation Act Regulations and Other Statewide Updates – Heather Mackey (DEQ)

   On 1/25/23, Heather Mackey from the Virginia Department of Environmental Quality discussed the Chesapeake Bay Preservation Act regulation updates, including the resiliency assessment, mature trees language, and updates to the Bay Program website, followed by a group discussion on how this would affect Crater localities. She discussed the resiliency assessments effective as of September 2021, including the need to consider sea level rise effects 30 years out, and the available tools for conducting the assessment (VFRIS, AdaptVA, etc.). She also discussed the importance of mature trees and other native plants, and the DCR online native plant finder tool was mentioned. Ms. Mackey also demonstrated the necessary requirements for hosting Bay Act language online, including access to the local RPA map and links to language in the Comprehensive Plan, ordinances, and plan of development process. The meeting also featured an overview of the FY22 CZM deliverables and how Crater PDC and the localities could cooperate on achieving them.

2. **February 22nd, 2023** (26 participants): Petersburg Flood Mitigation Infrastructure Implementation Process – Justin Doyle (JRA) & Darryl Walker (City of Petersburg)

   On 2/22/23, Justin Doyle, Director of Community Conservation at the James River Association, and Darryl Walker, Petersburg Stormwater Program Manager, gave a training on the process required – from pre-planning to implementation – of chronic flooding reduction projects in environmental justice communities in Petersburg. In particular, the historically underserved Lakemont and Whitehill neighborhoods have been engaged by JRA for the past decade in order to address localized flooding, urban heat, and lack of green spaces, culminating in the Petersburg Walkable Watershed Plan. Mr. Doyle and Mr. Walker explained the community input and project selection process, sources of funding for the projects identified, and installation and maintenance of projects, especially the newly installed hydrodynamic separator for stormwater management. An overview of Petersburg's other ongoing and future projects was given. The presentation was followed by a Q&A and group discussion of obstacles and opportunities in the region, including the potential for stormwater fees and the relative dearth of momentum and capacity in localities that have less long-term collaboration with nonprofit groups like JRA or FOLAR (and how to address that issue).

3. **April 26th, 2023** (18 participants): DCR Natural Heritage Data Explorer Overview, Methodology, and Uses for Long-Range Planning – Tyler Meader (DCR)

On 4/26/23, Tyler Meader of DCR gave a presentation on the Natural Heritage Data Explorer (NHDE) and how it can be used for long-range resilience planning, including an explanation of its layers, data sources, and methods, looking specifically at assets in the Crater region, and the project review service that DCR provides. Mr. Meader gave a breakdown of "element occurrences" where a species or natural community is present and how they are used to build conservation sites and stream conservation units. He detailed some of the more unique conservation sites among the Crater region's 187, with some species extant only to small geographical patches. He also discussed different conservation tools, such as the Coastal VA Ecological Value Assessment (VEVA) and ConserveVirginia 3.0, and how to use them in conjunction with the NHDE. The presentation was followed by Q&A and a roundtable discussion on how to incorporate these layers into ordinances and more in-depth project review, as opposed to using it as passive information, and an emphasis on utilizing DCR's project review more heavily. In addition, updates from regional groups were given.

August 30th, 2023 (21 participants): Implementing Green Infrastructure at Rural and Urban Scales – Karen Firehock (UVA GIC)

On 8/30/23 Karen Firehock, director of the UVA Green Infrastructure Center (and a member of the Albemarle County Planning Commission), gave a presentation on concepts and specific methods to achieve green infrastructure implementation at the rural and urban levels and how to achieve CZM resilience and habitat protection goals in the Crater region. Using examples from Charlottesville, Richmond, and New Kent County, Ms. Firehock spoke to the differing challenges in rural and urban areas, where in rural areas the focus is to create sustainable ecological cores and wildlife corridors, sufficiently dense and with thick enough natural buffers to allow for important animal species to thrive, but in urban areas the focus should be on low impact development and utilizing resources such as derelict properties or other locality-owned properties to carve out and interconnect green spaces. When done correctly, there can also be water quality and quantity control co-benefits, and can also create safe and healthy walking and biking transportation routes with equity and community ownership and engagement in mind. The importance of mapping and analyzing green infrastructure assets – especially for comprehensive plans – was emphasized. The presentation was followed by Q&A and a roundtable discussion which included the possibility of a Tri-Cities or even larger regional collaboration on creating greenways and preserving ecological cores.

Training meeting agendas are reproduced in **Appendix 2**, and can also be found on the Crater PDC website at https://craterpdc.org/our-works/environment/environment-meeting-resources.

Product #4: Friends of the Lower Appomattox River

Crater Planning District Commission continued to provide support to Friends of the Lower Appomattox River (FOLAR) throughout the 2022 grant year. FOLAR is a regional nonprofit volunteer organization formed in 2000 with a mission to "work in partnership with communities to conserve and protect the Appomattox River for all to enjoy." FOLAR's strategy to achieve their mission includes:

- **Developing, maintaining, and protecting the Appomattox River Regional Greenway/Blueway Corridor**, a 20+ mile waterway and trail system. Their priority focus is the build -out of the Appomattox River Trail (ART) as Guided by the Appomattox River Trail Master Plan.
- **Devoting resources to protecting water quality and to land conservation**; through organized regular regional river cleanup campaigns.
- **Promoting economic growth and healthy lifestyles** through tourism and recreation programs.
- **Supporting programs to expand regional education** and environmental stewardship and offering the FOLAR Environmental Stewardship Scholarship in partnership with the John Randolph Foundation.

To date, FOLAR has established several public trailheads, held more than 20 river clean-ups, and participated with other organizations that promote environmental awareness. Crater PDC has provided technical assistance to FOLAR for several years and in FY22 continued providing assistance such as website maintenance (www.folar-va.org), participation in river clean-ups and other relevant events, and with ongoing conversations on how to enhance trails, trailheads, and trail signage. An important part of Crater PDC's support FOLAR through the CZM program has been hosting FOLAR adjacent to their offices in Petersburg and providing access to the PDC's resources. Crater PDC staff serve as an ex-officio non-voting member of the FOLAR Board and are in attendance at all FOLAR board bi-monthly meetings. Crater PDC provides support to FOLAR through the use of office and storage space and general office equipment and supplies such as printers and mail service.

FOLAR has continued to be an active participant in Environmental Resource Management Task Force meetings, contributing to regional discussions regarding grants, trees, native plants, river stewardship, data sources, and transportation planning related to trails. Crater PDC, meanwhile, has gone from facilitating FOLAR's growth to supporting them in their mission. As part of this assistance, Crater PDC has been actively working to aid FOLAR in their stream cleanup efforts, not only by participating in and helping with day-of volunteer organization at the events themselves, but by using the cleanups as an opportunity to collect data on the worst trash areas and potential sources of trail and river trash.

Significant research into the best methods for marine litter and debris data collection methods has been conducted along with conversations with litter prevention organizations such as Keep Virginia Beautiful. Some of the main barriers to collecting useful data include providing volunteers with easy-to-use forms or technology, inconsistent trash identification or logging methods, geographic representation, and having to do all this while picking up waste in outdoor conditions while wearing some amount of personal protective equipment.

To better understand these conditions, stream cleanups were used as strategic testing sites for data collection. FOLAR conducted a stream cleanup at Ferndale Park in Dinwiddie County at the edge of Petersburg on April 15th, 2023 and coordinated with the James River Advisory Council (JRAC) to conduct a cleanup on September 9th, 2023 as part of their 25th annual James River Regional Cleanup at Rotary

Park in Petersburg. During the cleanups, using a phone-based GIS app, Crater PDC staff marked locations of concentrated litter. These then were added to an ArcGIS map along with polygons marking the cleanup sites. While simple, this data has never been collated before, and over time could be used to determine where repeat problem areas could benefit from litter interventions or could help investigate upstream sources of stream litter to be mitigated. Further investigations into litter prevention and how to coordinate Crater PDC and FOLAR's efforts with larger state and region-wide initiatives, as well as how to incorporate this and the PDC's other work into FOLAR's overarching mapping and planning efforts, is ongoing. The litter maps for the Ferndale and Rotary Park cleanups are reproduced below.

