



Virginia Coastal Zone
MANAGEMENT PROGRAM

FINAL REPORT: RICHMOND REGIONAL TECHNICAL ASSISTANCE

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Executive Summary

Regional Coordination and Training

Meetings

November 12, 2019 – PlanRVA staff hosted an Environmental TAC meeting in cooperation with Virginia Department of Conservation and Recreation staff concerning the Virginia Outdoors Plan.

December 12, 2019 - PlanRVA staff co-hosted an Environmental TAC meeting with Crater PDC staff. The main agenda items were the Virginia Coastal Zone Management Program's 309 Strategy Needs Assessment and an update from DEQ staff on the Waters of the US rule.

May 20, 2020 – PlanRVA staff hosted a conference call with locality litter managers to discuss the direction of the Don't Trash Central Virginia Campaign. Discussions centered around how to adjust the campaign to the new reality presented by COVID. PlanRVA staff presented a sampling of options to consider for new campaign themes. A consensus decision was reached to focus on COVID related litter, such as disposable face masks and gloves.

July 1, 2020 - PlanRVA staff hosted a virtual Environmental TAC meeting. Agenda items included updates and discussion about 1) adjustments to work and project plans due to COVID, 2) Update on status and plans for VCZM Program funded projects, including possible adjustments; 3) Update on status and plans for Chesapeake Bay TMDL associated planning, including possible adjustments.

Regional Coordination – Don't Trash Central Virginia Campaign

PlanRVA staff worked with locality Litter Managers and Public Information Officers to build the Don't Trash Central Virginia campaign, an effort to raise public awareness about littering in the region and spur action by the public. The online presence of the campaign can be found at the [Don't Trash Central Virginia webpage](#) and on the [PlanRVA Facebook page](#).

Regional Coordination – Committees

PlanRVA staff are working with VCZM Program staff and a regional stakeholder group to support the [Plant RVA Natives campaign](#). PlanRVA staff also participate in other regional committees related to coastal resources: RVA H2O Technical Advisory Committee, James River Advisory Committee, and the Virginia Geologic Mapping Committee.

Resilient Rivers – Below the Falls of the James

PlanRVA staff created an ESRI StoryMap about the ecology of the tidal freshwater zone of the James River estuary. Highlights of the map include habitats, animals, insects, and plants that live in the water or the adjacent riparian zone or upland area. PlanRVA staff also made updates to a mapping application of the study area. The mapping application includes topic layer sets: resiliency, land and habitat, ConserveVirginia, water quality, and conservation and access. Both resources are posted to the [Below the Falls project page](#) on the PlanRVA website.

Benefits Accrued

PlanRVA staff worked to create a Resilience Water Risk GIS layer for use in all agency projects including transportation planning and project scoring. The resilience water risk layer was informed by information and data sources provided through Coastal PDC and Policy Team meetings. The water risk layer is a

union of the following features: special flood hazard areas, storm surge areas, sea level rise inundation areas, and dam break inundation zones.

Coordination & Training Report

Throughout the grant year, PlanRVA staff provided coordination, training and technical assistance to locality staffs in the region.

PlanRVA Environmental Technical Advisory Committee

PlanRVA staff hosted multiple coordination events for staff of member localities during FFY 2019. A formal venue and forum for coordination with local staff are the PlanRVA Environmental Technical Advisory Committee (TAC) meetings. All meetings include at least one educational presentation or training session and a roundtable organizational update time.

On November 12, 2019, PlanRVA staff hosted an Environmental TAC meeting. Staff from the Virginia Department of Conservation and Recreation led the educational section of the meeting in a discussion about the Virginia Outdoors Plan (VOP) and the update process. Locality staff and other stakeholders provided input on project status and other edits to the Richmond Region chapter of the VOP. A roundtable sharing session about program and agency updates was also held.

On December 12, 2019, PlanRVA staff co-hosted an Environmental TAC meeting in conjunction with Crater PDC. Virginia Coastal Zone Management Program staff provided a training presentation about the Coastal Section 309 Needs Assessment and solicited feedback from locality staff about the needs, priorities, and possible projects in the Coastal Zone. Virginia Department of Environmental Quality staff provided a training presentation on the current status of the Waters of the US Rule. A portion of the agenda was set aside for roundtable agency updates and coordination among meeting participants.

