

NA14NOS4190164, Task 47
11/15/2016

GWRC Coastal Zone Management Technical Assistance Program Report FY2015



Virginia Coastal Zone
MANAGEMENT PROGRAM

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Product #1: Training and Coordination Summary

A. CZM Coordination Meetings

GWRC staff and their consultants participated in the following CZM-related meetings:

1. CZM Program Meeting – 11/12/15
2. CZM Program Meeting – 5/2/16

B. Regional Stormwater Manager Committee Meetings

These regularly scheduled meetings help assist regional staff to continue to develop useful regional initiatives to assist local governments to understand and comply with State stormwater management regulations. Among other topics, GWRC and the local governments spent considerable time discussing Chesapeake Bay Program reviews including lessons learned and strategies to ensure compliance. The meetings also provided opportunities to discuss grant opportunities which could further other regional environmental initiatives.

C. Deliverables

1. Stormwater Manager Meeting Summaries (Appendix A)

Product #2: Classified Land Cover Data Layer

A. Project Summary:

Using a GIS mapping intern, GWRC has created a classified land cover data layer that identifies the region's gray and green infrastructure. This data layer is available in digital format and will improve the information available to allow regional planners perform more effective environmental planning and analysis.

B. Deliverables

1. GIS data layer (Attachment 1)

Product #3: Environmental Chapter for the Caroline County Code of Ordinances

A. Project Summary:

The Virginia Department of Environmental Quality (DEQ) formed a Stormwater Stakeholder Advisory Group (SAG) to examine how to better coordinate and correlate three state laws – Stormwater Management Act (SWMA), Erosion and Sediment Control Law (ESC), and the Chesapeake Bay Preservation Act (CBPA). As a local enhancement to the state's effort, GWRC and the consultant worked with Caroline County to draft a model environmental ordinance that incorporates the requirements of the Virginia Stormwater Management Program (VSMP), Virginia Erosion and Sediment Control Program (VESCP), Floodplain Management Program, Chesapeake Bay Program, and the Construction General Permit into a streamlined environmental program. During the ordinance development process, the consultant worked to identify how the programs could be better consolidated and noted areas where the programs conflicted. Where conflicts were identified, recommendations to resolve conflicts were presented. Fees, inspections, review timeframes, penalties, and enforcement procedures between the different programs do not always align and in some cases, may even conflict. Another example is the Chesapeake Bay program regulations require that exceptions must be acted on by a board or a commission rather than

administrative action as permitted by the other programs. The drafted model environmental ordinance recommends that the process for Chesapeake Bay Preservation Area exceptions be consistent with the other programs.

The model ordinance was presented to the Caroline County Planning Commission during their August meeting. The presentation was well received by the Commission. Prior to adopting the ordinance, the County would need to opt-in to administering a VSMP. Additionally, the noted conflicting areas would need to be modified at the state level to enable local adoption of the ordinance.

B. Deliverables

1. Draft model environmental ordinance for State consideration and eventual local application (Appendix B)

Product #4: Assessment and Draft Strategy for a Plant GW Natives Campaign

A. Project Summary:

GWRC, along with a group of partners, formed a Native Plants Steering Team to develop a Native Plants campaign strategy. The team evaluated the attitudes, perceptions, awareness, benefits, and barriers to planting natives of the GW region through an online survey and a focus group. In general, the results of the survey and focus group showed that the audiences were knowledgeable about natives, but wanted to know more information and where they are supplied. The survey and focus group results served as the basis for developing the campaign strategy.

The steering team selected homeowners, developers, professional landscapers, and HOAs (buyers) as the primary audience for the campaign, while installers, designers, retailers, and nurseries (suppliers) were selected as the secondary audience. The campaign strategy includes the following components: point of sale materials, multimedia materials, public or media events, demonstration gardens, and a Community Leader Program. The campaign strategy will be piloted and tested during the campaign implementation phase which will provide for additional opportunities to further tweak the strategy as needed to ensure the messaging and delivery are effective.

GWRC received a competitive grant from CZM to implement the Plant Central Rappahannock Natives Campaign during FY16. Members from the Steering Team formed during this funding cycle will continue to work with GWRC to implement the campaign.

B. Deliverables

1. Report outlining attendance and results of steering/planning team meetings (Appendix C)
2. Report outlining assessment work (Appendix D)
3. Draft campaign strategy (Appendix D)

Product #5: Benefits Accrued from Prior CZM Grants

Description: CZM in previous years that have produced measurable benefits in subsequent years and/or have served as a foundation for additional projects.

During the FY14 CZM grant cycle, GWRC received funds to enhance Caroline County's BMP Assessment, Tracking, and Monitoring System. Part of that work included scanning the existing construction plans so

that the County would have electronic records. It has proved beneficial to have electronic records available if records of site plans are requested. The electronic record system that was established through the grant has helped set the precedent of maintaining electronic records and the County continues to use this system for any new projects.

Appendices

Appendix A: GWRC Stormwater Managers Committee Meeting Summaries

Appendix B: Model Environmental Ordinance Draft

Appendix C: Native Plant Steering Committee Meeting Summaries

Appendix D: Plant Central Rappahannock Natives Campaign Research Assessment and Strategy Outline

Appendix A: GWRC Stormwater Managers Committee Meeting Summaries

A. Attendance Record

<i>Committee Members</i>	<i>1/19/2016</i>	<i>4/19/2016</i>	<i>7/21/2016</i>	<i>9/20/2016</i>
Caroline County				
David Nunnally	x		x	x
Friends of the Rappahannock				
Bryan Hofman	x			
GWRC				
Darren Coffey	x	x	x	
Shaina Schaffer		x	x	x
Tim Ware	x	x	x	x
King George County				
Heather Hall	x	x		x
City of Fredericksburg				
Kevin Utt		x		x
Northern Virginia Conservation Trust				
Peggy Stevens	x	x		
Patrick Coady			x	
Shannon O'Neil	x	x		
Stafford County				
Paul Santay	x	x	x	
Town of Port Royal				
Jim Heimbach		x		
Tri-County City SWCD				
Kyle Haynes		x		
Katie Abel				x
Other Participants				
Bryant Phillips – The Berkley Group	x			
Eldon James - RRBC		x		x
Total	9	11	6	7

B. Meeting Minutes



Stormwater Quarterly Regional Planning Meeting

January 19, 2016

3:00 p.m. – 4:30 p.m.

GWRC Conference Room

Notes

Tim Ware, GWRC Executive Director, opened the meeting and welcomed everyone. Introductions were made around the table. Darren Coffey, meeting facilitator, gave an overview on some regional planning activities as they relate to stormwater including:

- A. VSMP (SAG) Update – the advisory group was still meeting and discussing the combining of the E&S and stormwater laws to be more consistent with one another, however, issues of the “donut hole” and an “opt-in light” category for localities largely sidetracked the group and led to additional meetings and an extended timeframe for a recommendation to the General Assembly
- B. Model Environmental Ordinance for Caroline County – this ordinance will combine the E&S, CGP, Stormwater, CBPA, and floodplain regulations for the County into one streamlined ordinance. Conflicts in the regulations will be identified and any changes needed at the state level will be noted. The project is in its first review phase currently. A draft outline of the chapter will be sent to the group once the project is further along.
- C. GW Native Plants Campaign – this effort is also part of the CZM technical grant for GWRC (as is this group and the model environmental ordinance development). The campaign will emulate efforts already underway on the Eastern Shore, Northern Neck, Northern Virginia and Hampton Roads. A draft campaign strategy is the end product of this project which will wrap up this September.

The group brainstormed on Future Group Topics including:

- A. Impaired watershed remediation practices
Identify truly effective—and economical—more stringent measures in impaired watersheds. For example, temporary gutter downspout extensions (prevents washout of newly seeded areas), mulch berms (w/or w/out SF), EC-2 in all grass ditches.
- B. Enhanced BMP inspections processes (e.g., what is the value of vegetation versus basin change over time?)
For example, for a basin-type bmp, does vegetation (maturation, density, diversity) improve the overall performance? Performance-based inspections vs “does the basin look like the original construction”?
- C. Wetlands protection and integration with other programs
Wetlands continue to disappear. Small impacts (less 1/10 acre), unpermitted impacts, land conversion (forest/agriculture/others), along with permitted/mitigated impacts that ‘relocate’ wetlands somewhere within the larger watershed, while the local

watershed/drainage loses the wetland's benefits, leading to impairments. Are there ways to stop this trend? Could localities integrate wetlands (including their benefits and functions) into local stormwater programs? Incentives, such as lowered property tax assessments for these wetlands, including wetland restorations, enhancements, buffers, etc.

Other items of discussion were regarding various upcoming funding sources including NFWF grants, VDOF grants, SLAF funding (some challenges were noted for this source). VCAP was discussed and EPA has funding for up to 10 BMPs. A Spring marketing strategy is planned. Tax credits are also available for Ag BMPs (25% return) as well as a stormwater utility fee credit for local BMPs. The Smart tools tracker tool was also mentioned for on ground verification of BMPs, reduction credits and MS4 outreach and it was suggested that the Native Plants campaign could help to facilitate.

The next meeting is scheduled for April 19th at 10am, GWRC.



Stormwater Quarterly Regional Planning Meeting

April 19, 2016

10:00 a.m. – 11:30 a.m.

GWRC Conference Room

Notes

Tim Ware, GWRC Executive Director, opened the meeting and welcomed everyone. Introductions were made around the table. Darren Coffey, meeting facilitator, gave an overview on some regional planning activities including:

- A. Model Environmental Ordinance – the ordinance is drafted and under a second review by Caroline County. The County made a few minor, but significant change in the first review and is now evaluating the current draft against the SAG recommendations regarding the E&S and Stormwater laws that are recommended for consolidation at the state level.
- B. Native Plants Campaign – This project is progressing and an online survey is underway to gauge knowledge and interest in native plants within the region. The ultimate objective is to increase demand and also boost supply of native plants throughout the region.
- C. CMZ Competitive Grant – This grant was pursued by GWRC and awarded to implement the Native Plants Campaign next fiscal year. A *Plant Central Rappahannock Natives* publication will result along with other implementation materials and strategies.
- D. Healthy Watersheds Phase II – a project promoting the identification and utilization of High Value Forest in achieving clean water goals for the Chesapeake Bay. Identification of tools that can be developed and how credit might be granted in the CBA model for forest retention are focuses of the project. Public engagement efforts are underway over the next several months in the Upper, Middle, and Lower Rappahannock Basins.
- E. Hazard Mitigation Grant – GWRC was awarded a VDEM grant to update its Hazard Mitigation Plan.
- F. CDBG Grant – Application was made to DHCD for another phase of the Angelwood Marshall Homes project, a successful affordable housing project in King George County.

Darren told the group that the last two projects were just examples of GWRC's ability to successfully seek funding for its localities and stands ready to assist in other grant applications that may be desired.

The group then had a round table discussion. The Rappahannock River Basin Commission is focusing on the Healthy Watersheds project along with the appropriate conversion of agricultural land to forest. NVCT is hosting a land conservation conference in Fredericksburg. They are also focusing on any impacts the Wat case might have on conservation easement efforts since the VA Supreme Court decision was issued. A joint land use project with Stafford County and Quantico is also underway

which should demonstrate the practical implications of the proven theory that tree preservation is the most cost-effective solution to stormwater pollution.