FOLAR Stream Cleanup Sites and Trash Hotspots

Ferndale Park Cleanup, April 25, 2023

Rotary Park Cleanup, September 9, 2023

Product #5: Benefits Accrued from Prior CZM Grants

The Crater PDC Region has benefitted greatly from the Coastal Zone Management TA Grant funds it receives. In addition to the more concrete benefits detailed below, one of the most important benefits to the Crater region localities has been simply having a forum to discuss the environmental, resilience, and water issues that concern traditionally low-income, low-capacity rural communities. Historical trainings have focused on: updates to important statewide regulations (such as the Chesapeake Bay Preservation Act and Waters of the U.S. designations); creating regional trails, greenways blueways, and scenic river designations; floodplain management concepts and the Community Rating System; utility-scale solar benefits and impacts; resiliency project databases and coastal needs assessments; and emerging environmental justice topics. These meetings have been instrumental to promoting conscientious environmental sustainability and resilience planning in the region.

A major accomplishment stemming from Crater PDC's participation in the CZM program has been to be able to assist and help grow the Friends of the Lower Appomattox River (FOLAR) from a fledgling nonprofit to an organization with their own offices, multiple annual events and stream litter cleanups, a strategic Master Plan for the Appomattox River Trail, and an already-impressive portfolio of completed trailheads and trail segments along the river. The Lower Appomattox Trail Master Plan continues to provide FOLAR and the localities it serves with a structure for trail improvements, which are being constructed at a rapid pace. Previous stream cleanups have provided an on-the-ground assessment of how to better tackle marine debris, which the PDC is planning to use for ongoing mapping and trash prevention strategies. Crater PDC staff provided technical and GIS mapping support for updates to master plan maps, used to reflect progress in trail development. Crater staff provided help and support for the two-year update to the Appomattox River Trail Guide. Crater PDC also supplied funding to support the river trail map and digital pamphlet. The Appomattox River Trail Guide pamphlet is reproduced in **Appendix 3**.

In FY20, partially funded through the CZM grant, CPDC developed a Resilience Plan for the Community Flood Preparedness Fund administered by DCR, with the intent to let member localities adopt it in order to apply for project funds. However, the Plan was ultimately never submitted to DCR, in part because the regional Plan did not have sufficient detail to be adopted and used by individual localities, and because the most dedicated localities had already developed their own resilience plans. However, discussions through the Environmental Resources Management Task Force were instrumental in educating localities in program details, and Petersburg has been awarded around $5.4 million in CFPF funds to fix stormwater issues in its most vulnerable communities. Petersburg is applying for additional funding in Round 4, and other localities have been encouraged to begin their flood resilience journeys through the CFPF.

Crater PDC's growing repertoire of mapping tools and data partially funded by CZM Program grants has conferred the ability to better respond to localities' needs and to create new tools to meet those needs in relation to CZM goals, as well as to provide information on and pursue grant opportunities on localities' behalf.

Product #6: Resilience Planning

Regional Resiliency Coordination

Crater PDC held successful coordination meetings for resilience stakeholders through the monthly Environmental Resources Management Task Force (ERMTF) meetings to discuss resiliency needs and define what resilience means in the region. Early in the year, Crater PDC went through a special effort to contact locality administrators to describe the purpose and topics of the ERMTF meetings and recommend staff members to attend. Because the ERMTF meetings tend to touch on interdisciplinary topics such as transportation, public works, etc. it was requested that multiple departments be considered. This outreach effort led to the inclusion of more locality staff members as well as the addition of localities who, due to staff changes or other reasons, had not attended in recent history. Crater PDC continues to seek out new stakeholders to attend these meetings to develop new partnerships and synergies.

Resilience topics pervade each of the ERMTF meetings, but two meetings in particular highlighted regional resiliency needs and ideas. On 5/31/23 and 6/28/23, the group was introduced to a data call spreadsheet that would be used to gather land use information both for the Chesapeake Bay High Resolution Land Use and Land Cover Data project (LULC) as well as to gather information about member localities' available data. The information was broken out into categories relevant to the LULC and into multiple subcategories of BMP and other stormwater infrastructure, with the goal of helping the localities understand what data they have, when it was last updated, and what data they want or need. This then could help determine how Crater PDC could act as a centralized clearinghouse or could conduct research or GIS analysis for certain data types. It could also be instructive for best practices for gathering and maintaining this data at the local level, with each locality sharing how they handle different data types.

Crater PDC continues to inform the localities of grant opportunities through the Infrastructure Investment and Jobs Act (IIJA, aka the Bipartisan Infrastructure Law), the Inflation Reduction Act, the Community Flood preparedness Fund (CFPF), EPA Environmental Justice and other grants, VDOF, VDEQ, and BRIC, NFWF, and other hazard mitigation grants that can help with dams and transportation and infrastructure flooding. Because it is such a well-funded opportunity for communities both in and out of the Chesapeake Bay watershed with a focus on underserved communities, the CFPF has been a major focus. Multiple meetings and collaboration with Wetlands Watch and other partners have brought information on the CFPF to the member localities, but capacity issues have made applications or even project identification difficult. Crater PDC, having recently increased in-house staffing, is planning to apply for funding to capitalize on the recent Hazard Mitigation Plan update and create a regional resilience plan that Crater member localities could use to apply for project funding.

Regional Resiliency Priorities

CPDC continues to work with stakeholders to identify regional resiliency needs, such as data gaps, local capacity, critical environmental issues and opportunities, etc. and to establish regional resilience priorities. The needs and priorities were discussed at monthly ERMTF meetings.

In FY20, Crater PDC staff with locality and stakeholder input derived a unique definition of resilience for the region based off of the Commonwealth's definition:

> "In Crater PDC, resilience is the capability to *rebound* from *multi-hazard threats* with minimum negative impact on the *community*.
>
> Rebounding includes: anticipating, preparing, responding, adjusting, and/or recovering from change.
>
> Multi-hazard threats include: chronic or acute, natural or man-made hazards, including more frequent and intense storms and droughts and increased water levels in our tidal areas.
>
> Community includes: the social well-being and health of people and the economy within the built and natural environment."

This definition was presented in order to workshop novel or underrepresented resilience issues in the region and generate new foci for future planning efforts. Since FY20, a number of concerns have been catalogued and explored, including: ignored elements of rural stormwater systems such as drainage ditches, the impact of road construction on flooding, problems with existing roads, bridges, and culverts, severe storms, sedimentation and debris buildup behind dams, the potential impact of climate refugees moving northward and inland, and ALICE populations. In FY21, new resiliency topics included how to address environmental justice concerns, urban heat islands, air quality (especially connected with roadway intersections and how to abate this with strategic tree planting), endangered species protection, and climate concerns.

In FY22, renewed effort was given to defining resiliency needs in the region. Two projects in particular – a grant opportunity and a data research effort – helped to progress resilience knowledge among member localities:

Building off of a CZM training presentation from the previous year given by Lisa Moss of the US Fish and Wildlife Service (and others) about the importance of remediating undersized, poorly designed, or broken culverts to increasing available stream-miles of habitat for endangered anadromous fish and other aquatic species, conversations developed around how to find synergies between needed road improvements, funding for improved culverts, and mitigation of flooding issues impacting roads and downstream areas. These enhanced aquatic organism passages (AOPs) could not only serve to protect endangered fish species (CZM Goal 1), but also potentially economically important species, which could bolster agritourism and commercial fishing prospects leading to greater economic resilience. They would also necessarily be an opportunity to use match-free federal dollars to reconstruct old or failing bridges and restore shorelines around road-stream crossings that may be causing local or downstream flooding.