On May 20, 2020 PlanRVA staff hosted a conference call with locality litter managers to discuss the direction of the Don't Trash Central Virginia Campaign. Discussions centered around how to adjust the campaign to the new reality presented by COVID. PlanRVA staff presented an educational session including a sampling of options to consider for new campaign themes. A consensus decision was reached to focus on COVID related litter, such as disposable face masks and gloves.

On July 1, 2020, PlanRVA staff hosted a virtual Environmental TAC meeting. The theme of the meeting was adjusting to the impacts of COVID on operations and projects. Agenda items included updates and discussion about 1) adjustments to work and project plans due to COVID, 2) Update on status and plans for VCZM Program funded projects, including possible adjustments; 3) Update on status and plans for Chesapeake Bay TMDL associated planning, including possible adjustments. Staff representatives appreciated the chance to learn about and coordinate with their counterparts around the region on how the impacts of COVID were being felt.

Regional Coordination and Local Assistance

Regional Coordination – Don't Trash Central Virginia Campaign

In late 2019, Keep Henrico Beautiful staff approached PlanRVA staff with a dilemma. The litter managers in the [Central Virginia Waste Management Authority](#) area had gathered and applied for a small grant to brand a regional anti-litter campaign. To their surprise and pleasure, the group was awarded a grant for the Don't Trash Central Virginia Campaign. They produced a logo and printed signs

and stickers with the logo for use. The group quickly realized that they lacked the capacity and know-how to run a regional campaign. They needed help. PlanRVA staff agreed to take on role of managing and coordinating the fledgling anti-litter campaign. Not only was it at the request and aide of several member localities, but the connections of an anti-litter campaign to the coastal management concerns of water quality and marine debris were clear.

In early March of 2020, PlanRVA kicked off the Don't Trash Central Virginia Campaign with a [press release](#) and a [webpage](#) housed on the PlanRVA website. Campaign members include the participating localities in the CVWMA region as well as Crater PDC. Outreach to interested organizations and businesses commenced in spring of 2020 but was hampered by the COVID pandemic. Currently the campaign has six partners including: Keep Virginia Beautiful, GRTC, the Chickahominy Tribe, Capital Region Land Conservancy, Virginia Capital Trail, and RVA Clean Sweep. All campaign members and partners are able to receive a customized Don't Trash logo which they are encouraged to use. Below images of the Don't Trash Central Virginia logo and the customized logo for PlanRVA are included.

Throughout 2020, PlanRVA staff held organizing meetings of the area litter managers to solicit feedback about how to make the campaign responsive to their needs, especially given the unforeseen complications of COVID. Content for campaign related social media posts was created and shared on the [PlanRVA Facebook](#) page as well as saved in a Media Toolkit available to campaign members and partners on SharePoint.



Figure 1 Don't Trash Central Virginia Logo



Figure 2 PlanRVA Customized Don't Trash Central Virginia Logo

Regional Coordination - Committees

PlanRVA staff participate in and follow local, regional, state, and national planning efforts related to Coastal issues. Information about these efforts is always shared with local staff at coordination meetings.

PlanRVA staff regularly attend Virginia Coastal Zone Management Program Coastal Policy Team Meetings and Coastal Planning District Commission meetings. The training and coordination opportunities provided to the Coastal PDC staff are greatly valued and shared with locality staff in the Richmond region.

PlanRVA staff participated on the Technical Advisory Committee (TAC) for RVA H2O, the City of Richmond's integrated permit planning process. The TAC exists to allow the City and DEQ staff the opportunity to vet program and permit elements with technical experts and stakeholders. Meetings were held quarterly. More information can be found on the [RVA H2O website](#).

PlanRVA staff are members of the James River Advisory Council (JRAC) attending regular quarterly meetings throughout the year. Information gathered at these meetings is always shared with local staffs. For more information see the [JRAC website](#).

PlanRVA staff sit on the Virginia Department of Mines, Minerals, and Energy's [Geologic Mapping](#) Committee. Meetings are held twice a year to prioritize geologic mapping projects across Virginia. PlanRVA staff provide a local and regional land and coastal resource planning perspective on the committee. Information gained from the meetings is shared with member localities of PlanRVA.

PlanRVA staff are working with VCZM Program staff and other regional partners to maintain the [Plant RVA Natives](#) campaign. The campaign encourages people to learn more about the importance and value of native plants and use them in their landscaping.