Possible funding sources were also discussed including Keep VA Beautiful funding, SLAF, VA Conservation Assistance and the NFWF Chesapeake Bay Stewardship Fund. It was noted that this last cycle of SLAF funding focused mostly upon stream restoration projects. Kyle gave an update of VCAP which is a 2 yr, DEQ funded grant program focused on providing cost-share financial incentives for the installation of water quality BMPs for urban/residential landowners. It has been very popular to date and efforts are underway to ensure it is continued beyond the initial two year pilot. Kyle also stated that DEQ is performing CBPA compliance audits with many localities. He noted that Stafford County and Tri-County/City developed an Agricultural Implementation Plan to get Stafford County back into compliance. He noted that many localities and SWCD's don't have adequate funding to fully implement CBPA requirements. As a result, the Districts will be requesting additional funding from DCR to assist localities in addressing these deficiencies needed to implement a successful program (it would require new staff).

Darren stated that David Nunnally had suggested the July meeting discuss the DEQ CBPA compliance review process since Caroline County is undergoing one now. Lessons learned, pitfalls to avoid, etc. The group agreed that this would be a valuable discussion. The next meeting is scheduled for July 21st at 10am, GWRC.



Stormwater Quarterly Regional Planning Meeting

July 21, 2016

10:00 a.m. – 11:30 a.m.

Fredericksburg Fire and Rescue Conference Room

Notes

Tim Ware, GWRC Executive Director, opened the meeting and welcomed everyone. Introductions were made around the table. Darren Coffey, meeting facilitator, gave an overview on some regional planning activities including:

- A. Model Environmental Ordinance – The ordinance is drafted and Caroline County is finishing up the second review. The second draft involved restructuring the ordinance to allow for improved clarity in the pre-application, plan of development, and post-development processes.
- B. Native Plants Campaign – A focus group for the Native Plants Campaign will be held on July 26th. The objective of the focus group is to identify regional perceptions, attitudes, awareness, and barriers to using native plants.
- C. CZM Competitive Grant – This grant was pursued by GWRC and awarded to implement the Native Plants Campaign next fiscal year. A *Plant Central Rappahannock Natives* publication will result along with other implementation materials and strategies. The group also discussed the need to consider how this funding source can be utilized in the future. Paul Santay suggested a potential project focused on increasing public education of wetlands, RPA, and stormwater management facilities.
- D. Hazard Mitigation Grant – GWRC was awarded a VDEM grant to update its Hazard Mitigation Plan. The project is in the early stages of development. An emergency managers meeting will be held on August 2nd where they will begin discussing the plan.

The group then had a round table discussion focused upon the DEQ CBPA compliance reviews. Shaina Schaffer discussed the Town of Dumfries experience to the group. David Nunnally then provided an overview of the review process in Caroline County which included recommendations/lessons learned.

Paul suggested discussing the possibility of Phase III WIP including local area targets for the Rappahannock as a topic for the next meeting. The next meeting is scheduled for September 20th at 10am, GWRC.



Stormwater Quarterly Regional Planning Meeting

September 20, 2016

10:00 a.m. – 11:30 a.m.

GWRC Conference Room

Notes

Tim Ware, GWRC Executive Director, opened the meeting and welcomed everyone. Introductions were made around the table. Shaina Schaffer, meeting facilitator, gave an overview on some regional planning activities including:

- A. Model Environmental Ordinance – The ordinance is drafted and has been reviewed by Caroline County staff. The ordinance was presented to Caroline County Planning Commission in August 2016. Caroline County staff are working to finalize revisions to the draft ordinance and hope that it can be considered for local application in the coming months.
- B. Native Plants Campaign – A focus group for the Native Plants Campaign was held on July 26th. The objective of the focus group was to identify regional perceptions, attitudes, awareness, and barriers to using native plants. In general, the focus group supported the results of the online native plants survey. Results from the focus group and online survey are being used to develop the campaign strategy which is being finalized. In the next fiscal year, GWRC will implement the *Plant Central Rappahannock Natives* campaign using funds awarded through CZM's Competitive grant.
- C. Healthy Watersheds – Eldon James gave an update on the Healthy Watersheds project. The Healthy Watersheds project focuses upon identifying and utilizing high value forests to achieve clean water goals for the Chesapeake Bay. Public engagement efforts in the Upper, Middle, and Lower Rappahannock River Basins will be continuing over the next several months. The final report for this project will be finalized next June.

Shaina gave a brief overview on the upcoming projects for the next fiscal year. GWRC will be implementing the Plant Central Rappahannock Natives campaign which will include a native plant guide and other materials/activities. Additionally, the next CZM technical assistance grant will include a project that focuses upon identifying colonial swamp reclamation structures (earthen berms, drainage ditches, dams) in relation to tax parcel boundaries to assess potential future wetland restoration projects. This infrastructure information is an important component to initiating Phase II of the Healthy Watersheds project.

Eldon asked the group what their opinion was about the Phase III WIP including local area targets. There was consensus among the group that the local area target should be a planning number rather than a regulatory number. There is uncertainty regarding how local area targets might affect non-MS4 localities. The group also noted that there is some confusion on how the local areas would be divided.

The group then had a round table discussion focused upon the DEQ CBPA compliance reviews. David Nunnally provided an overview of the review process in Caroline County which included recommendations/lessons learned. David noted that documenting that the locality is upholding the CBPA criteria can be difficult. For example, there was a site within the County that requested an exception to the minimum parking requirements. This resulted in a zoning text amendment to allow a reduction in the required parking spaces but would not have otherwise been noted on the site plan.

The next meeting will be in December 2016. A date for that meeting will be selected closer to that time.

Appendix B: Model Environmental Ordinance Draft



Model Environmental Ordinance

Establishes a single environmental program that incorporates the requirements of the Stormwater Management Act (SWMA), Erosion & Sediment Control Law (ESC), the Chesapeake Bay Preservation Act (CBPA), Floodplain Management Ordinance (FPM), and the Construction General Permit.

Model Environmental Ordinance – September 30, 2016 draft

Section 1-1 Purpose and Intent

The purpose of this Article is to ensure the general health, safety and welfare of the citizens of Caroline County and to protect the quality and quantity of state waters and other natural resources of the County by establishing a single program that incorporates the Stormwater Management Act (SWMA), Erosion & Sediment Control Law (ESC), the Chesapeake Bay Preservation Act (CBPA), Floodplain Management Ordinance (FPM), and the Construction General Permit.

Section 1-2 Definitions

Words and phrases used and contained in this Ordinance shall have the following meanings, except where the context clearly requires a different meaning.

“Administrator” means the Caroline County Planning Director, and/or his designated agent.

“Agent” means an employee of the Caroline County Department of Planning and Community Development, who has been designated by the Administrator for inspection, plan review, and program administration of this article.

“Agreement in lieu of a plan” means a contract between the Plan-Approving Authority and the owner that specifies conservation measures that must be implemented in the construction of a single-family residence; this contract may be executed by the Plan-approving authority in lieu of a formal site plan.

“Approximate Flood Plain District” means the floodplain area for which no detailed flood profiles or elevations are provided, but where a one percent annual chance floodplain boundary has been approximated.

“Applicant” means any person submitting an application for a permit or requesting issuance of a permit under this Ordinance.

“Base Flood” means the flood having a one-percent chance of being equaled or exceeded in any given year (also referred to as the “one-hundred-year-flood”).

“Base Flood Elevation (BFE)” means the water surface elevation of the Base Flood in relation to the datum specified on the community’s Flood Insurance Study and Flood Insurance Rate Map.

“Basement” means any area of the building having its floor sub-grade (below ground level) on all sides.

“Best Management Practices” or “BMPs” means a practice or combination of practices, including both structural and nonstructural practices, maintenance procedures, and other management practices determined by a state or designated area wide planning agency to be the most effective, practical means to prevent or reduce the pollution of surface waters and groundwater systems from the impacts of land-disturbing activities.

“Board” means the Board of Supervisors of Caroline County, Virginia unless otherwise specified.

“Buffer area” means an area of natural or established vegetation managed to protect other components of a Resource Protection Area and state waters from significant degradation due to land disturbances.

“Business day” means Monday through Friday excluding state or federal holidays.

“CBLAD” means the Chesapeake Bay Local Assistance Department.

“Certified inspector” means an employee or agent of the Program Authority who (i) holds a certificate of competence from the Virginia Soil and Water Conservation (VSWC) Board in the area of project inspection or (ii) is enrolled in the VSWC Board’s training program for project inspection and successfully completes such program within one year after enrollment.

“Certified plan reviewer” means an employee or agent of the Program Authority who (i) holds a certificate of competence from the Virginia Soil and Water Conservation (VSWC) Board in the area of plan review, (ii) is enrolled in

the VSWC Board's training program for plan review and successfully completes such program within one year after enrollment, or (iii) is licensed as a professional engineer, architect, certified architect or land surveyor pursuant to Article 1 (Sec. 54.1-400 et seq.) of Chapter 4 of Title 54.1.

"Certified program administrator" means an employee or agent of the Department of Planning & Community Development who (i) holds a certificate of competence from the Virginia Soil and Water Conservation (VSWC) Board in the area of program administration or (ii) is enrolled in the VSWC Board's training program for program administration and successfully completes such program within one year after enrollment.

"Channel" means a natural stream or manmade waterway.

"Chesapeake Bay Preservation Act land-disturbing activity" means a land-disturbing activity including clearing, grading, or excavation that results in a land disturbance equal or greater than 2,500 square feet and less than one acre in all areas of jurisdictions designated as subject to the regulations adopted pursuant to the Chesapeake Bay Preservation Act, *Code of Virginia, §62.1-44.15:67, et seq. Required for localities within Tidewater Virginia.*

"Chesapeake Bay Preservation Area (CBPA)" means any land designated by the Board pursuant to Part III of the Chesapeake Bay Preservation Area Designation and Management Regulations, 9VAC25-830-10 et seq. and Section 62.1-44.15:67 et seq. of the Code of Virginia. A Chesapeake Bay Preservation Area shall consist of a Resource Protection Area and a Resource Management Area.

"Clean Water Act (CWA)" means the federal Clean Water Act (33 U.S.C §1251 et seq.) formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500, as amended by the Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, or any subsequent revisions thereto.

"Clearing" means any activity which removes the vegetative ground cover including, but not limited to, root mat removal and/or top soil removal.

"Commencement of land disturbance" means the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities (e.g., stockpiling of fill material).

"Common plan of development or sale" means a contiguous area where separate and distinct construction activities may be taking place at different times on different schedules.

"Control measure" means any best management practice or stormwater facility, or other method used to minimize the discharge of pollutants to state waters.

"Construction Footprint" means the overall area of the land-disturbing activity at the construction site.

"Construction site" means the land where any land-disturbing activity is physically located or conducted, including any adjacent land used or preserved in connection with the land-disturbing activity.

"County" means the County of Caroline, Virginia.

"Department" means the Department of Environmental Quality (DEQ).