To this end, initial talks with VDOT, USFWS, Tri-Cities MPO, and other interested partners lead to a plan to identify culverts that could be funded. The idea was also discussed with Crater localities in

several monthly ERMTF meetings and in email updates in order to glean local priorities, but perennial capacity issues, alternative priorities, and the complexities associated with partnering with VDOT on state-controlled roads stymied participation. VDOT representatives also expressed that there would need to be a significant commitment at the local level before they would consider partnering on grant applications. However, it was expressed by the localities that if the partnership *could be brought to them*, with coordination and grant application assistance, the project might be palatable.

This lead to the creation of a mapping tool which could be used to identify potential culverts for enhancement. The tool is based off of other work conducted by the Tri-Cities MPO and planning consultants for purely transportation work using publicly available VDOT and environmental datasets. It was modified and filtered to show the intersection between:

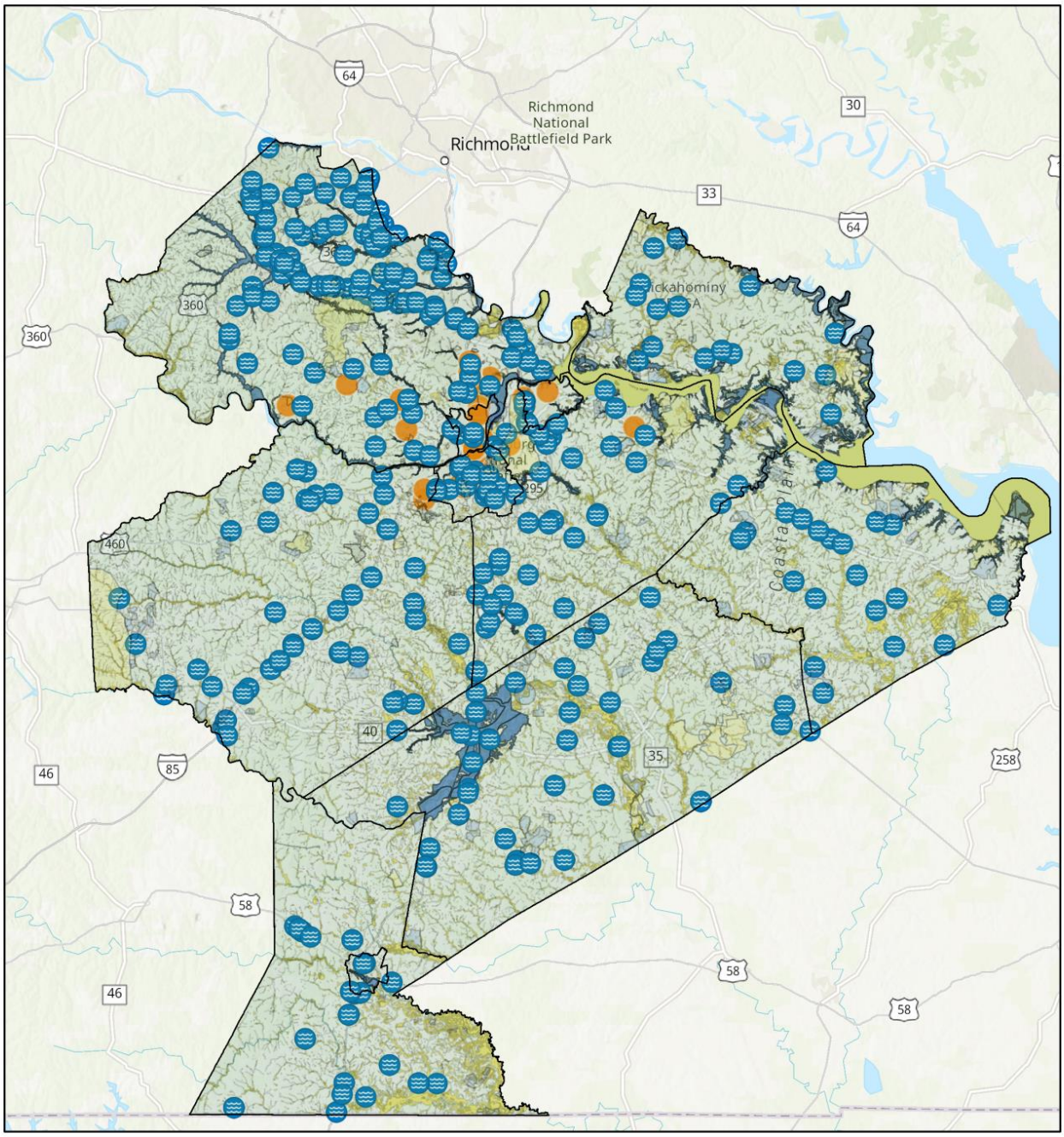
1. car crashes in the region caused by standing or moving water;
2. culverts in need of moderate or severe repair or total replacement;
3. impaired waterways – or – where several miles of waterway could be enhanced.

The following GIS-produced map shows potential sites of these intersections. The map was filtered to show culverts with condition ratings of Level 6 – "Deteriorated", or poorer.[1] Crashes were filtered to show only those where the road surface condition was noted as "Standing or Moving Water". For clarity, impaired waterways or additional layers showing miles of stream have not been activated, but can be turned on for visual analysis (indeed, almost all major tributaries in the region intersected by major roadways are classified as "not supporting" for at least one use). It is interesting to note that whereas, understandably, most of the crashes occurred in more densely populated areas, the distribution of impaired culverts is region-wide. Also, although the current analysis does not take it into account, the associated local channel condition at the site of these culverts is often rated Level 6 – "Bank Slumping" or poorer.[2] Also produced are two detail images showing a close-up view of where some of these car crashes might have been influenced by underperforming culverts that caused water buildup.

[1] Deteriorated condition is described as "Deterioration or initial disintegration, minor chloride contamination, cracking with some leaching, or spalls on concrete or masonry walls and slabs. Local minor scouring at curtain walls, wingwalls, or pipes. Metal culverts have a smooth curvature, non-symmetrical shape, significant corrosion or moderate pitting."

[2] Bank Slumping condition is described as "Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor streambed movement evident. Debris is restricting the waterway slightly." See the February 2021 VDOT "Inventory and Appraisal Coding Guide for Virginia's Structures" (PDF link).

Crater Damaged Culverts & Crashes Due to Standing Water



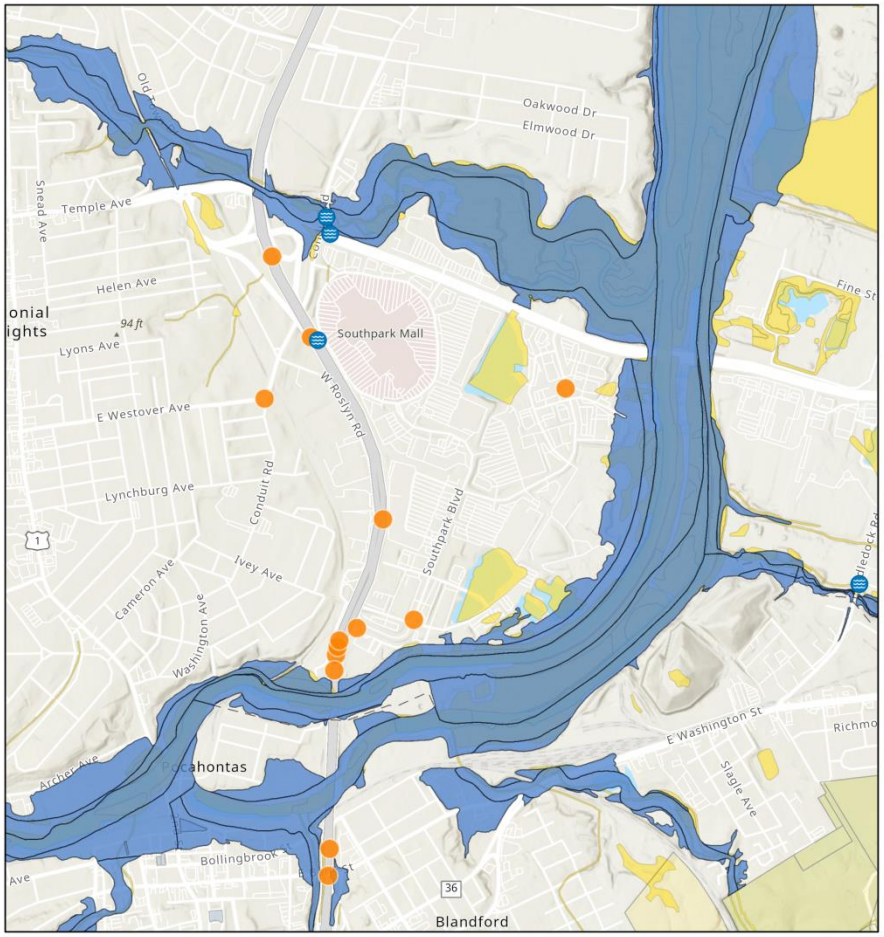
Consv Easements Crater
Consv Private Lands Crater
Counties
Crater Bridges Culverts
Crater VDOT Crashes
USA Flood Hazard Crater
VA Wetlands Crater