Resilient Rivers – Below the Falls of the James

The purpose of the [Below the Falls project](#) is to create a forum for conversations among professional staff and the general public around concepts of use conflict and long-term resiliency along the James

River from the falls in downtown Richmond eastward to Charles City County. The origins of the project lie in a series of conversations PlanRVA staff had with various stakeholders throughout the study area. Stakeholders included the Richmond Marine Terminal, local parks and recreation staff, local planning staff, environmental non-profits and others. All discussions with stakeholders aligned with the following idea:

Use in and along the James River is increasing and becoming more complex, often resulting in conflict. This conflict is likely only to increase due to long term stressors such as population growth, sea level rise, and climate change. No one organization is taking a comprehensive look at the matter; someone should.

During FFY19, PlanRVA staff worked with stakeholders to create two online resources in an effort to transform the Below the Falls project landing page into a data and information resource portal that educates the general public about the natural and manmade systems and structures in the tidal freshwater James River estuary.

[Below the Falls of the James Ecology StoryMap](#)

[This StoryMap](#) walks the reader through basic terms and ideas relevant to the Below the Falls area followed by habitats, plants, and animals found in the Below the Falls corridor area. It is intended to be an introductory resource for the general public interested in learning more about the tidal freshwater area of the James River.

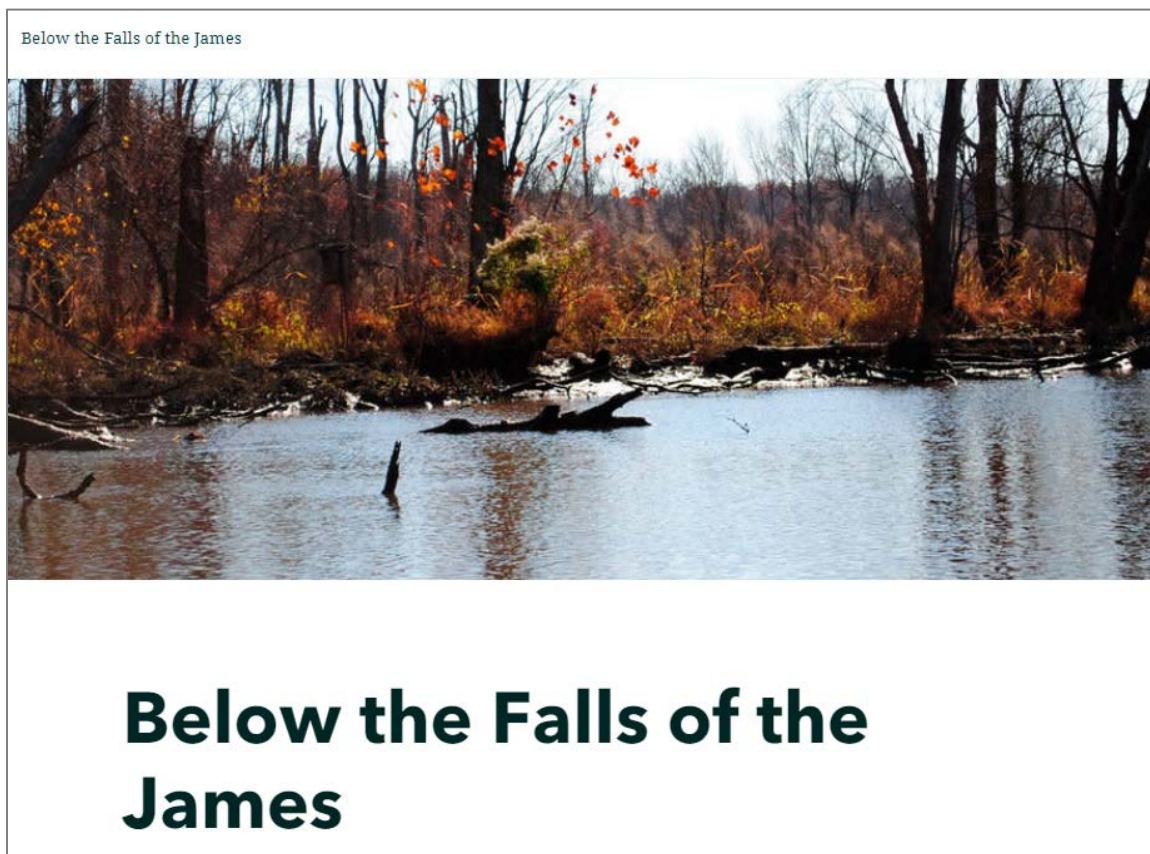


Figure 3 Screenshot of the Below the Falls StoryMap

The following is an outline the StoryMap.