"Development" means a manmade change to improved or unimproved real estate, including but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations or the storage of equipment or materials.

"Diameter at breast height (DBH)" means the diameter of a tree measured outside the bank at a point 4.5 feet above the ground.

"Director" means the Director of Environmental Quality (DEQ).

"District or Soil and Water Conservation District" means to the Hanover-Caroline Soil and Water Conservation District.

“Dripline” means a vertical projection to the ground surface from the latest extent of a tree’s leaf canopy.

“Erosion and Sediment Control Plan” means a document containing material for the conservation of soil and water resources of a unit or group of units of land. It may include appropriate maps, an appropriate soil and water plan inventory, and management information with needed interpretations and a record of decisions contributing to conservation treatment. The plan shall contain all major conservation decisions to assure that the entire unit or units of land will be so treated to achieve the conservation objectives.

“Erosion Impact Area” means an area of land not associated with current land-disturbing activity but subject to persistent soil erosion resulting in the delivery of sediment onto neighboring properties or into state waters. This definition shall not apply to any lot of parcel of land of 10,000 square feet or less used for residential purposes (or to shorelines where the erosion results from wave action or other coastal processes).

“Excavating” means any ditching, dredging, or mechanized removal of earth, soil, or rock.

“Filling” means any depositing or stockpiling of earth materials.

“Final stabilization” means that one of the following situations has occurred:

1. All soil disturbing activities at the site have been completed and a permanent vegetative cover has been established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform (e.g., evenly distributed), mature enough to survive, and will inhibit erosion, as determined by the VESCP authority.
2. For individual lots in residential construction, final stabilization can occur by either:
 - a. The homebuilder completing final stabilization as specified in subdivision 1 of this definition; or
 - b. For purposes of the Construction General Permit only, the homebuilder establishing temporary soil stabilization, including perimeter controls for an individual lot prior to occupation of the home by the homeowner, and informing the homeowner of the need for, and benefits of, final stabilization.
3. For construction projects on land used for agricultural purposes, final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters, and areas that areas not being returned to their preconstruction agricultural use must meet the final stabilization criteria specified in subdivision 1 or 2 of this definition.

“Flood or flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters or from the unusual and rapid accumulation of runoff of surface waters from and source.

“Floodplain” means either

1. A relatively flat or low land area adjoining a river, stream, or watercourse which is subject to partial or complete inundation;
2. An area subject to the unusual and rapid accumulation or runoff of surface water from any source.

“Floodplain Administrator” means the Director of Planning and Community Development, or his/her designee.

“Flood Insurance Rate Map (FIRM)” means an official map of Caroline County on which the Federal Emergency Management Agency has delineated both the special hazard areas and the risk premium zones applicable to the community.

“Flood Insurance Study” means a report by FEMA that examines, evaluates, and determines flood hazards and, if appropriate corresponding water surface elevations, or an examination, and determination of mudflow and/or flood-related erosion hazards.

“Flood-prone area” means any land area susceptible to being inundated by water from any source.

“Floodproofing” means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents, as provided in the Virginia Uniform Statewide Building Code.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point within the County.

“General permit” means the state permit titled GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES found in Part XIV (9VAC-880-1 et seq.) of the regulations authorizing a category of discharges under the CWA within a geographical area of the Commonwealth of Virginia.

“Grading” means any excavating or filling of earth materials or any combination thereof, including the land in its excavated or filled conditions.

“Historical Structure” means any structure that is:

1. Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. By an approved state program as determined by the Secretary of the Interior or
 - b. Directly by the Secretary of the Interior in states without approved programs.

“Immediately” means as soon as practicable, but no later than the end of the next business day, following the day when the land-disturbing activities have temporarily or permanently ceased. In the context of the General Permit, “immediately” is used to define the deadline for initiating stabilization measures.

“Impaired waters” means surface waters identified as impaired on the 2012 §305(b)/303(d) Water Quality Assessment Integrated Report.

“Impervious cover” means a surface composed of any material that significantly impedes or prevents natural infiltration of water into the soil. Impervious surfaces include, but are not limited to: roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.

“Infeasible” means not technologically possible or not economically practicable and achievable in light of best industry practices.

“Initiation of stabilization activities” means:

1. Prepping the soil for vegetative or non-vegetative stabilization;
2. Applying mulch or other non-vegetative product to the exposed area;
3. Seeding or planting the exposed area;
4. Starting any of the above activities on a portion of the area to be stabilized, but not on the entire area; or
5. Finalizing arrangements to have the stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

This list is not exhaustive.

“Inspection” means an on-site review of the project’s compliance with the approved plan, the local erosion and sediment control/stormwater management program, and any applicable design criteria.

“Integrated management practice” means low impact development microscale and distributed management techniques used to maintain predevelopment site hydrology. Integrated management practices shall include bio-retention facilities, dry wells, filter/buffer strips, grassed swales, rain barrels, cisterns, infiltration trenches, and amended soils as specified in the low-impact development design manuals.

“Land-disturbing Activity” means any land changes which may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands in the Commonwealth, including, but not limited to, clearing, grading, excavating, transporting and filling of land, except that the term shall not include the activities outlined in Section 1-6.1 of this Ordinance.

“Land-disturbing Permit” means a permit issued by the Program Authority for the clearing, filling, excavating, grading, transporting of land or any combination thereof or for any purpose set forth in this Article.

“Layout” means a conceptual drawing sufficient to provide for the specified stormwater management facilities required at the time of approval.

“Local erosion and sediment control program” or *“local control program”* means an outline of the various methods employed by Caroline County to regulate land-disturbing activities and thereby minimize erosion and sedimentation in compliance with the state program and may include such items as local ordinances, policies and guidelines, technical materials, inspection, enforcement, and evaluation.

“Lot coverage” means the impervious area of any lot or parcel including, but not limited to buildings, drives, parking areas, sidewalks, patios, decks, etc.

“Lowest floor” means the lowest floor of the lowest enclosed area (including basement).

“Manufactured Home” means a structure, which is transportable in one (1) or more sections; is built on a permanent chassis, and is designed for use with or without a permanent foundation, when connected to the required utilities. The term “manufactured home” does not include “recreational vehicle,” but does include mobile homes. The term also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

“Manufactured Home Park/Subdivision” means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

“Measurable storm event” means a rainfall event producing 0.25 inches of rain or greater over 24 hours.

“Minor modification” means an amendment to an existing general permit before its expiration not requiring extensive review and evaluation including, but not limited to, changes in EPA promulgated test protocols, increasing monitoring frequency requirements, changes in sampling locations, and changes to compliance dates within the overall compliance schedules. A minor general permit modification or amendment does not substantially alter general permit conditions, substantially increase or decrease the amount of surface water impacts, increase the size of the operation, or reduce the capacity of the facility to protect human health or the environment.

“Municipal separate storm sewer” means a conveyance or system of conveyances otherwise known as a municipal separate storm sewer system or “MS4,” including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains:

1. Owned or operated by a federal, state, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction or delegated authority for erosion and sediment control and stormwater management, or a designated approval management agency under §208 of the CWA that discharges to surface waters;
2. Designed or used for collecting or conveying stormwater;
3. That is not a combined sewer; and
4. That is not part of a publicly owned treatment works.

“New Construction” means structures for which the start of construction commenced on or after September 1, 1981, and includes any subsequent improvements to such structures.

“Nonpoint source pollution” means pollution consisting of constituents such as sediments, nutrients, and organic and toxic substances from diffuse sources, such as runoff from agricultural and urban land development and use.

“Nontidal wetlands” means those wetlands other than tidal wetlands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adopted for life in saturated soil conditions as defined by the U.S. Environmental Protection Agency pursuant to Section 404 of the federal Clean Water Act, in 33 C.F.R. 328.b.

“Non-vegetated wetlands” means unvegetated lands lying contiguous to mean low water and between mean low water and mean high water, subject to flooding by normal wind tides but not hurricane or tropical storm tides.

“Noxious weeds” means weeds such as Johnson Grass, Kudzu, and multiflora rose.

“Operator” means the owner or operator of any facility or activity subject to regulation under this Ordinance.

“Owner” means the owner or owners of the freehold of the premises or lesser estate therein, a mortgagee or vendee in possession, assignee of rents, receiver, executor, trustee, lessee or other person, firm, or corporation in control of a property.

“Perennial stream” means a water body with water flowing in a natural or man-made channel year-round, except during periods of drought. The term “water bodies” includes estuaries and tidal embankments and may include drainage ditches or channels constructed in wetlands or from former natural drainage ways, which convey perennial flow. Lakes and ponds that are the source of a perennial stream, or through which a perennial stream flows are part of a perennial stream. Generally, the water table is located above the streambed for most of the year and groundwater is the primary source for stream flow. Pursuant to CBPA perennial determination outlined at 9VAC25-830-80.

“Permit” or *“VSMP Authority Permit”* means an approval to conduct a land-disturbing activity issued by the Administrator for the initiation of a land-disturbing activity, in accordance with this Ordinance, and by which may only be issued after evidence of general permit coverage has been provided by the Department.

“Permittee” means any individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, governmental body, including federal, state, or local entity as applicable, any interstate body or any legal entity.

“Person” means any individual, corporation, partnership, association, state, municipality, commission, or political subdivision of a state, governmental body, including federal, state, or local entity as applicable, any interstate body or any other legal entity.

“Plan-approving authority” means the Caroline County Department of Planning and Community Development.

“Program authority” means Caroline County, Virginia, which has adopted a soil erosion and sediment control program approved by the Board.

“Planning Department” means the Caroline County Department of Planning and Community Development.

“Public Road” means a publicly owned road designed and constructed in accordance with water quality protection criteria at least as stringent as requirements applicable to the Virginia Department of Transportation, (VDOT), including regulations promulgated pursuant to (i) the Erosion and Sediment Control Law (§ 10.1-603.1 et seq. of the Code of Virginia). This definition includes those roads where the VDOT exercises direct supervision over the design or construction activities, or both, and cases where secondary roads are constructed and maintained, or both, by Caroline County in accordance with County standards. Public Roads do not include roads designed and/or constructed by a private developer using VDOT standards.

“Qualified personnel” means a person knowledgeable in the principles and practices of erosion and sediment and stormwater management controls who possesses the skills to assess the conditions at the construction site for the operator that could impact stormwater quality and quantity and to assess the effectiveness of any sediment and erosion control measures or stormwater management facilities selected to control the quality and quantity of stormwater discharges from the construction activity. For VSMP authorities, this requires the use of a person who holds a certificate of competency from the board in the area of project inspector for ESC and SWM or combined administrator for ESC and combined administrator for SWM as defined in 9VAC25-850-10 or a combination of ESC and SWM qualifications from these two (2) areas.

“Recreation vehicle” means a vehicle which is:

1. Built on a single chassis;
2. Four hundred (400) square feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel or seasonal use.

“Redevelopment” means the process of developing land that is or has been previously developed.

“Resource management area (RMA)” means that component of the Chesapeake Bay Preservation Area that is not classified as a resource protection area. RMAs include land types that, if improperly used or developed, have the potential for causing significant water quality degradation or for diminishing the functional value of the resource protection area.