1:806,501

0 5 10 20 mi
0 5 10 20 km

VGIN, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, Esri, USGS

Crater Culverts & Crashes - Detail

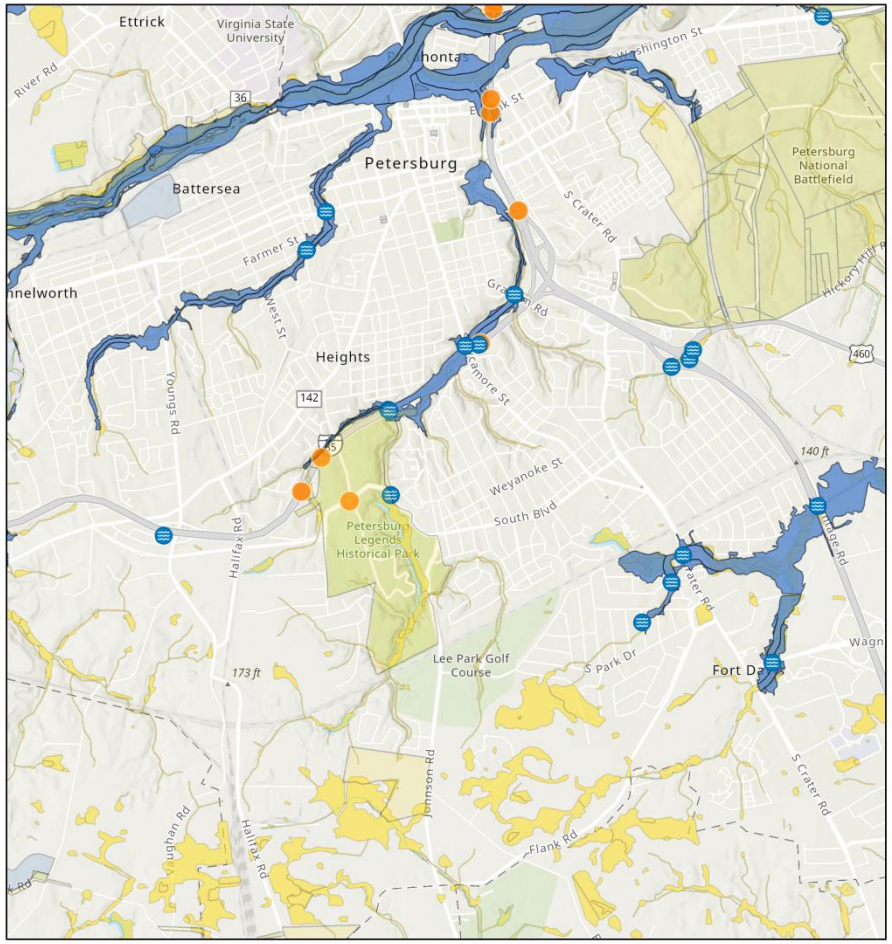


1:25,203

0 0.15 0.3 0.6 mi

0 0.28 0.55 1.1 km

Crater Culverts & Crashes - Detail



1:50,406

0 0.33 0.65 1.3 mi

0 0.5 1 2 km

Due to aforementioned issues, the deadlines for this fiscal year's funding opportunities have passed without any locality submitting an application. However, enhancing AOPs for environmental, commercial, and safety reasons will remain a topic of discussion in the Crater region.

The other major resiliency topic covered was the creation of a data call spreadsheet attempting to determine what data localities have concerning land use, infrastructure, BMPs, and other environmental assets. As previously mentioned, this spreadsheet was created in part to support the ongoing efforts of the Chesapeake Bay Conservancy High-Resolution Land Use and Land Cover Data (LULC). Each data consideration was broken down by type and subtype, and localities were asked to input:

1. whether they have the data;
2. if so, the last time (year) it was collected or updated;
3. whether they would like a given type of data; and
4. a potential baseline source for the given data type.

The data was broken down into these types and subtypes:

Chesapeake Bay Land Cover Data Project

- "Critical" Data
    - Streets and Roads
    - Sidewalks
    - Rights of Way
    - Building Footprints
    - Other Impervious Surfaces
    - Current *Actual* Land Use (Not Zoning)
        - Cropland
        - Pasture
        - Managed Turf and Athletic Fields
- "Other" Data
    - Parcels
    - Local, State, and Federally Owned Lands
    - Sewer Service Areas
    - MS4 Boundaries
    - BMP Locations
    - Stormwater Infrastructure
        - Grey/Hybrid/Traditional
            - Stormwater Pipes
            - Manholes/Inspection Points
            - Catch Basins/Storm Drain Inlets
            - Culverts/Road-Stream Crossings
            - Vegetative Ditches
            - Non-Vegetative Channels
            - Cisterns
            - Infiltration Basins
            - Detention and Retention Basins
            - Manufactured Treatment Devices (Hydrodynamic Separators, etc.)
            - Permeable Pavement

- Green/Non-Traditional
    - Constructed Wetlands
    - Green Roofs
    - Bioswales
    - Vegetative Filter Strips Riparian Buffers
    - [Other]

Additional Crater PDC WIP & CZM Data

- River Cleanup Locations
- Debris Source Mapping
- Water Quality Monitoring Sites
- Critical Infrastructure
- [Other, TBD]

Other Data, Plans, and Regulations

- Trails
- FEMA FIRM Map Pending Updates
- RPA and RMA Boundaries
- Intersection of Buildings in RPA/RMA/Floodzone
- Wetlands
- Environmental Justice Areas
- Heat Islands/Heat Mapping
- Environmental Language in Comprehensive Plan/Ordinances

While not comprehensive, this data call provided a baseline for conversations on how to address data gaps, increase data sharing, and share best practices on data collection and maintenance in the region. Discussions during ERMTF meeting locality roundtables suggested that, for the majority of localities, this data is sparse at best, and usually restricted to newer developments after a point in time when better practices were implemented. This means that there are many projects and properties that are backlogged for updating.

The resilience priorities for localities are an ongoing and evolving discussion. Some localities have immediate and obvious needs, such as stormwater management issues in Petersburg, Hopewell, and Emporia. Others understand some of their issues (and even know where they are) but need further help and resources for identifying the totality and causes of problems, such as blocked ditches and culverts or erosion along streams and roadways. Dams are a serious issue in some communities, with silt and debris buildup causing concern. There are also more nebulous concerns, such as whether climate change will lead to greater emigration to the central Virginia region inland from coasts and north from hotter climates, and how the region's roads, public facilities, and other resources will accommodate them. Employment opportunities in a changing world – which may include more jobs related to climate adaptation and mitigation and green technologies – and how to capitalize on them are also a major concern. Utility-scale solar facilities and their associated impacts and benefits are also a major topic of discussion, bolstered by conversations with the Rappahannock River Basin Commission and other regional groups. Information and tools are being continuously developed to address these issues.