1. Introduction
2. Concepts and Terms
 - a. River vs Lake
 - b. Freshwater
 - c. Fall Line
 - d. Rapids
 - e. Tide
 - f. Estuary
 - g. Ecosystem
3. Habitats
 - a. Rock pools
 - b. Urban forests
 - c. Wetlands
 - d. Floodplain Forest
4. Plants
 - a. Eastern Red Columbine
 - b. Virginia Spring Beauty
 - c. Virginia Creeper
 - d. Witch Hazel
 - e. Willow Oak
 - f. Duckweed
 - g. Submerged Aquatic Vegetation
5. Animals
 - a. Atlantic Sturgeon
 - b. River Otter
 - c. Great Blue Heron
 - d. Prothonotary Warbler
 - e. Eastern Tiger Salamander
 - f. Blue Crab
 - g. Fairy Shrimp
6. Concluding Thoughts

PlanRVA staff worked with partner individuals and organizations to gather content for the StoryMap. Content in the map includes photographs, graphics, interactive maps, and videos. Links to additional resources are always included so that a reader can easily learn more. The connection between water quality and habitat is underscored wherever possible. For example, for most plants included in the StoryMap text and pictures about insects that use them as larval hosts is included in the StoryMap. The general theme of the map is that the tidal fresh James is unique and precious. Great appreciation and care should be granted to this amazing and popular space. Below are additional screen shots of the StoryMap to highlight content and features.

Urban Forests

As the James runs through the urban and suburban areas of Richmond, Chesterfield, and Henrico, urban forests play an important role not only as a support for quality of life but also in the ecology of the Below the Falls area. Urban forests are forests integrated into a city or urbanized area. These forests help the urban environment in a few key ways. The trees help to provide clean water and air through natural processes and moderate temperature and rainfall with their leafy canopies. Trees take in carbon emissions,



Figure 4 Urban Forest Habitat Section of the Below the Falls StoryMap

Wetlands

Wetlands are areas where water covers the soil or is present at or near the surface of the soil all year or for varying periods during the year. In a wetland, there are many plants that have adapted to the wet conditions. Wetlands are home to a wide variety of plants and animals; wetlands maintain a vast amount of ecological diversity.

Wetlands provide many services humans benefit from: water quality improvement, flood mitigation, and

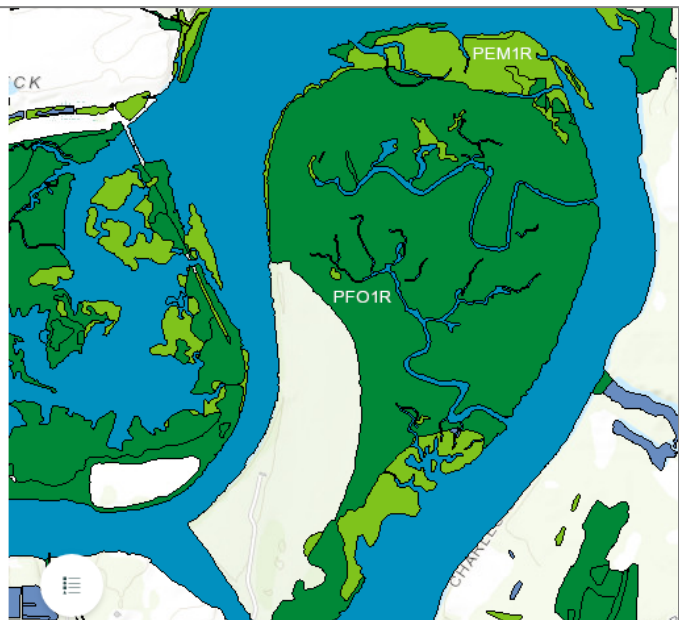


Figure 5 Wetlands Habitat Section and interactive map of wetland features

Eastern Red Columbine (*Aquilegia canadensis*)

The Eastern Red Columbine grows up to 3 feet tall in woodland settings. Its elongated downward pointing flower with sweet nectar serves as a food source for butterflies and hummingbirds. It is a larval host for the Columbine Duskywing butterfly. The flower appears in vibrant red and yellow in the spring.