“Resource protection area (RPA)” means that component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline that have intrinsic water quality due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation to the quality of state waters.

“Responsible land disturber” means an individual from the project or development team, who will be in charge of and responsible for carrying out a land-disturbing activity covered by an approved plan or agreement in lieu of a plan, who (i) holds a Responsible Land Disturber certificate of competence, (ii) holds a current certificate of competence from the Board in the areas of Combined Administration, Program Administration, Inspection, or Plan Review, (iii) holds a current Contractor certificate of competence for erosion and sediment control, or (iv) is licensed in Virginia as a professional engineer, architect, certified landscape architect or land surveyor pursuant to Article 1 (Sec. 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia.

“Riverine” means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

“Silvicultural activities” means forest management activities, including but not limited to the harvesting of timber, the construction of roads and trails for forest management purposes, and the preparation of property for reforestation that are conducted in accordance with the silvicultural best management practices developed and enforced by the State Forester pursuant to § 10.1-1105 of the Code of Virginia and are located on property defined as real estate devoted to forest use under § 58.1-3230 of the Code of Virginia.

“Single-family residence” means a noncommercial dwelling that is occupied exclusively by one family.

“Site” means the land or water area where any facility or land-disturbing activity is physically located or conducted, including adjacent land used or preserved in connection with the facility or land-disturbing activity. Areas channelward of mean low water in tidal Virginia shall not be considered part of a site.

“Special Flood Hazard Area (SFHA)” means the land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year as determined in Section 1-4 of this ordinance.

“Stabilized” means land that has been treated to withstand normal exposure to natural forces without incurring erosion damage.

“Start of Construction” means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration on any wall, ceiling, floor, or other structural part of a building, whether or not the alteration affects the external dimensions of the building.

“State” means the Commonwealth of Virginia.

“State Board” means the Virginia Soil and Water Conservation Board.

“State Erosion and Sediment Control Program” means the program administered by the Virginia Soil and Water Conservation Board pursuant to the Code of Virginia, §10.1-560 et seq., including regulations designed to minimize erosion and sedimentation.

“State permit” means an approval to conduct land-disturbing activity issued by the State Board in the form of a state stormwater individual permit or coverage issued under a state general permit or an approval issued by the State Board for stormwater discharges from an MS4. Under these state permits, the Commonwealth imposes and enforces requirements pursuant to the federal Clean Water Act and regulations, the Virginia Stormwater Management Act and the Regulations.

“State Water Control Law” means Chapter 3.1 (§62.1-44.2 et seq.) of Title 62.1 of the Code of Virginia.

“State waters” means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands.

“Stormwater” means precipitation that is discharged across the land surface or through conveyances to one or more waterways and that may include stormwater runoff, snow melt, runoff, and surface runoff and drainage.

“Stormwater management plan” means a document(s) containing material describing methods for complying with the requirements of Section 1-7.4(B) of this Ordinance.

“Stormwater Pollution Prevention Plan (SWPPP)” means a document that is prepared in accordance with good engineering practices and that identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site, and otherwise meets the requirements of this Ordinance. In addition, the document shall identify and require the implementation of control measures, and shall include, but not be limited to the inclusion of, or the incorporation by reference of, an approved erosion and sediment control plan, an approved stormwater management plan, and a pollution prevention plan.

“Structure” means a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

“Substantial alteration” means expansion or modification of a building or development that would result in a disturbance of land exceeding an area of 2,500 square feet in the Resource Management Area only.

“Substantial damage” means damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

“Substantial Improvement” means any repair, reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure before the "start of construction"

of the improvement. This term includes structures which have incurred "substantial damage" regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
2. Any alteration of a "historic structure," provided that the alteration will not preclude the structures continued designation as a "historic structure."

"Subdivision" means the same as defined in Section 2 of Caroline County's Subdivision Ordinance.

"Tidal shore" land contiguous to a tidal body of water between the mean low water level and the mean high water level.

"Tidal wetlands" means vegetated and non-vegetated wetlands as defined in Section 28.2-1300 of the Code of Virginia.

"Total maximum daily load (TMDL)" means the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, natural background loading and a margin of safety. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. The TMDL process provides for point versus nonpoint source tradeoffs.

"Transporting" means any moving of earth materials from one place to another place other than such movement incidental to grading, when such movements result in destroying the vegetative ground cover either by tracking or the buildup of earth materials to the extent that erosion and sedimentation will result from the soil or earth materials over which such transporting occurs.

"Use" means an activity on the land other than development including, but not limited to, agriculture, horticulture, and silviculture.

"Vegetated wetlands" means lands lying between and contiguous to mean low water and an elevation above mean lower water equal to the factor one and one-half times the mean tidal range at the site of the proposed project in the County, and upon which is growing any of the following species: saltmarsh cordgrass (*Spartina alterniflora*), saltmeadow hay (*Spartina patens*), saltgrass (*Distichlis spicata*), black needlerush (*Juncus roemerianus*), saltwort (*Salicornia* spp.), sea lavender (*Limonium* spp.), marsh elder (*Iva frutescens*), groundsel bush (*Baccharis halimifolia*), wax myrtle (*Myrica* sp.), sea oxeye (*Borrchia frutescens*), arrow arum (*Peltandra virginica*), pickerelweed (*Pontederia cordata*), big cordgrass (*Spartina cynosuroides*), rice cutgrass (*Leersia oryzoides*), wildrice (*Zizania aquatica*), bulrush (*Scirpus validus*), spikerush (*Eleocharis* sp.), sea rocket (*Cakile edentula*), southern wildrice (*Zizaniopsis miliacea*), cattail (*Typha* spp.), three square (*Scirpus* spp.), buttonbush (*Cephalanthus occidentalis*), bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica*), tupelo (*Nyssa aquatica*), dock (*Rumex* spp.), yellow pond lily (*Nuphar* sp.), mads fleabane (*Pluchea purpurascens*), royal fern (*Osmunda regalis*), marsh hibiscus (*Hibiscus moscheutos*), beggar's tick (*Bidens* sp.), smartweed (*Polygonum* sp.), arrow head (*Sagittaria* spp.), sweet flag (*Acorus calamus*), water hemp (*Amaranthus cannabinus*), reed grass (*Phragmites communis*), or switch grass (*Panicum virgatum*).

"Violation" means the failure of a structure or other development to be fully compliant with this ordinance. Any development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

"Virginia Stormwater Management Act" means Article 2.3 (§ 62.1-44.15:24 et seq.) of Chapter 3.1 of Title 62.1 of the Code of Virginia.

"Virginia Stormwater BMP Clearinghouse website" means a website authorized by DEQ that contains detailed design standards and specifications for control measures that may be used in Virginia to comply with the requirements of the Virginia Stormwater Management Act and associated regulations located at <http://vwrrc.edu/swc/>.

"Virginia Stormwater Management Program" or "VSMP" means a program approved by the State Board after September 13, 2011, that has been established by a locality to manage the quality and quantity of runoff from land-

disturbing activities and shall include such items as local ordinances, rules, permit requirements, annual standards and specifications, policies and guidelines, technical materials, and requirements of this article and associated regulations.

“Virginia Stormwater Management Program authority” or “VSMP authority” means an authority approved by the State Board after September 13, 2011 to operate a Virginia Stormwater Management Program.

“Water-dependent facility” means a development of land that cannot exist outside of the Resource Protection Area and must be located on the shoreline by reason of the intrinsic nature of its operation. These facilities include, but are not limited to (i) ports; (ii) the intake and outfall structures of power plants, water treatment plants, sewage treatment plants, and storm sewers, (iii) marinas and other boat docking structures; (iv) beaches and other public water oriented recreation areas; and (v) fisheries or other marine resources facilities.

“Wetlands” means those areas that are inundated or saturated by surface water or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Section 1-3 Responsibility for Administration

The Director of Planning and Community Development or his/her delegated agent is designated as the Administrator and shall administer and implement the requirements of this Ordinance and as required by federal law. The Administrator shall approve, approve subject to conditions, or disapprove the plans in accordance with the procedures set forth herein. Additionally, when development is proposed in areas identified as areas of special flood hazard according to the flood insurance rate map (FIRM), the Administrator shall undertake duties and responsibilities including but not limited to the following:

- A. Review applications submitted to the Department of Planning and Community Development for necessary permits to determine whether proposed activities will be located in the Special Flood Hazard Area (SFHA).
- B. Interpret floodplain boundaries and provide base flood elevation and flood hazard information maintained by the County.
- C. Review applications for development in the SFHA to determine whether proposed activities will be reasonably safe from flooding.
- D. Require new construction and substantial improvements to meet the requirements of these regulations.
- E. Verify that any applicant proposing an alteration of a watercourse has notified adjacent communities, the Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management), and any other appropriate agencies (VADEQ, USACE) and have submitted copies of such notifications to FEMA.
- F. Approve applications and issue floodplain development permits to develop in flood hazard areas provided the provisions of these regulations have not been met.
- G. Review Elevation Certificates and require incomplete or deficient certifications to be corrected.
- H. Submit to FEMA, or require applicants to submit to FEMA, data, and information necessary to maintain FIRMS, including hydrologic and hydraulic engineering analyses prepared by or for the community, within six months after such data and information becomes available if the analyses indicate changes in base flood elevations.
- I. Maintain and permanently keep records that are necessary for the administration of these regulations, including:
 1. Flood Insurance Studies, Flood Insurance Rate Maps (including historic studies and maps and current effective studies and maps) and Letters of Map Change; and
 2. Documentation supporting issuance and denial of permits, Elevation Certificates, documentation of the elevation (in relation to the datum on the FIRM) to which structures have been floodproofed, inspection records, other required design certifications, articles, and records of enforcement actions taken to correct violations of these regulations.
- J. Administer the requirements related to proposed work on existing buildings:
 1. Make determinations as to whether buildings and structures that are located in flood hazard areas that are damaged by any causes have been substantially damaged.
 2. Make reasonable efforts to notify owners of substantially damaged structures of the need to obtain a permit to repair, rehabilitate, or reconstruct. Prohibit the non-compliant repair of substantially damaged

buildings except for temporary emergency protective measures necessary to secure a property or stabilize a building or structure to prevent additional damage.

- K. Undertake other actions as deemed appropriate which may include but are not limited to: issuing press releases, public service announcements, and other public information materials related to permit requests and repair of damaged structures; coordinating with other Federal, State, and local agencies to assist with the substantial damage determinations; providing owners of damaged structures information related to the proper repair of damaged structures in special flood hazard areas; and assisting property owners with documentation necessary to file claims for Increased Cost of Compliance coverage under NFIP flood insurance policies.
- L. Notify the Federal Emergency Management Agency if/when the boundaries of the County have been modified and:
 - 1. Provide a map that clearly delineates the new corporate boundaries or the new area for which the authority to regulate pursuant to these regulations has either been assumed or relinquished through annexation; and
 - 2. If the FIRM for any annexed area includes special flood hazard areas that have flood zones that have regulatory requirements that are not set forth in these regulations, prepare amendments to these regulations to adopt the FIRM and appropriate requirements, and submit the amendments to the governing body for adoption; such adoption shall take place at the same time as or prior to the date of annexation and a copy of the amended regulations shall be provided to the Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management) and FEMA.
- M. Upon the request of FEMA, complete and submit a report concerning participation in the NFIP which may request information regarding the number of buildings in the SFHA, number of permits issued for development in the SFHA, and number of exceptions issued for development in the SFHA.
- N. Take into account flood, mudslide and flood-related erosion hazards, to the extent that they are known, in all official actions relating to land management and use throughout the entire jurisdictional area of the County whether or not those hazards have been specifically delineated geographically (e.g. via mapping or surveying).