CZM Resilience Database Support

Through standing meetings Crater PDC staff have engaged localities in discussions on their ongoing projects and resiliency needs. It is understood that DCR and other state agencies will eventually use projects submitted to the Coastal Resilience Master Plan database to prioritize projects and funding, and the importance of having Crater localities' resilience needs represented on the final map was stressed to the Environmental Resource Management Task Force. Discussions between state agency staff and PDC stakeholders helped determine which parameters of these projects should be included and how data input could be streamlined. A number of projects from the Crater region were inputted into the revised spreadsheet template and submitted to DCR for inclusion to the CRMP database (Figure 11).

	I	J	K	L	M	N	O	P	Q
1	Project Partners	Project Phase, Project Phase (Select One)	Related Initiative? (Please ensure the Project Name is the same on both forms)	Description	Scale of Benefits (Select One)	Geographic Location (please select one or more of PDCs, counties, cities, towns, and tribal territories)	Coastal Hazard Addressed (Select One or More)	Climate Standards (Select One or More)	Project Subtypes (Select One or More)
2	Crater PDC	Proposed - the project has be		Increase water/wastewater treatme	Sub-Watershed: the prc	Dinwiddie County, Crater PDC	stormwater_flooding, riv	no_scenarios	Structural Projects|Community Infrastructure|Utility Retrofit / Upgrades
3	Crater PDC	Proposed - the project has be		Repair flood gates on Lakeview Dam	Sub-Watershed: the prc	Colonial Heights, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Flood Risk Reduction Structures|Levees & Dikes
4	Crater PDC	Proposed - the project has be		Raise the Halifax Street Bridge. Halif	Sub-Watershed: the prc	Emporia, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Road/Bridge Elevation
5	Crater PDC	Proposed - the project has be		Improve gauging and warning systen	Sub-Watershed: the prc	Emporia, Crater PDC	riverine_flooding	rainfall_scenarios	Other
6	Crater PDC	Proposed - the project has be		Install high water mark signage alon	Sub-Watershed: the prc	Greensville County, Crater PDC	riverine_flooding	rainfall_scenarios	Other
7	Crater PDC	Proposed - the project has be		Increase capacity of Cabin Creek dra	Sub-Watershed: the prc	Hopewell, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Drainage Improvement
8	Crater PDC	Proposed - the project has be		Increase capacity of Cattail Creek ch	Sub-Watershed: the prc	Hopewell, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Drainage Improvement
9	Crater PDC	Proposed - the project has be		Install NWS-grade tide gauge at conf	Sub-Watershed: the prc	Hopewell, Crater PDC	riverine_flooding	rainfall_scenarios	Other
10	Crater PDC	Proposed - the project has be		Retrofit Hopewell Marina infrastruct	Sub-Watershed: the prc	Hopewell, Crater PDC	riverine_flooding, shorel	rainfall_scenarios	Structural Projects|Community Infrastructure|Public Facility Floodproofing
11	Crater PDC	Proposed - the project has be		Install high water mark signage alon	Sub-Watershed: the prc	Petersburg, Crater PDC	riverine_flooding	rainfall_scenarios	Other
12	Crater PDC	Proposed - the project has be		Identify and replace vulnerable or u	Sub-Watershed: the prc	Prince George County, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Drainage Improvement
13	Crater PDC	Proposed - the project has be		Elevate I-95 bridge and widen chann	Sub-Watershed: the prc	Sussex County, Crater PDC	riverine_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Road/Bridge Elevation
14	Crater PDC	Programmed – the project ha		Fixing drainage under Rte 460 which	Sub-Watershed: the prc	Wakefield, Crater PDC	stormwater_flooding	rainfall_scenarios	Structural Projects|Community Infrastructure|Drainage Improvement

Figure 11 Priority Resilience Projects

Due to both capacity issues at the locality level and the general lack of large-scale environmental projects currently being designed or considered, the data call for projects to submit to the database was somewhat strained. Often, resiliency projects are more reactionary to immediate or recent threats, whereas forward momentum towards long-range planning is still being built. That said, the majority of projects submitted came from the recently completed Regional Hazard Mitigation Plan Update.

Through the CZM program, Crater PDC continues to identify resilience needs and potential projects in the region. The RAFT pre-planning process is currently underway in Petersburg and Hopewell, localities with high concentrations of projects. Discussions with localities at the monthly ERMTF meetings have revealed a number of different priorities, from clogged dams and culverts and other drainage capacity issues to dam repair and other infrastructure upgrades. Not all Crater PDC member localities' projects are currently represented. Crater PDC has requested access to the database, and will input projects on an ongoing basis as needed.

The current Coastal Resilience Master Plan has been published at: https://www.dcr.virginia.gov/crmp/plan, and the Web Explorer with dropdowns to access the projects that Crater PDC has submitted can be accessed at:

https://experience.arcgis.com/experience/9e32e928ed304fa98518b71905e43085/page/Projects-and-Initiatives/. Projects currently submitted include:

- Wastewater Resilience (Dinwiddie County)
- Lakeview Dam Repair (Colonial Heights)
- Cabin Creek Drainage Capacity (Hopewell)
- Cattail Creek Drainage Improvement (Hopewell)
- James at Appomattox Tide Gauge (Hopewell)
- Hopewell Marina Retrofit (Hopewell)
- Culvert Replacement (Prince George County)
- I-95 Bridge at Stony Creek (Sussex County)

State Resilience Planning Support

Crater PDC participated in Coastal Resilience Technical Advisory Committee (TAC) meetings to discuss the ongoing Virginia Coastal Resilience Master Plan as well as other state- and region-wide CZM-related meetings. Outside of meetings hosted by state agencies and executive departments for the purposes of regional and state-wide resiliency efforts, Crater staff have also participated in the recent Resilience and Adaptation Feasibility Tool (RAFT) meetings for the cities of Hopewell and Petersburg, as well as meetings of the Rappahannock River Basin Commission, which, while not encompassing Crater localities, have provided invaluable insight into land use issues affecting coastal communities, especially in regards to utility scale solar developments.

- **12/1/22**: Coastal Resilience TAC (Richmond)
- **2/15/23**: Coastal Policy Team Meeting
- **3/16/23**: Coastal Resilience TAC (Williamsburg)
- **3/29/23**: Rappahannock River Basin Commission
- **3/31/23**: RAFT
- **4/19/23**: Rappahannock River Basin Commission
- **4/28/23**: RAFT
- **5/17/23**: Rappahannock River Basin Commission
- **5/19/23**: RAFT
- **5/25/23**: Coastal PDC Quarterly Meeting hosted by MPPDC (Virginia Institute of Marine Science)
- **6/14/23**: Rappahannock River Basin Commission
- **6/16/23**: RAFT
- **6/27/23**: Coastal Resilience TAC (Richmond)
- **7/5/23**: RAFT (Hopewell)
- **7/14/23**: RAFT (Petersburg)
- **7/26/23**: Rappahannock River Basin Commission
- **8/7/23**: RAFT (Hopewell)
- **8/17/23**: Coastal Resilience TAC – Project Prioritization Subcommittee
- **8/18/23**: RAFT (Petersburg)
- **8/31/23**: Coastal PDC Quarterly Meeting hosted by NVRC (GMU Potomac Science Center)
- **9/5/23**: RAFT (Hopewell)
- **9/15/23**: RAFT (Petersburg)
- **9/19/23:** Coastal Resilience TAC (Richmond)
- **9/21/23**: Coastal Policy Team Meeting

Crater PDC staff have also attended numerous webinars and other presentations with opportunities to participate, such as Wetlands Watch CRS workshops, in order to stay abreast of grant opportunities and information regarding environmental policy and regulation updates. All information from these meetings is shared with locality environmental managers through email updates and monthly ERMTF meetings.