Figure 6 Eastern Red Columbine Section of the Below the Falls StoryMap

Below the Falls of the James Mapping Application

[This mapping application](#) includes various data layers associated with topical themes: land and habitat, ConserveVirginia, conservation and access, resiliency, and water quality. The application is intended to be a resource for those interested in seeing how various landscape features and information overlay in the study area. Users can use all basic functions of an ESRI ArcGIS Online Map including zoom, pan, turning on and off layers. Layer data is arranged by topic and is accessible to the user through a series of drop down layer menus that run across the top bar of the mapping application.

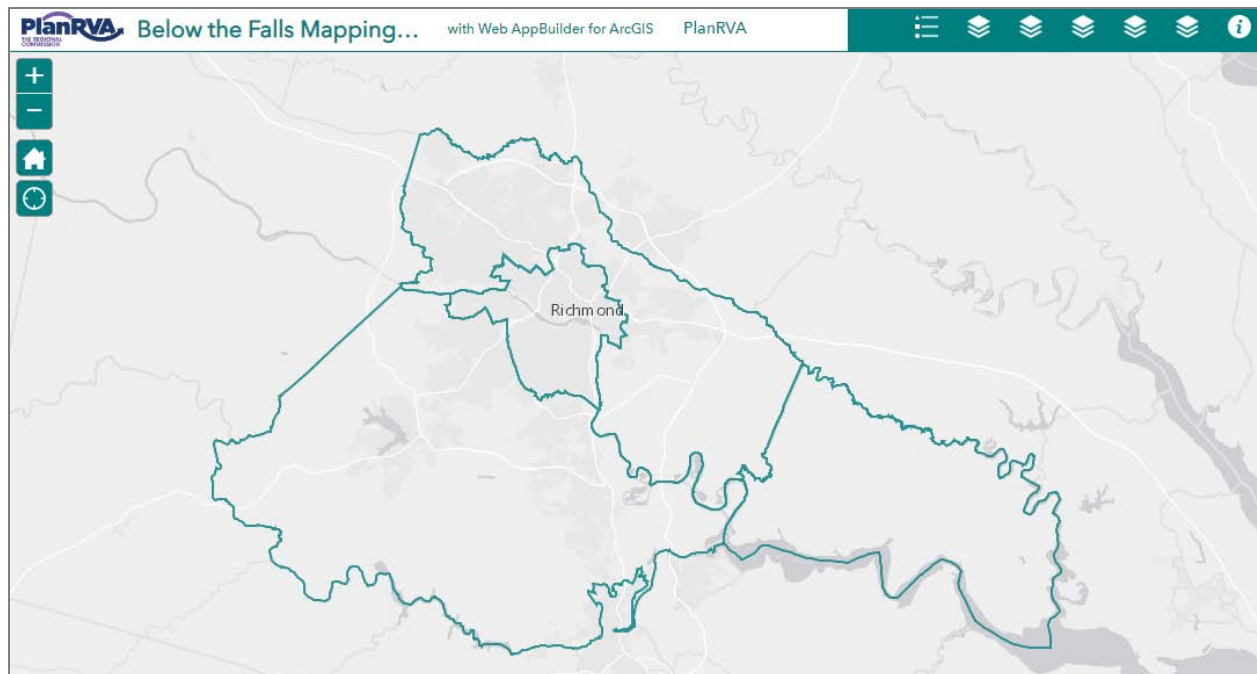


Figure 7 Below the Falls Mapping Application

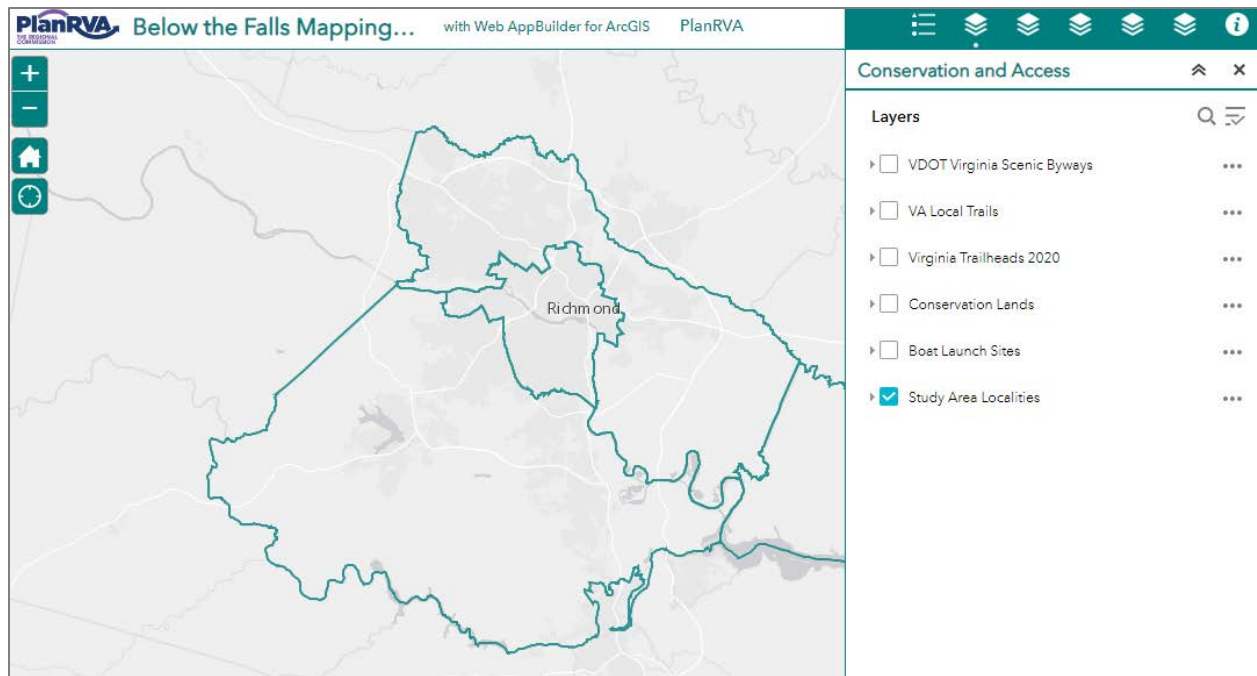


Figure 8 Below the Falls Mapping Application with a layer menu extended

Benefits Accrued – Regional Resilience Water Risk Layer

PlanRVA staff worked to create a Resilience Water Risk GIS layer for use in all agency projects including Richmond Region Transportation Planning Organization (RRTPO) transportation planning and project scoring. The resilience water risk layer was informed by information and data sources provided through Coastal PDC and Policy Team meetings. The creation of this layer is an important step to integrating common resiliency planning assumptions across all disciplines and projects at PlanRVA.