Section 1-4 Floodplain Districts

Section 1-4.1 Use and Interpretation of FIRMS

The Administrator shall make interpretations, where needed, as to the exact location of special flood hazard areas, floodplain boundaries, and floodway boundaries. The following shall apply to the use and interpretation of FIRMS and data:

- A. Where field surveyed topography indicates that adjacent ground elevations:
 - 1. Are below the base flood elevation, even in areas not delineated as a special flood hazard area on a FIRM, the area shall be considered as special flood hazard area and subject to the requirements of these regulations;
 - 2. Are above the base flood elevation, the area shall be regulated as special flood hazard area unless the applicant obtains a Letter of Map Change that removes the area from the SFHA.
- B. In FEMA-identified special flood hazard areas where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified SFHAs, any other flood hazard data available from a Federal, State, or other sources shall be reviewed and reasonably used.
- C. Base flood elevations and designated floodway boundaries on FIRMS and in FISs shall take precedence over base flood elevations and floodway boundaries by any other sources if such sources show reduced floodway widths and/or lower base flood elevations.
- D. Other sources of data shall be reasonably used if such sources show increased base flood elevations and/or larger floodway areas than are shown on FIRMS and in FISs.
- E. If a Preliminary Flood Insurance Rate Map and/or a Preliminary Flood Insurance Study has been provided by FEMA:
 - 1. Upon the issuance of a Letter of Final Determination by FEMA, the preliminary flood hazard data shall be used and shall replace the flood hazard data previously provided from FEMA for the purposes of administering these regulations.

2. Prior to the issuance of a Letter of Final Determination by FEMA the use of preliminary flood hazard data shall be deemed the best available data pursuant to Section 1-4.2(B) and used where no base flood elevations and/or floodway areas are provided on the effective FIRM.
3. Prior to the issuance of a Letter of Final Determination by FEMA, the use of preliminary flood hazard data is permitted where the preliminary base flood elevations or floodway areas exceed the base flood elevations and/or designated floodway widths in existing flood hazard data provided by FEMA. Such preliminary data may be subject to change and/or appeal to FEMA.

Section 1-4.2 Establishment and Description of Districts

A. Basis of Districts.

1. The various special flood hazard districts (SFHA Districts) shall include the special flood hazard areas (SFHA) as delineated by the Flood Insurance Study (FIS) and the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA) for Caroline County, Virginia and Incorporated Areas, dated March 2, 2009, as amended or revised.
2. The boundaries of the SFHAs are established as shown on the FIRM which is declared to be a part of this article, and which shall be kept on file in the Department of Planning and Community Development.

B. Establishment of Districts

1. The Floodway District is in an AE Zone and is delineated, for purposes of this article, using the criterion that certain areas within the floodplain must be capable of carrying the waters of the one percent annual chance flood without increasing the water surface elevation of that flood more than one (1) foot at any point.
2. The following provisions shall apply within the Floodway District of an AE zone [44CFR 60.3(d)]:
 - a. Within any floodway area, no encroachments, including, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the base flood discharge. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or other of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently-accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the Floodplain Administrator.
 - i. Development activities which increase the water surface elevation of the base flood may be allowed, provided that the applicant first applies, with the endorsement of the Board of Supervisors, for a Conditional Letter of Map Revisions (CLOMR), and receives the approval of FEMA.
 - ii. If Section 1-4.2(B)(1) of this ordinance is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 1-4.3 and 1-4.4 of this ordinance.
 - b. The placement of manufactured homes is prohibited, except when replacing an existing manufactured home in an existing manufactured home park or subdivisions. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring elevation, and encroachment standards are met.
3. The AE Zones on the FIRM accompanying the FIS shall be those areas for which one-percent annual chance flood elevations have been provided and the floodway has not been delineated. The following provisions shall apply within any AE zone where FEMA has provided base flood elevations:
 - a. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the areas of special flood hazard, designated as Zone AE unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the County.

- b. Development activities which increase the water surface elevation of the base flood by more than one foot may be allowed, provided that the applicant first applies, with the endorsement of the Board, for a Conditional Letter of Map Revision, and receives the approval of the Federal Emergency Management Agency.
4. The A Zone shall be those areas for which no detailed flood profiles or elevations are provided, but the one percent annual chance floodplain boundary has been approximated. For these areas, the following provisions shall apply [44CFR 60.3(b)]:
 - a. The Approximated Floodplain District shall be that floodplain area for which no detailed flood profiles or elevations are provided, but where a one-percent annual chance floodplain boundary has been approximated. Such areas are shown as Zone A on the maps accompanying the FIS. The base flood elevations and floodway information from federal, state, and other acceptable sources shall be used, when available. Where the specific one-percent annual chance flood elevation cannot be determined for this area using other sources of data, such as the U.S. Army Corps of Engineers Floodplain Information Reports, U.S. Geological Survey Flood-Prone Quadrangles, then the applicant for the proposed use, development and/or activity shall determine the base flood elevation using technical methods that correctly reflect currently accepted practices, such as point on boundary, high water marks, or detailed methodologies hydrologic and hydraulic analyses. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the Floodplain Administrator.
 - b. The Administrator may require a hydrologic and hydraulic analysis for any development. When such base flood elevation data is utilized, the lowest floor shall be elevated to or above the base flood level plus eighteen (18) inches.
5. *District Boundary Changes.* The delineation of any of the Floodplain Districts may be revised by the Board of Supervisors where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U.S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. Prior to any such change, approval must be obtained from the Federal Emergency Management Agency. A final Letter of Map Revision (LOMR) from FEMA is a record of this approval.
6. *Interpretation of District Boundaries.* Initial interpretations of the boundaries of the Floodplain Districts shall be made by the Director of Planning. Should a dispute arise concerning the boundaries of any of the Districts, the applicant may appeal to the Board of Supervisors. The applicant shall be given a reasonable opportunity to present his case to the Board and to submit his own technical evidence.
7. *Submitting Model Backed Technical Data.* Base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practical by not later than six (6) months after the date such information becomes available, the County shall notify FEMA of the changes by submitting technical or scientific data in the form of a LOMR. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management will be based upon current data.
8. *Letters of Map Revisions.* When development in the floodplain will cause or causes a change in the base flood elevation, the applicant, including state agencies, must notify FEMA by applying for a Conditional Letter of Map Revision and then a Letter of Map Revision.

Section 1-4.3 General Standards for Development within Floodplain Districts.

In all Floodplain Districts the following provisions shall apply:

- A. New construction and substantial improvements shall be undertaken according to this ordinance and the VA USBC and anchored to prevent flotation, collapse, or lateral movement of the structure.
- B. Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state anchoring requirements for resisting wind forces.

- C. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- D. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage in accordance with these regulations.
- E. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities, including ductwork, shall be designed and/or located to prevent water from entering or accumulating within the components during conditions of flooding.
- F. New and replacement water supply streams shall be designed to minimize or eliminate infiltration of flood waters into the system.
- G. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- H. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- I. In addition to provisions A-H above, the following additional provisions shall apply in all special flood hazard areas:
 - 1. Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within this jurisdiction a permit shall be obtained from the U.S. Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission (a joint permit application is available from any of these organizations). Furthermore, in riverine areas, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Department of Conversation and Recreation (Division of Dam Safety and Floodplain Management), other required agencies, and the Federal Emergency Management Agency.
 - 2. The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.

Section 1-4.4 Elevation and Construction Standards

The following provisions shall apply in all identified flood hazard areas where base flood elevations have been provided in the FIS or generated by a certified professional in accordance with Section 1-4.2(B)(3) of this ordinance:

- A. *Residential Construction*
 - 1. New construction or substantial improvement of any residential structure in Zones AE and A with detailed base flood elevations shall have the lowest floor, including basement, elevated at least to the base flood level plus eighteen (18) inches.
- B. *Non-Residential Construction*
 - 1. New construction or substantial improvement of any commercial, industrial, or non-residential building shall have the lowest floor, including the basement elevated to at least the base flood level plus eighteen (18) inches.
 - 2. Non-residential buildings located in all AE zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the elevation corresponding to the BFE plus two feet are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification, including the specific elevation in relation to mean sea level, to which such structures are floodproofed, shall be maintained by the Floodplain Administrator.
- C. *Space Below the Lowest Floor.* In zones A and AE, fully enclosed areas of new construction or substantially improved structures, which are below the regulatory flood protection elevation shall:
 - 1. not be designed or used for human habitation, but shall be used solely for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator).
 - 2. be constructed entirely of flood resistant materials below the regulatory flood protection elevation;

3. include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. The openings shall be certified by a licensed professional engineer or architect or meet the following minimum design criteria:
 - a. A minimum of two openings on different sides of each enclosed area subject to flooding must be provided.
 - b. The total net area of all openings must be at least one (1) square inch for each square foot enclosed area subject to flooding.
 - c. If a building has more than one enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - d. The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
 - e. Openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
4. Foundation enclosures made of flexible skirting do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires openings as outlined above.

D. Standards for Manufactured Homes and Recreational Vehicles

1. In zones A and AE, all manufactured homes placed, or substantially improved, on individual lots or parcels, must meet all the requirements for new construction, including the elevation and anchoring requirements in Section 1-4.3 and 1-4.4 of this ordinance.
2. All recreational vehicles placed on sites must:
 - a. be located on the site for fewer than 180 consecutive days, be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions); or
 - b. meet all the requirements for manufactured homes in Section 1-4.3(B)(1) of this ordinance.

E. Existing Structures in Floodplains. A structure or use of a structure or premises which lawfully existed before the enactment of these provisions (September 1, 1981), but which is not in conformity with these provisions, may be continued subject to the following conditions:

1. Existing structures in the Floodway Area shall not be expanded or enlarged unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed expansion would not result in any increase in the base flood elevation.
2. Any modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use located in any floodplain areas to an extent or amount of less than fifty (50) percent of its market value shall conform to the VA USBC and the appropriate provisions of this ordinance.
3. Any modification, alteration, repair, reconstruction, or improvement of any kind to a structure and/or use, regardless of its location in a floodplain area to an extent or amount of fifty (50) percent or more of its market value shall be undertaken only in full compliance with this ordinance and the entire structure shall conform to the VA USBC and the applicable provisions of this ordinance.