Appendices

Appendix 1: Sample Environmental Impact Review Memo

CRATER PLANNING DISTRICT COMMISSION

MEMORANDUM

FROM: Luke Peters, Environmental Planner, The Berkley Group, on behalf of the Crater Planning District Commission

TO: Julia Wellman, DEQ

RE: Environmental Impact Review Comments for the Charter Colony West Project (# 23-049F)

DATE: May 17, 2023

Dear Ms. Wellman,

On behalf of the Crater Planning District Commission (Crater PDC), I am writing to offer an Environmental Impact Review of the Charter Colony West Project. Specifically, Crater PDC would like to comment on the project's impact on the 10 goals of the Virginia Coastal Zone Management Program. In particular, the elements of the CZM goals relevant to this project are:

- To protect wetlands, riparian forested buffers, and endangered or threatened species;
- To protect coastal resources and habitats from excess nutrients, toxins, and sedimentation;
- To restore and maintain the quality of coastal waters for human and ecosystem health;
- To ensure sustainable development on coastal lands;
- To protect air quality; and
- To promote renewable energy production.

This project will involve timbering multiple acres of forested land which will have impacts on water retention, air quality, water quality, and potential habitat, but is generally well sited in an area already bounded by other residential development and a major roadway.

Many comments concerning the appropriateness of required BMPs and grading have already been covered by the Chesterfield County engineering department. Crater PDC would only like to add that, given the large acreage, whether a different configuration of houses and cul-de-sacs would allow for larger buffers from the RPA or would obviate proposed impacts to the wetlands. Other design possibilities, such as preserving trees around and between houses as de facto conservation landscaping or implementing green infrastructure and permeable pavement, should be considered to protect water assets.

Thank you for allowing Crater PDC to comment on this proposed action.

Luke Peters
The Berkley Group
luke.peters@bgllc.net

Appendix 2: CZM Training Agendas

January 25th, 2023:

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building ● 1964 Wakefield Street ● Post Office Box 1808 ● Petersburg, VA 23805
Phone: (804) 861-1666 ● Fax: (804) 732-8972 ● info@craterpdc.org ● craterpdc.org

CPDC Environmental Resource Management Task Force

Agenda

Wednesday, January 25, 2023, 1pm-3pm

Virtual Meeting:

https://us02web.zoom.us/j/89336762578?pwd=SG5nMW8xdGNSa0I2TnBJRUNybXJLQT09

Passcode: 718561 Dial in: +1 929 205 6099 US (New York); +1 301 715 8592 US (Washington DC)

1:00 – Welcome

1:05 – Introduction to FY22 Coastal Zone Management and FY23 Watershed Implementation Plan Phase III – Luke Peters, Berkley Group

- Overview of grant program requirements
- Potential projects and topics for the year
- Leveraging monthly meetings for grant opportunities

1:35 – Chesapeake Bay Preservation Act Regulatory Updates – Heather Mackey, DEQ

- 2023 updates to CPBA regulations, their rationale, and locality actions
- Short Q&A

2:00 – Locality and Stakeholder Roundtable

- Status of past, present, and future environmental concerns
- Topics for future meetings

Next Meeting: February 15th, 2023 at 1pm

February 22nd, 2023:

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building ● 1964 Wakefield Street ● Post Office Box 1808 ● Petersburg, VA 23805
Phone: (804) 861-1666 ● Fax: (804) 732-8972 ● info@craterpdc.org ● craterpdc.org

CPDC Environmental Resource Management Task Force

Agenda

Wednesday, February 22nd, 2023, 1pm-3pm

Virtual Meeting:

https://us02web.zoom.us/j/89601572518?pwd=Ump1Q1FtQldVVUk4QngwS2JzYncwZz09

Passcode: 631272 Dial in: +1 929 205 6099 US (New York); +1 301 715 8592 US (Washington DC)

1:00 – Welcome

1:05 – Regional News and Updates– Luke Peters, Berkley Group

- Integrating the RAFT Program – Petersburg, Hopewell, and other communities
- Grants, data, tools, and information

1:20 – BMP Implementation in Petersburg Communities – Justin Doyle, James River Association; Reginald Tabor & Darryl Walker, City of Petersburg

- JRA-partnered projects in Petersburg's Lakemont neighborhood
  - Conception to installation – steps to get BMPs installed
- Short Q&A

2:00 – Grants Overview – Nadya Syazsa & Luke Peters, The Berkley Group

- Green Streets, Green Jobs, Green Towns (G3) Program
- Coastal Resilience and Trees Fund (CRTF)

2:20 – Locality and Stakeholder Roundtable

- Status of past, present, and future environmental concerns
- Topics for future meetings

Next Meeting: March 22nd, 2023 1-3pm

April 26th, 2023:

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building ● 1964 Wakefield Street ● Post Office Box 1808 ● Petersburg, VA 23805
Phone: (804) 861-1666 ● Fax: (804) 732-8972 ● info@craterpdc.org ● craterpdc.org

CPDC Environmental Resource Management Task Force Agenda

Wednesday, April 26th, 2023, 1pm-3pm

Virtual Meeting:
https://us02web.zoom.us/j/81320635904?pwd=KzFrV2NsbVJUNmFUR3JWWnVNbFQvQT09
ID: 813 2063 5904 Passcode: 352028 Dial in: (929) 205-6099 (New York); (301) 715-8592 (Washington DC)

1:00 – Welcome

1:05 – Regional News and Updates– Luke Peters, Berkley Group

- Thoughts from RRBC Tech Committee
- Grants, data, tools, and information
    - Urban and Community Forestry, REAP

1:20 – Overview and Planning Uses of Natural Heritage Data Explorer – Tyler Meader, DCR

- Overview of data layers and methodology
- How to incorporate NHDE into application reviews and long-term planning processes
- Short Q&A

2:00 – Locality and Stakeholder Roundtable

- CZM Projects Database
- Grants Database
- Topics for future meetings

Next Meeting: May 24th, 2023 1-3pm

August 30th, 2023:

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building ● 1964 Wakefield Street ● Post Office Box 1808 ● Petersburg, VA 23805
Phone: (804) 861-1666 ● Fax: (804) 732-8972 ● info@craterpdc.org ● craterpdc.org

CPDC Environmental Resource Management Task Force Agenda

Wednesday, August 30, 2023, 1pm-3pm

Virtual Meeting:
https://us02web.zoom.us/j/85245589980?pwd=NFE1UndPRi94OUNIdDliVnd6RzJqdz09
ID: 852 4558 9980 Passcode: 383452 Dial in: (929) 205-6099 (New York); (301) 715-8592 (Washington DC)

1:00 – Welcome & Introductions

1:05 – Regional News and Updates – Luke Peters, Berkley Group

- Grants, Data, Tools, and Information

1:15 – Green Infrastructure Implementation – Karen Firehock, UVA Green Infrastructure Center

- Policy and considerations for implementing rural and urban green infrastructure

2:00 – Locality and Stakeholder Roundtable

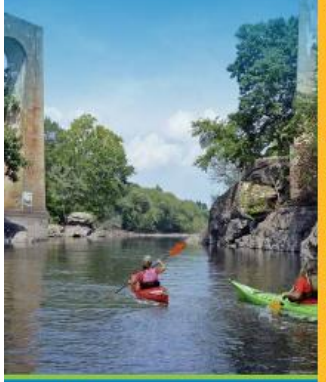
- Projects underway
- Considering HMP for CRMP Project Database
- Data Needs

Next Meeting: September 27th, 2023 1-3pm

Appendix 3: Appomattox River Trail Guide Pamphlet

EXPLORE the Appomattox River

A VIRGINIA STATE SCENIC RIVER



Over 20 miles of river from the dam at Lake Chesdin to the confluence with the James River in Hopewell

Appomattox River Trail • Points of Interest
Boat Access • Parks

Boating & Fishing

The Appomattox River from the dam at Lake Chesdin to the confluence with the James River in Hopewell is a designated Virginia Scenic River that provides a unique and beautiful setting for both whitewater and flatwater paddlers, as well as for powerboaters and fishermen. Virginia Scenic River designation is only given to rivers and streams that possess outstanding scenic, recreational, historic and natural characteristics. You can still see the culture and history of the river with the visible remains of dams, locks and canals.