The water risk layer was created based on PlanRVA staff research and expertise. The development process and final product were vetted through multiple channels at PlanRVA including outreach to individual locality staff and through the Rural Transportation Technical Advisory Committee and the Richmond Region Environmental Technical Advisory Committee. The final layer is a union of the following features: special flood hazard areas, storm surge areas, sea level rise inundation areas, and dam break inundation zones. More information about each set of features is below as well as an image of the resilience water risk layer in the region.

Sea Level Rise – 2 ft

Available from the Office for Coastal Management at NOAA through the [DigitalCoast platform](https://coast.noaa.gov/digitalcoast/data/slr.html), this data depicts potential flooding due to sea level rise. For information about the layer see: <https://coast.noaa.gov/digitalcoast/data/slr.html>. PlanRVA staff chose to use two feet of sea level rise for this exercise. Two feet of sea level rise coincides with sea level rise estimates associated with NOAA's High-Intermediate curve for the late 2040s. The update of the RRTPO Long Range Transportation Plan has a horizon year of 2045. Many well researched and science-backed resiliency planning efforts across Virginia use similar assumptions about sea level rise including the [Executive](#)

[Order 45](#), the [Virginia Coastal Resilience Master Plan Framework](#), and analysis by the [Commonwealth Center for Recurrent Flooding Resiliency](#).

100 Year Floodplain

This data depicts the special flood hazard area of FEMA’s National Flood Insurance Program. These areas have at least a 1% annual chance of flood. For more information see [VRFIS](#) or the [FEMA Flood Maps](#) site (data can be downloaded through the Map Service Center and can be viewed through the National Flood Hazard Layer Viewer).