Section 1-5 Designation of Resource Protection Areas (RPA)

Section 1-5.1 Minimum Requirements

- A. At minimum, RPAs shall consist of lands adjacent to water bodies with perennial flow that have an intrinsic water quality value due to the ecological and biological process they perform or are sensitive to impacts which may cause significant degradation to the quality of state waters. In their natural condition, these lands provide for the removal, reduction, or assimilation of sediments, nutrients, and potentially harmful or toxic substances in runoff entering the bay and its tributaries.
 1. RPAs shall include:
 - a. Tidal wetlands;
 - b. Nontidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow;

- c. Tidal shores;
 - d. Such other land considered by the Board to meet the provisions of this subsection and to be necessary to protect the quality of state waters;
 - e. A 100-foot vegetated buffer area located adjacent to and landward of the components listed in subsections (a) through (d) above, and along both sides of any waterbody with perennial flow. The full buffer areas shall be designated as the landward component of the RPA notwithstanding the presence of permitted uses, encroachments, and permitted vegetation clearing compliance with Section 1-5.4(F).
- B. Prior to approval of an application for land-disturbance, RPA boundaries shall be determined as detailed in Section 1-5.2 of this chapter.

Section 1-5.2 Delineation of RPA Boundaries

A. Definition of RPA Boundaries: The site specific boundaries of the RPA shall be designated by the applicant or the County through the performance of a site-specific environmental assessment. Designation of the components listed in Section 1-5.1(A) shall be subject to approval by the Administrator and conducted in accordance with Section 1-7.2.

1. *Delineation by the Applicant*

The site-specific boundaries of the RPA shall be determined by the applicant through the performance of an environmental assessment, subject to approval by the Administrator, and in accordance Section 1-7.2. The CBPA Map may be used as a guide to the general location of RPA's.

2. *Delineation by the Planning Department*

When requested by an applicant constructing a single-family dwelling, the Administrator may perform delineation. The Administrator may use an approved site-specific method or the Administrator may waive this requirement, under Section 1-7.2 of this ordinance, if no potential RPA features are identified using all available local information. Local information may include all of the following deemed applicable: topographic maps, soil surveys, other applicable mapping, drainage area calculations and on site indicators including hydrology, soils, plant species, and other stream/wetland indicators.

3. *Conflicts*

Where the applicant has provided a site-specific delineation of the RPA, the Administrator shall verify the accuracy of the boundary delineation. In determining the site-specific RPA boundary, the Administrator may render adjustments to the applicant's boundary delineation, in accordance with Section 1-7.2 of this ordinance.

Section 1-5.3 General Performance Standards for Development and Redevelopment in RPAs

A. Land disturbance shall be limited to the area necessary to provide for the proposed use or development.

- 1. In accordance with an approved site plan or subdivision plat, the limits of land disturbance, including clearing or grading shall be strictly defined by the construction footprint. The Administrator shall review and approve the construction footprint through the plan of development process. These limits shall be clearly shown on submitted plans and physically marked on the development site.
- 2. The construction footprint shall not exceed the limits for such as designated by the zoning districts of the lot or parcel
- 3. Ingress and egress during construction shall be limited to one access point, unless otherwise approved by the Administrator.

B. Indigenous vegetation shall be preserved to the maximum extent practicable consistent with the use or development proposed and in accordance with the Virginia Erosion and Sediment Control Handbook.

- 1. Site clearing for construction activities shall be allowed as approved by the Administrator through the plan of development review process outlined under Section 1-7 of this ordinance.
- 2. Prior to clearing, grading and/or filling, any tree(s) to be preserved shall be identified and protected from construction activities. Suitable protective barriers like safety fencing, shall be in accordance the plan, VESCH, or other acceptance guidance. Erected protective barriers shall remain throughout all phases of construction. The storage of equipment, materials, debris, or fill shall not be allowed within protected areas.

- C. Land development shall minimize impervious cover consistent with the proposed use or development.
 - 1. Impervious coverage on any lot or parcel shall be limited to that lot coverage permitted under the zoning district requirements of said lot or parcel as noted on the approved plan of development or site plan.
- D. Where the required best management practices utilized require regular or periodic maintenance in order to continue their functions, a maintenance agreement from the owner or developer will be required and recorded by the County and/or VSMP authority.
- E. Notwithstanding any other provisions of this Section or exceptions or exemptions thereto, any land disturbing activity that exceeds 2,500 square feet, including construction of all single-family houses, shall comply with the requirements of Chapter 45 of the Caroline County Code.
- F. All development and redevelopment within CBPAs exceeding 2,500 square feet of land disturbance shall be subject to a plan of development process, including a Water Quality Impact Assessment in accordance with Section 1-7.2 of this ordinance.
- G. All on-site sewage disposal systems not requiring a VPDES permit shall be:
 - 1. Pumped out at least once every five years, as provided in Chapter 92 of the Caroline County Code.
 - 2. For new construction, a reserve sewage disposal site with an equivalent capacity at least equal to that of the primary sewage disposal site shall be provided, in accordance with Chapter 92 of the Caroline County Code. This requirement shall not apply to any parcel recorded prior to October 1, 1989, if the parcel does not have sufficient area to accommodate a reserve sewage disposal site, as determined by the local Health Department. Building and/or construction of impervious surfaces shall be prohibited on the area of all sewage disposal sites until the structure is served by public sewer or an on-site sewer treatment system that operates under a permit issued by the State Water Control Board.
- H. For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices consistent with the water quality protection provisions of the Virginia Stormwater Management Regulations (9VAC 25-870-10, et seq.).
 - 1. For development, the post-development nonpoint source pollution runoff load shall conform to stormwater technical criteria.
 - 2. For sites within Intensely Developed Areas, or other isolated redevelopment sites, the nonpoint source pollution load shall be reduced by at least 10 percent (10%). The Administrator may waive or modify this requirement for redevelopment sites that originally incorporated best management practices for stormwater runoff quality control, provided the following provision are satisfied:
 - a. In no case may the post-development non-point source pollution runoff load exceed the pre-development load;
 - b. Runoff pollution loads must have been calculated and the BMPs selected for the express purpose of controlling nonpoint source pollution and
 - c. Where structural best management practices are already in place evidence shall be provided that facilities are currently in good working order and performing at the design levels or service. The Administrator may require the review of the original structural design and maintenance plan to verify this provision and a new maintenance agreement may be required to assure compliance with this subsection.

Land used for bona fide agricultural activities shall have a soil and water quality conservation assessment approved by the local Soil and Water Conservation District.

Section 1-5.4 Additional Development Criteria for RPAs

In addition to the general performance criteria set forth in Section 1-5.3 of this ordinance, the following criteria shall also be required in all Resource Protection Areas.

- A. Land development may be allowed in the Resource Protection Area, subject to approval by the Administrator, only if it meets one or more of the following criteria:
 - 1. The land development is water dependent;
 - 2. The development constitutes redevelopment;

3. The development constitutes development or redevelopment within a designated Intensity Development area;
 4. The development is a road or driveway crossing satisfying the conditions set forth in subsection 1-5.4(D) of this ordinance, or;
 5. The development is a new use subject to the provisions of subsection 1-5.4(B) of this ordinance.
- B. A new or expanded water dependent facility may be allowed provided that the following criteria are met:
1. It does not conflict with the comprehensive plan;
 2. It complies with the development criteria set forth in Section 1-5.3 of this ordinance.
 3. Any component that is not water-dependent is located outside of RPAs and;
 4. Access to the water-dependent facility will be provided with the minimum disturbance necessary, and where practicable, a single point of access will be provided.
 5. The County is responsible for administering exceptions to subsection 1-5.4(B)(1) -(4) above according to the following provisions:
 - i. An exception may be considered and acted upon by the local planning commission
 - ii. The County may provide for specific provisions that allow for consideration of exceptions within the Zoning Ordinance.
 - iii. No exception shall be authorized except after notice and a hearing pursuant to §15.2-2204 of the Code of Virginia.
- C. Redevelopment on isolated redevelopment sites shall be permitted in the Resource Protection Area only if there is no increase in the amount of impervious cover and no further encroachment within the RPA, and it shall conform to all applicable erosion and sediment control and stormwater management requirements set for the in the Caroline County Code, and with all applicable stormwater management requirements of other state and federal agencies. Redevelopment efforts should include the establishment of buffers and other water quality measures to improve water quality whenever possible.
- D. Roads and driveways not exempt under Section 1-6.1 of this ordinance and which, therefore, must comply with the provisions of this Section, may be constructed in or across RPAs if each of the following conditions are met:
1. The Administrator makes a finding that there are no reasonable alternatives to aligning the road or drive in or across the RPA;
 2. The alignment and design of the road or driveway are optimized, consistent with other applicable requirements, to minimize encroachment in the RPA and minimize adverse effects on water quality;
 3. The design and construction of the road or driveway satisfy all applicable criteria of this Section and the Regulations including submission of a water quality impact assessment and;
 4. The Administrator reviews the plan for the road or driveway proposed in or across the RPA in coordination with the plan of development requirements as required under Section 1-7 of this ordinance.
- E. A water quality impact assessment as outlined in Section 1-7.2 shall be required for any proposed land disturbance, development or redevelopment within Resource Protection Areas and for any other development within Resource Management Areas when required by the Administrator because of the unique characteristics of the site or intensity of development, in accordance with the performance standards in Section 1-5.3 of this ordinance.
- F. Buffer Area Requirements
1. *For new construction, expansion, or re-development.* To minimize the adverse effects of human activities on the other components of RPAs, state waters and aquatic life, a 100-foot buffer area of vegetation that is effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff shall be retained if present and established where it does not exist.
 - a. The buffer area shall be located adjacent to and landward of other RPA components and along both sides of any water body with perennial flow. The full 100-foot buffer area shall be designated as the landward component of the RPA, in accordance with Section 1-5 of this ordinance. Notwithstanding permitted uses, encroachments, and vegetation clearing, as set forth in this subsection, the 100-foot buffer areas may not be reduced in width.
 2. Permitted modifications to the buffer area:

- a. In order to maintain the functional value of the buffer area, indigenous vegetation may be removed subject to approval by the Administrator only to provide for reasonable sight lines, access paths, general woodlot management, and best management practices, including those that prevent the upland erosion and concentrated flows of stormwater, as follows:
 - i. Trees may be pruned or removed as necessary to provide the sight lines and vistas, provided that where removed, they shall be replaced with other vegetation or other approved practice that is equally effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff. A site specific planting plan may be required by the County.
 - ii. Any path shall be constructed and surfaced so as to effectively control erosion.
 - iii. As permitted by the Administrator, dead, diseased, or dying trees or shrubbery may be removed, trees may be thinned, and noxious weeds (such as Johnson grass, kudzu, and multiflora rose) may be removed.
 - iv. For shoreline erosion control projects, trees and woody vegetation may be removed, necessary control techniques employed, and appropriate vegetation established to protect or stabilize the shoreline in accordance with the best available technical advice and applicable permit conditions or requirements.
3. Permitted Encroachments into the buffer area.
 - a. When the application of the buffer areas will result in the loss of a buildable area on a parcel recorded prior to October 1, 1989, the encroachments into the buffer area may be allowed by the Administrator, as set forth in subsection 1-5.3(b) and the following criteria:
 - i. Encroachments into the buffer areas shall be the minimum necessary to achieve a reasonable buildable area for a principal structure and necessary utilities;
 - ii. Where practical a vegetative area and/or water quality BMP that will maximize water quality protection, mitigate the effects of the buffer encroachment and is equal to the area of encroachment into the buffer area shall be established elsewhere on the lot or parcel; and
 - iii. The encroachment may not extend into the seaward 50 feet of the buffer area.
 - b. On agricultural lands the agricultural buffer area shall be managed to prevent concentrated flows of surface water from breaching the buffer area and appropriate measures may be taken to prevent noxious weeds from invading the buffer area. Encroachments into the buffer may be allowed as follows:
 - i. Agricultural activities may encroach into the landward 50 feet of the 100-foot wide buffer area when at least one agricultural best management practice, which, in the opinion of the Hanover/Caroline Soil and Water Conservation District, addresses the more predominant water quality issue on the adjacent land – erosion control or nutrient management – is being implemented on the adjacent land, provided that the combination of the undisturbed buffer area and the best management practice achieves water quality protection, pollutant removal, and water resource conservation at least the equivalent of the 100-foot wide buffer area. If nutrient management is identified as the predominant water quality issue, a nutrient management plan, including soil test, must be developed consistent with the “Virginia Nutrient Management Training and Certification Regulations (4 VAC 50-85-10 et seq.) administered by the Virginia Department of Conservation and Recreation.
 - ii. Agricultural activities may encroach within the landward 75 feet of the 100-foot wide buffer area when agricultural best management practices which address erosion control, nutrient management, and pest chemical control, are being implemented on the adjacent land. The erosion control practices must prevent erosion from exceeding the soil loss tolerance level, referred to as “T”, as defined in the “National Soil Survey Handbook” of November 1996 in the “Field Office Technical Guide” of the U. S. Department of Agriculture Natural Resource Conservation Service. A nutrient management plan, including soil test, must be developed consistent with the “Virginia Nutrient Management Training and Certification Regulations (4 VAC 50-85-10 et seq.) administered by the Virginia Department of Conservation and

Recreation. In conjunction with the remaining buffer area, this collection of best management practices shall be presumed to achieve water quality protection at least the equivalent of that provided by the 100-foot wide buffer area.

- iii. The buffer area is not required to be designated adjacent to agricultural drainage ditches if the adjacent agricultural land has at least one best management practices in place in accordance with a conservation plan approved by the Hanover/Caroline Soil and Water Conservation District.
 - iv. All agricultural BMPs and soil and water quality conservation plans shall be based on the Field Office Technical Guide of the U.S. Department of Agriculture - Soil Conservation Service.
- c. When agricultural or silvicultural uses within the buffer area cease, and the lands are proposed to be converted back to other uses, the full 100-foot wide buffer area shall be reestablished. In reestablishing the buffer, management measures shall be undertaken to provide woody vegetation that assures the buffer functions are maintained or established.

Section 1-5.5 Resource Management Areas (RMA)

- A. Resource Management Areas shall include land types that, if improperly used or developed, have potential for causing significant water quality degradation or for diminishing the functional value of the RPA. A three hundred (300) foot wide RMA shall be provided contiguous to the entire inland boundary of the RPA. The following land categories shall be considered for inclusion in the RMA and where mapping resources indicate the presence of these land types contiguous to the RPA, should be designated as RMA:
1. Floodplains;
 2. Highly erodible soils;
 3. Highly permeable soils;
 4. Steep slopes in excess of 15%;
 5. Nontidal wetlands not included in the RPA; and
 6. Other such lands considered by the County as necessary to protect the quality of state waters.
- B. If the boundaries of a RMA include only a portion of a lot, tract, parcel of land, or development project, the program authority may deem the entire lot, parcel or development project to be in the RMA. Proposed activities including development activities, land disturbing, and minor and family subdivisions that are more than 300' from an RPA feature may be excluded from the RMA designation.

Section 1-6 Permit Requirements, Exemptions, and Prohibitions

Section 1-6.1 Permit Requirement and Exemptions

1. Except as provided herein, no person may engage in any land-disturbing activity until a land-disturbing permit has been issued by the Administrator in accordance with the provisions of this Ordinance.
2. A Chesapeake Bay Preservation Act Land-Disturbing Activity shall be subject to an erosion and sediment control plan consistent with the requirements of Section 1-7.4(B)(2)(c), a stormwater management plan as outlined under Section 1-6.7(B)(2)(b), the stormwater technical criteria and administrative requirements for land-disturbing activities outlined in Section 1-7.5, and the requirements for control measures long-term maintenance outlined under Section 1-8 of this ordinance.
3. Notwithstanding any other provisions of this Ordinance, the following activities are exempt, unless otherwise required by federal law:
 1. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under provisions of Title 45.1 of the Code of Virginia;
 2. Clearing of lands specifically for agricultural purposes and the management, tilling, planting, or harvesting of agricultural, horticultural, or forest crops, livestock, feedlot operations, or as additionally set forth by the State Board in regulations, including engineering operations as follows: construction of terraces, terrace outlets, check dams, desilting basins, dikes, ponds, ditches, strip cropping lister furrowing, contour cultivating, contour furrowing, land drainage and land irrigation; however this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is

reforested artificially or naturally in accordance with the provisions of Chapter 11 (§10.1-1100 et seq.) of Title 10.1 of the Code of Virginia or converted to bona fide agricultural or improved pasture use as described in Subsection B of §10.1-1163 of Article 9 of Chapter 11 of Title 10.1 of the Code of Virginia;

3. Single-family residences separately built and disturbing less than 2,500 square feet and are not part of a larger common plan for development or sale, including additions or modifications to existing single-family detached residential structures.
 4. Land disturbing activities that disturb less than 2,500 square feet unless in a common plan of development.
 5. Activities under a State or federal reclamation program to return an abandoned property to an agricultural or open land use;
 6. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original construction of the project. The paving of an existing road with a compacted or impervious surface and reestablishment of existing associated ditches and shoulders shall be deemed routine maintenance if performed in accordance with this Subsection; and
 7. Conducting land-disturbing activities in response to a public emergency where the related work requires immediate authorization to avoid imminent endangerment to human health or the environment. In such situations, the Administrator shall be advised of the disturbance within seven days of commencing the land-disturbing activity and compliance with the administrative requirements of Subsection (a) is required within 30 days of commencing the land-disturbing activity.
4. The following are exempt from the local program provided they submit required general specification from DEQ:
- a. Electric, natural gas, and telephone utility companies, interstate and intrastate natural gas pipeline companies and railroad companies shall file general erosion and sediment control specifications annually with the Board for review and written comments. The specifications shall apply to:
 - i. Construction, installation, or maintenance of electric, natural gas, and telephone utility lines, and pipelines; and;
 - ii. Construction of the tracks, rights-of-way, bridges, communication facilities, and other related structures and facilities of the railroad company.

Individual approval of separate projects within subdivision (i) and (ii) of this subsection is not necessary when Board approved specifications are followed, however, projects included in subdivision (i) and (ii) must comply with Board approved specifications. Projects not included in subdivision (i) and (ii) of this subsection shall comply with the requirements of Caroline County erosion and sediment control program.

Section 1-6.2 Nonstormwater Discharges

- A. Prohibition of nonstormwater discharges. Except as provided in subsection (B) of this section, all discharges covered by this Ordinance shall be composed entirely of stormwater associated with construction activities. All other discharges including the following are prohibited:
1. Wastewater from washout of concrete;
 2. Wastewater from the washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
 3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
 4. Oils, toxic substances, or hazardous substances from spills or other releases; and
 5. Soaps solvents or detergents used in equipment washing.
- B. Authorized nonstormwater discharges. The following nonstormwater discharges from construction activities are authorized by this ordinance when discharged in compliance with this ordinance:
1. Discharges from firefighting activities;
 2. Fire hydrant flushings;
 3. Water used to wash vehicles or equipment where soaps, solvents, or detergents have not been used and the water has not been filtered, settled, or similarly treated prior to discharge;
 4. Water used to control dust that has been filtered, settled, or similarly treated prior to discharge;
 5. Potable water sources, including uncontaminated waterline flushings;

6. Routine external building wash down where soaps, solvents, or detergents have not been used and the wash water has been filtered, settled, or similarly treated prior to discharge;
7. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (or where all spilled or leaked material has been removed prior to washing); where soaps, solvents, or detergents have not been used; and where the wash water has been filtered, settled, or similarly treated prior to discharge;
8. Uncontaminated air conditioning or compressor condensate;
9. Uncontaminated ground water or spring water;
10. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
11. Uncontaminated excavation dewatering, including dewatering of trenches and excavations that have been filtered, settled, or similarly treated prior to discharge; and
12. Landscape irrigation.

Section 1-7 Plan of Development

Section 1-7.1 Submission and Approval

Any development or redevelopment exceeding 2,500 square feet of land disturbance shall be accomplished through a plan of development process prior to any clearing or grading of the site or the issuance of any building permit to assure compliance with all applicable requirements of Section 1-7:

1. Pursuant to §62.1-44.15.27 of the Code of Virginia, Caroline County hereby establishes a Virginia Stormwater Management Program (VSMP) and a Virginia Erosion and Sediment Control Program (VESCP) for land-disturbing activities and adopts the applicable Regulations specifying standards and specifications for VSMPs and VESCPs promulgated by the State Board for the purposes set out in Section 1-1 of this Ordinance. The Board of Supervisors hereby designates the Department of Planning & Community Development as the program administrator authorized to administer the county's VSMP and VESCP.
2. No grading, building or other local permit that authorized land-disturbance shall be issued for a property unless a land disturbance (LD) permit has been issued by the Administrator.
3. Prior to issuance of a local LD permit, the Administrator shall ensure that any applicable wetlands permit required by federal, state, and local laws and regulations have been obtained. Evidence of such permits be submitted to the Administrator.
4. No LD permit shall be issued by the Administrator, until the following items have been submitted to and approved by the Administrator as prescribed herein:
 - a. Chesapeake Bay Preservation Area plan of development if application if applicable;
 - b. Floodplain development application if applicable;
 - c. A permit application that includes a Construction General Permit registration statement;
 - d. An erosion and sediment control plan approved in accordance with this Ordinance;
 - e. A stormwater management plan approved in accordance with this Ordinance;
5. Where the land-disturbing activity results from the construction of a single-family residence, "an agreement in lieu of a plan" may be submitted for an erosion and sediment control plan if executed by the plan-approving authority.
6. No LD permit shall be issued until evidence of general permit coverage is obtained.
7. No LD permit shall be issued unless and until the permit application and attendant materials and supporting documentation demonstrate that all land clearing, construction, disturbance, land development and drainage will be done according to the approved permit.
8. A completed Plan shall be acted upon by the Plan-Approving Authority within 60 days from receipt thereof. The Plan-Approving Authority shall either approve the Plan in writing or disapprove the Plan in writing and giving specific reasons for its disapproval. If no action is taken within 60 days, the Plan shall be deemed approved and the person authorized to proceed with the proposed activity.
9. The Plan-Approving Authority shall approve a completed Plan, if it is determined that the Plan meets the requirements of the Board's regulations, and if the person responsible for carrying out the plan certifies that he or she will properly perform the measures included in the plan and will conform to the provisions of this Ordinance.