The western/upper portion of the Appomattox River from Bradfield Dam at Lake Chesdin down to Campbell's Bridge in Petersburg can be powerful and remote. High water levels and cold conditions increase this danger. At the natural fall line through the City of Petersburg, the eastern/lower portion of the river becomes tidal and tide charts should be consulted when planning a trip on this portion of the river.

Fishing

The Appomattox River contains a wide range of species, including largemouth and smallmouth bass, redbreast sunfish, bluegill, flier, crappie, pickerel, and hard-fighting minnows, like jellfish and chubs. Stripes bass, walleye and sauger, which run out of Lake Chesdin, provide a seasonal fishery in the Appomattox.

A fishing license is required for anyone fishing over the age of 16 and can be purchased from the Virginia Department of Game and Inland Fisheries. Fishing licenses can be purchased online.

River Information

Plan your trip on the Appomattox River by first checking river and weather conditions.

FLATWATER SECTION:
The Appomattox River is tidal below Appomattox Park in Colonial Heights. Be sure to check the tide charts when planning a trip.

WHITEWATER SECTION:
Check the National Weather Service website for the river gauge at Matoaca ("Google" NWS Appomattox River Matoaca)
Check the American Whitewater website for information on rapids and current conditions (www.AmericanWhitewater.org)

River Level at Matoaca Gauge	Whitewater Paddler Skill Level
2.5 ft. to 3.9 ft. (~ 400-1200 cfs)	Easy to Moderate
3.9 ft. to 5.5 ft. (~ 1200-2800 cfs)	Moderate to Difficult
5.5 ft. to 7 ft. (~ 2800-4800 cfs)	Difficult to Extremely Difficult
Over 7 ft. (~ above 4800 cfs)	Very Hazardous–Expert only!

Water Safety

The river is not patrolled and rescue is difficult. Please let others know of your river plans, study river maps and know how to get off the river.

TO PREVENT PROBLEMS:
- Wear a life jacket. If paddling whitewater, wear a helmet
- Recognize and avoid hazards: Fallen trees, debris piles and dams
- Wear a wet suit in spring, fall and winter
- Carry throw ropes and first aid kits
- Never paddle alone
- Know and prepare for the weather
- Don't paddle after dark
- Use supplemental boat flotation
- Alcohol and paddling do not mix

IF YOU GET INTO TROUBLE:
- Float on your back with feet up, pointed downstream
- Do not try to stand up in swift water
- Stay upstream of your capsized boat
- Get to shore as soon as possible
- Call 911

Whitewater Paddler Skill Level Classification	
Class I Easy	Waves small, clear passages. All obvious obstructions, no serious obstacles
Class II Medium	Rapids of low difficulty with passages clear. Occasional maneuvering may be required.
Class III Moderate	Waves numerous and high, irregular, can swamp open canoe; Rapids with passages clear though narrow and fast, requiring experience in maneuvering. Scouting is advisable for inexperienced parties.
Class IV Difficult	Long rapids; waves powerful, irregular, dangerous rocks; boiling eddies; powerful and precise maneuvering required.
Class V Extremely Difficult	Long and violent rapids, following each other almost without interruption; riverbed extremely obstructed; big drops; violent currents; very steep gradient. Paddlers should have prior Class IV or better whitewater experience with experienced guides who know the river.

Do's & Don'ts
OF BOATING AND HIKING

Boating Etiquette:
- Respect private property
- Don't litter- pack out all trash
- Paddlers should pass fishermen quietly and give lots of room
- Don't block ramps and access points- they are for launching and removing boats only

Trail and Park Etiquette:
You can also enjoy the beauty of the scenic Appomattox River from the land, whether you enjoy hiking, biking, fishing or picnicking, remember some of these tips from the American Hiking Society:

- Stay on trails. Do not enter private property
- Hike quietly. Speak in low voices
  Turn your cell phone down, if not off
- If taking a break, move off the trail to allow others to pass by
- Don't toss your trash-not even biodegradable items
- When bringing a pet, be sure to keep it on a leash and don't forget to pack out pet waste
- Don't feed the wildlife
  Leave what you find
- Help preserve the trail by staying on the trail (walk through puddles, not around)
- If hiking in a group, don't take up the whole width of the trail; allow others to pass
- No motorized equipment except for official and emergency vehicles and motorized wheelchairs

Other Services
DINING, SHOPPING & LODGING

There are plenty of great places to eat or shop after a day spent outdoors at the Appomattox River. For more information on where to dine, visit or stay in the region, please visit the Petersburg Area Regional Tourism website.

Petersburg Area Regional Tourism
www.petersburgarea.org

FOLAR CPDC APPOMATTOX RIVER

Produced by Friends of the Lower Appomattox River (folar-va.org) and Crater Planning District Commission (craterpdc.org)

Virginia Coastal Zone Management Program

This guide was funded in part by the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant #NA15NOS4198102 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.

VIRGINIA IS FOR LOVERS

FOLAR

The Friends of the Lower Appomattox River (FOLAR) is the only non-profit organization dedicated to preserving and enhancing the Appomattox River for all to enjoy between the Lake Chesdin Dam and City Point in Hopewell. FOLAR is leading the effort to create the Appomattox River Trail, over 20 miles of public open space, including accessible trails and river access.
We have miles to go to complete the trail and it can cost $139 per foot to build.

Join FOLAR as a member to help support the Appomattox River and Trail.
www.folar-va.org

facebook.com/FriendsoftheLowerAppomattoxRiver
pinterest.com/folarva
instagram: folarva

Our thanks to the following photographers who made their photos available for this map: E. M. Betts, III, Kristy Fowler, Daniel Jones, Ken Newman, John A. Rooney, Jr.

1 **Lake Chesdin Boat Ramp**
Chesdin Lake Road, Dinwiddie County

Lake Chesdin is a 3,100-acre water supply reservoir on the Chesterfield-Dinwiddie County line administered by the Appomattox River Water Authority. Chesdin is a very productive lake which offers excellent largemouth bass fishing, good crappie fishing—both black and white- in spring and fall, and a great channel catfish fishery. The public boat ramp and handicap-accessible fishing pier are open 24 hours a day. Porta-johns are available.

2 **John J. Radcliffe Conservation Area & Appomattox River Canoe/Kayak Launch**
21501 Chesdin Road, Chesterfield County

This 86-acre park provides trail and canoe/kayak access along the tail zone of the Appomattox River. Hikers can explore a 2.6 mile section of the Appomattox River Trail. Canoeists and kayakers can float down one mile to the abutment dam (relatively flat water) or they can float three miles to Appomattox Riverside/Ferndale Park (Class II-III whitewater) or seven miles to Petersburg (Class II-III whitewater). Amenities: picnic tables, canoe/kayak launch and hiking trails.

3 **Appomattox Riverside/Ferndale Park**
24909 Ferndale Road, Dinwiddie County

The Appomattox Riverside Park, also known as Ferndale Park, is a popular destination for birdwatching, canoeing, fishing, and whitewater rafting. Amenities: 1.5 mile canal trail, a section of the Appomattox River Trail, playground, water and trail access, canal kayak launch/gravel, picnic shelters, and a fishing pier and natural shoreline.

4 **Battersea**
1289 Upper Appomattox Street, Petersburg

Built in 1768 on the banks of the Appomattox River for Col. John Banister, Revolutionary War Patriot, Framer of the Articles of Confederation and Petersburg's first mayor, Battersea is an important neo-Palladian style urban villa. Special features include the Chinese Chippendale staircase, the historic greenhouse and its very old trees. Open for tours by appointment.

5 **Appomattox River Trail- Ettrick/VSU Trailhead**
3001 Main Street, Chesterfield

This 42-acre linear park has a ¾ mile paved trail that follows the Appomattox River and ends at the CSX railroad trestle, and a rustic stepping trail that provides access to the river and viewing of the old canal that bypassed the falls of the river.

6 **Petersburg Patton Park**
University Boulevard at Campbell's Bridge, Petersburg

A passive recreation area along the Appomattox River near historic Old Towne Petersburg and across the river from Virginia State University. Amenities: trailhead to 0.5 miles of the Appomattox River Trail, hiking trails, fishing access, picnic shelter and barbecue pits.