Storm Surge

Available from the National Hurricane Center at NOAA, this data depicts storm surge flooding vulnerability based on SLOSH storm surge modeling. More information and original data files can be accessed: <https://www.nhc.noaa.gov/nationalsurge/#data> . PlanRVA staff included data for storm surges associated with category 1 and 2 storms.

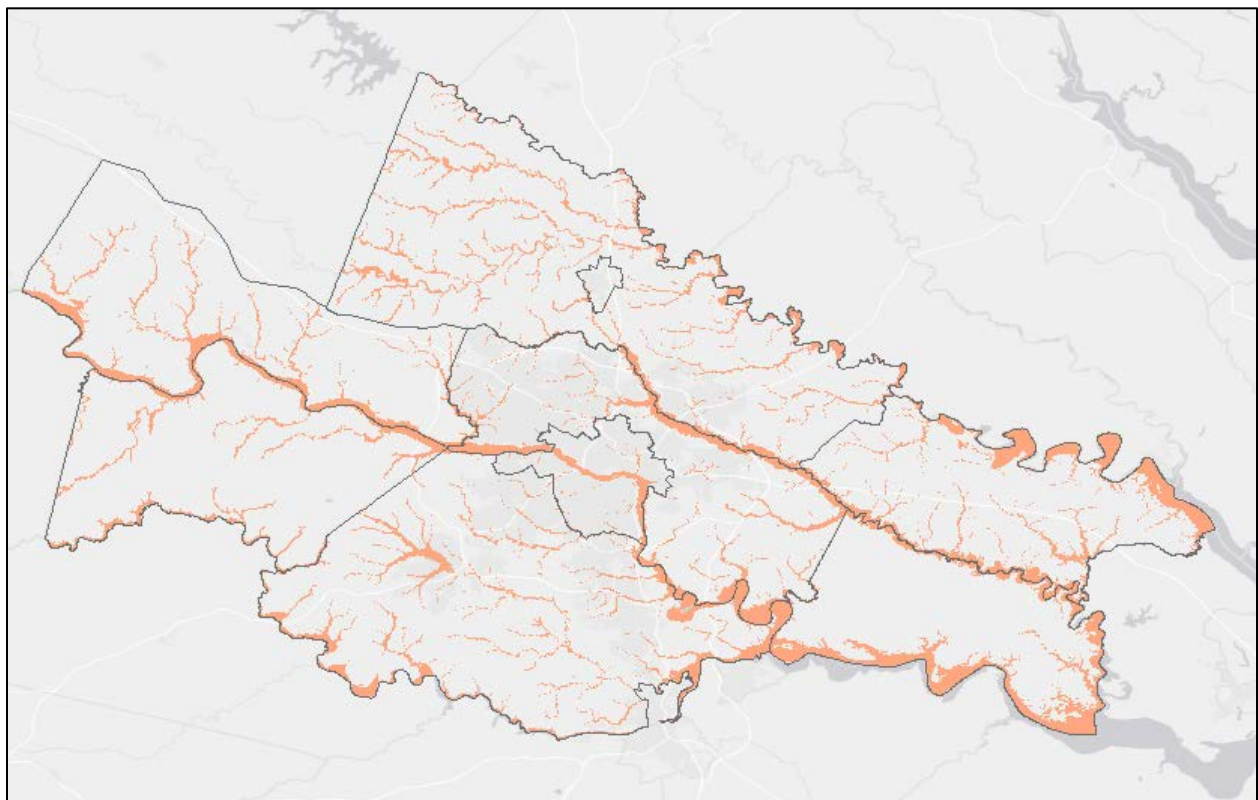


Figure 9 Resilience Water Risk Layer in the Richmond Region

Analysis was performed with the resilience water risk layer including an intersection with a regional roads layer. The output of the intersection reveals road segments at high risk of inundation in the future as a result of storm events or sea level rise. PlanRVA staff also overlayed the water risk layer with areas identified by the RRTPO as environmental justice priority areas. This analysis indicates where vulnerable

populations and infrastructure they rely on are likely to face increased risk of water inundation in the future. The results of these analyses are still being vetted by PlanRVA staff and technical committees; the results will be posted on the [PlanRVA website](#) when available.