7 **Petersburg Visitor Center**
15 West Bank Street, Petersburg

The Visitor Center is housed in the historic ca. 1839 Exchange Building. Exhibits here present Petersburg's long and storied history from its earliest days as a trading post until today.

8 **Appamatuck Park**
157 Archer Avenue, Colonial Heights

This 14-acre park offers open space, river bank fishing and a natural kayak/canoe launch.

9 **Pocahontas Island**
Rolfe Street, Petersburg

Pocahontas Island, actually a peninsula, is where the first enslaved Africans were brought to work. In the 19th century, Pocahontas became a Freedom Colony, the first predominately free black settlement in Virginia and by 1860, one of the largest in the nation. The Pocahontas Island Black History Museum is an amazing collection of artifacts collected by John Stewart, who was born on Pocahontas Island in 1943 and known as The Mayor of Pocahontas. On the National Register of Historic Places. Museum/225 Witten St. Open by appointment. There is a public park with picnic shelter, 0.5 miles of the Appomattox River Trail and a natural canoe/kayak launch.

10 **Roslyn Landing Park**
265 Charles Dimmock Parkway, Colonial Heights

This park has a ramp for launching small boats and a pier for fishing and is the trailhead for the 1.5-mile paved trail of the Colonial Heights section of the Appomattox River Trail. Picnic shelters and porta-johns are available.

11 **Appomattox Boat Harbor**
1604 Fine Street, Prince George County

A privately owned marina but publicly accessible. Slips and ramp available for a variety of boats including canoes/kayaks. Amenities: floating docks, wet slips, dual boat ramp, gas pump, restrooms & showers, pump out station, marine repair shop, boat storage on land, snack bar, bait shop, pool, summer concert series, fishing tournaments, kayaks, canoes and clubhouse available to rent.

12 **Swift Creek Conservation Area**
Chesterfield

Located where Swift Creek meets the Appomattox River 5.7 miles from the confluence with the James River, this 543-acre conservation area is currently open by appointment only but offers primitive hiking trails, and canoeists and kayakers can paddle along numerous creeks through the heart of the river bottomland habitat. Water trail can be accessed from White Bank Park boat launch in Colonial Heights, but land access is by appointment only.

13 **White Bank Park**
400 White Bank Road, Colonial Heights

The park consists of 22 acres which overlook Swift Creek, and is located across from Tussing Elementary School. The park includes two picnic pavilions which accommodate 200-300 people each, 8 individual picnic shelters for smaller groups, restrooms, 18-hole disc golf course, beach volleyball court, boat ramp, fishing pier and public playground.

14 **Fort Clifton Park**
700 Brockwell Lane, Colonial Heights

Fort Clifton was a Confederate stronghold on the Appomattox River, serving as an important link in the line that defended Richmond and Petersburg in 1864 and 1865. Located on a high bluff at the junction of the Appomattox River and Swift Creek, the fort controlled navigation on the river north of Petersburg and was a formidable defensive bastion that wasn't taken by Union forces until the fall of Petersburg on April 3, 1865. The 24-acre park includes one picnic pavilion which accommodates 60 people, restrooms, walking trails and fishing pier.

15 **Hopewell/Prince George Visitor Center**
4100 Oaklawn Boulevard, Hopewell

The Hopewell/Prince George Visitor Center offers one-stop shopping including statewide tourist literature, lodging coupons, maps, local attractions and relocation information.

16 **R. Garland Dodd Park at Point of Rocks**
201 East Church Road, Chesterfield

This 178-acre park offers 3 miles of trails through several habitats including eastern deciduous forest, riparian environment of the Appomattox River and tidal freshwater marsh. Good site for birdwatching and nature observation. Trails take you through all habitats to include Ashton Creek Marsh along a ¼ mile floating boardwalk. This is an excellent place to study wetland birds and dragonflies. Amenities: restrooms, tennis and basketball courts, picnic areas and athletic fields.

17 **Historic Point of Rocks Park**
1005 East Church Road, Chesterfield County

This 30-acre park with ½ mile of Appomattox River shoreline is open by appointment only. Conservation and historical interpretive focus on 1840s Strachan house, Civil War hospital activities and river riparian environments. History programs and events scheduled throughout the year.

18 **Appomattox River Regional Park**
800 Folar Trail, Prince George County

Over 65 acres of pristine woods on the river features over 3 miles of hiking trails, including a section of the Appomattox River Trail, fishing pier, birdwatching, picnic pavilions, a canoe/kayak launch, an observation pier, fitness trail and restrooms.

19 **Anchor Point Marina**
303 Beacon Ridge Road, Hopewell

A private marina to serve both Anchor Point residents and the general public that provides weekly slips and small boats/canoes are welcomed. Amenities: gas pump, restrooms & showers, pump out station, marine repair shop, snack bar and patio use.

20 **Weston Plantation**
400 Weston Lane, off of 23rd Avenue, Hopewell

The last plantation on the Appomattox River, Weston is notable for its original interior, especially its distinctive moldings, wainscoting, and chair rails. The house was built in 1789 and is a classic example of Virginia Georgian architecture and the very essence of the Tidewater plantation mansion. All three floors and the kitchen dependency are open to the public through guided tours. Concerts on the lawn are held on Sundays during May & June. It has a fishing pier open to the public free of charge.

21 **Hopewell City Marina**
1051 Riverside Avenue, Hopewell

A public, municipal marina with covered and open boat slip rentals. Amenities: four-lane ramp for motorized craft, ship store, restroom & showers, ADA accessible canoe/kayak launch, fishing area with pier, picnic tables, pavilion overlooking the river, fishing tournaments, Rockin' on the River concert series.

22 **Riverside Park**
500 North 12th Avenue, Hopewell

A city park with basketball courts, tennis courts, baseball/softball fields, and access to the Riverside Stormwater Greenway, a section of the Appomattox River Trail.

23 **City Park**
305 Appomattox Street, Hopewell

Located off Appomattox Street across from the Appomattox Regional Library, this park offers a riverfront beach area, nature inspired play space, a fishing pier, wildflower garden, picnic pavilion and access to the Hopewell Riverwalk, a section of the Appomattox River Trail.

24 **The Beacon Theatre**
401 N. Main Street, Hopewell

This is the region's centerpiece for concerts offering a wide range of music to suit any taste from country, bluegrass, rock, beach, soul, R & B, to heavy metal and more. It was built in 1928, designed by Fred Bishop, and was a silent movie and vaudeville show house through the 1930s and 40s and then transitioned to a movie house until closing in 1981. The restoration of this beautiful, intimate venue is spectacular.

25 **Union Fort**
Appomattox Street, Hopewell

This historical site along the Appomattox River Trail contains the only Civil War-era earthworks in the City of Hopewell as well as picnic tables and interpretive signs.

26 **City Point Open Air Museum**
305 Cedar Lane to Water Street, Hopewell

City Point, the oldest part of Hopewell, was founded in 1613 by Sir Thomas Dale for the Virginia Company. Its strategic location on a bluff overlooking the confluence of the James and Appomattox Rivers assured a key role in Virginia's history. A pleasant walking tour highlights 25 historic homes and structures, with most focusing on City Point's Civil War history. Outdoor storyboards are located throughout the historic area. Beautiful views of the Appomattox and James Rivers.

27 **Appomattox Plantation & General Grant's Cabin**
1001 Pecan Avenue, Hopewell

This beautiful 1760s plantation owned by the Eppes family sits at the confluence of the James & Appomattox Rivers in City Point. In 1865, it became one of the busiest ports in the world and General Ulysses Grant's headquarters during the Civil War Siege of Petersburg. President Lincoln visited three times to confer with his generals and admirals to craft a strategy for ending the war. It is a unified National Park Service site as part of Petersburg National Battlefield and open to the public daily.

28 **Old City Point Waterfront Park**
1799 Pecan Avenue, Hopewell

This park and popular fishing spot sits on the James River and offers a boardwalk, river front trail, benches, picnic tables and restrooms.