- f. If a plan is deemed to be inadequate, the Plan-Approving Authority shall specify modifications necessary for plan approval.

Section 1-7.2 Requirements for Development and Redevelopment in Chesapeake Bay Preservation Areas

1. As provided in Section 1-5.2 of this ordinance, the site specific boundaries of a CBPA shall be designated by the applicant or the County through the performance of a site-specific environmental assessment.
2. *Water Quality Impact Assessments (WQIA)*. A WQIA shall be required for land disturbance, development or redevelopment within a CBPA which causes no more than one (1) acre of land disturbance and/or which proposes to modify or encroach into the landward 50 feet of the 100-foot buffer area as permitted under Section 1-5.4(F)(2) and (3) of this Section. The assessment must demonstrate that the undisturbed buffer area, enhanced vegetative plantings and any required best management practices will result in the removal of no less than 75 percent of sediments and 40 percent of nutrients from post-development stormwater runoff and that will retard runoff, prevent erosion, and filter nonpoint source pollution the equivalent of the full undisturbed 100-foot buffer area. The assessment shall include a site-drawing to scale, prepared by a licensed engineer or licensed surveyor, which shows the following:
 - a. Location of the components of the RPA, including the 100-foot buffer area and the location of any water body with perennial flow;
 - b. Location and nature of the proposed encroachment into the buffer area, including: type of paving material; areas of clearing or grading; location of any structures, drives or other impervious cover, and sewage disposal systems or reserve drainfield sites;
 - c. Type and location of proposed BMP's to mitigate the proposed encroachment.
 - d. Applicable local TMDLs and measures that will be taken to address them.
 - e. Location of existing vegetation onsite, including the number and type of trees and other vegetation to be removed in the buffer to accommodate the encroachment or modification.
 - f. Re-vegetation plan that supplements the existing buffer vegetation in a manner that provides for pollutant removal, erosion and runoff control.
3. *Additional Requirements for Development and Redevelopment in Chesapeake Bay Preservation Areas*. In addition to the requirements of Article 15, Section 14 or the requirements of Section 6 of the Caroline County Subdivision Ordinance, the plan of development process shall consist of the plans and studies identified below. These required plans and studies may be coordinated or combined, as deemed appropriate by the Administrator. The Administrator may determine that some of the following information is unnecessary due to the scope and nature of the proposed development.
 - a. *Residential Plot Plan Requirements*. A residential plot plan for individual single family homes, additions thereto and accessory buildings shall be submitted to the Planning Department. At a minimum, the plot plan shall be drawn to scale by a licensed engineer or licensed surveyor and contain the following:
 - i. A boundary survey of the site (if available) or site drawing showing the north arrow and property line measurements.
 - ii. Area of the lot/parcel.
 - iii. Location, dimensions and use of proposed and existing structures including marine and temporary structures. In the case of temporary structures, the date when the structures will be removed must be indicated.
 - iv. Location of all building restriction lines, setbacks, easements, covenant restrictions and rights-of-way.
 - v. Dimensions and location of all driveways, parking areas or any other impervious surfaces.
 - vi. Location of all existing and proposed septic tanks and drainfield areas including reserve areas and the location of all existing and proposed wells.
 - vii. Limits of all clearing and grading.
 - viii. Location of the limits of the RPA including any water body with perennial flow and any additional required buffer areas.
 - ix. Location of all erosion and sediment control devices.
 - x. Total proposed area of impervious surface.

- b. *Landscape Plan.* A landscape plan shall be prepared in conjunction with the requirements of site plan and/or subdivision review and approval or as part of the conditions of rezoning and special exceptions. Landscape plans shall be prepared and/or certified by design professionals practicing within their areas of competence as prescribed by the Code of Virginia.
 - i. Contents of the Plan.
 - 1. The landscape plan shall be drawn to scale and clearly delineate the location, size, and description of existing and proposed plant material. All existing groups of trees on the site two (2) inches or greater diameter at breast height (DBH) shall be shown on the landscape plan, or where there are groups of trees, said stands may be outlined instead. The specific number of trees two (2) inches or greater DBH to be preserved outside of the building envelope shall be indicated on the plan. Trees and other woody vegetation proposed to be removed to create the desired construction footprint shall be clearly delineated on the landscape plan.
 - 2. Any required RPA buffer area shall be clearly delineated and any plant material to be added to establish or supplement the buffer area, as required by this Section, shall be shown on the landscape plan.
 - 3. Within the RPA buffer area, trees and other woody vegetation to be removed for sight lines, vistas, access paths, and best management practices, as provided for in this Section, shall be shown on the plan. Vegetation required by Section 1-5.4(F) (2) to replace any existing trees within the buffer area shall also be shown on the landscape plan.
 - 4. Trees and other woody vegetation to be removed for shoreline stabilization projects and any replacement vegetation required by this Section shall be shown on the landscape plan according to best available technical criteria.
 - 5. The plan shall depict grade changes or other work adjacent to trees which would affect them adversely. Specifications shall be provided as to how grade, drainage, and aeration would be maintained around trees to be preserved.
 - 6. The landscape plan will include specifications for the protection of existing trees and other vegetation during clearing, grading, and all phases of construction.
 - ii. Plant Specifications.
 - 1. All plant materials necessary to supplement the buffer area or vegetated areas outside the construction footprint shall be installed according to standard planting practices and procedures.
 - 2. All supplementary or replacement plant materials shall be living and in a healthy condition. Plant materials shall conform to the standards of the most recent edition of the American Standard for Nursery Stock, published by the American Association of Nurserymen.
 - 3. Where areas to be preserved, as designated on an approved landscape plan, are encroached, replacement of existing trees and other vegetation will be achieved at a ratio of three (3) planted tree to one (1) removed. Replacement trees shall be a minimum one and one-half (1.5) inches DBH at the time of planting. At the discretion of the Administrator, replacement may be achieved at ratios of one (1) to one (1) at 3.5 inch at DBH, or two (2) to one (1) at 2 .5 inches DBH.
 - iii. Maintenance.
 - 1. The applicant shall be responsible for the maintenance and replacement of all vegetation as may be required by the provisions of this Section.
 - 2. In buffer areas vegetation shall be maintained and kept free from refuse and debris. Unhealthy, dying, or dead vegetation shall be replaced during the next planting season, as required by the provisions of this Section.

Section 1-7.3 Requirements for Development and Redevelopment in Floodplain Districts

- 1. As noted in Section 1-4.2 of this ordinance, the Administrator shall make interpretations, where needed, as to the exact location of special flood hazard areas, floodplain boundaries, and floodway boundaries.
- 2. In addition to the general standards outlined in Section 1-4 of this ordinance, all applications for development within any floodplain district and all building permits issued for the floodplain shall incorporate the following information:

- a. The elevation of the Base Flood for the site
- b. The elevation of the lowest floor (including basement).
- c. For structures to be flood-proofed (non-residential only), the elevation to which the structure will be flood-proofed.
- d. Topographic information showing existing and proposed ground elevations

Section 1-7.4 Contents of Plans

Any development or redevelopment exceeding 2,500 square feet of land disturbance shall be accomplished through a plan of development process prior to any clearing or grading of the site or the issuance of any building permit to assure compliance with all applicable requirements of this ordinance. The following plans shall be submitted to the Administrator for approval:

1. *Stormwater Pollution Prevention Plan (SWPPP).*

The SWPPP shall include the following items:

a. General Information.

- 1) A signed copy of the registration statement, if required, for coverage under the general VPDES permit for discharges of stormwater from construction activities;
- 2) Upon receipt, a copy of the notice of coverage under the general VPDES permit for discharges of stormwater from construction activities (i.e., notice of coverage letter);
- 3) Upon receipt a copy of the general VPDES permit for discharges of stormwater from construction activities;
- 4) A narrative description of nature of the construction activity, including the function of the project (e.g., low density residential, shopping mall, highway, etc.);
- 5) The name, phone number, and qualifications of the qualified personnel conducting inspections required by this ordinance
- 6) An inspection schedule. The operator shall perform inspections every four days or according to an alternative inspection schedule as approved by the Administrator to ensure:
 - i. Compliance with the approved erosion and sediment control plan;
 - ii. Compliance with the approved stormwater management plan;
 - iii. Development, updating, and implementation of a pollution prevention plan; and
 - iv. Development and implementation of any additional control measures necessary to address a TMDL;
- 7) A legible site plan identifying:
 - i. Directions of stormwater flow and approximate slopes anticipated after major grading activities;
 - ii. Limits of land disturbance including steep slopes and natural buffers around surface waters that will not be disturbed;
 - iii. Locations of major structural and nonstructural control measures, including sediment basins and traps, perimeter dikes, sediment barriers, and other measures intended to filter, settle, or similarly treat sediment, that will be installed between disturbed areas and the undisturbed vegetated areas in order to increase sediment removal and maximize stormwater infiltration;
 - iv. Location of surface waters;
 - v. Locations where concentrated stormwater is discharged;
 - vi. Locations of support activities, when applicable and when required by the VSMP authority, including but not limited to (i) areas where equipment and vehicle washing, wheel wash water, and other wash water is to occur; (ii) storage areas for chemicals such as acids, fuels, fertilizers, and other lawn care chemicals; (iii) concrete wash out areas; (iv) vehicle fueling and maintenance areas; (v) sanitary waste facilities, including those temporarily placed on the construction site; and (vi) construction waste storage; and

- vii. When applicable, the location of the on-site rain gauge or the methodology established in consultation with the VSMP authority used to identify measurable storm events for inspection purposes.

b. *Stormwater Management Plan*

A stormwater management plan shall be submitted as part of the plan development process required by this Section and in conjunction with site plan or subdivision plan approval.

- 1) The stormwater management plan shall contain maps, charts, tables, photographs, narrative descriptions, explanations, and citations to supporting references as appropriate to communicate the information required by this Section. At a minimum, the stormwater management plan must contain the following:
 - i. information on the type and location of stormwater discharges, information to which surface waters stormwater is being discharges, and if present, pre- and post-development drainage areas;
 - ii. the location and design of all planned stormwater control devices;
 - iii. procedures for implementing nonstructural stormwater control practices and techniques;
 - iv. hydrologic and hydraulic computations, including runoff characteristics;
 - v. documentation and calculations verifying compliance with the water quality and quantity requirements of this ordinance;
 - vi. map depicting topography of the site and includes:
 - i. all contributing drainage areas
 - ii. existing streams, ponds, culverts, ditches, wetlands, other water bodies, and floodplains;
 - iii. soil types, geologic formations if karst features are present in the area, forest cover, and other vegetative areas;
 - iv. current land use including existing structures, roads, and locations of known utilities and easements;
 - v. sufficient information on adjoining parcels to assess the impacts of stormwater from the site on these parcels;
 - vi. limits of clearing and grading, and the proposed drainage patterns on the site;
 - vii. proposed buildings, roads, parking areas, utilities, and stormwater management facilities; and
 - viii. proposed land use with tabulation of the percentage of surface area to be adapted to various uses, including but not limited to planned locations of utilities, roads, and easements
- 2) Elements of the stormwater management plans that include activities regulated under Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia shall be appropriately sealed and signed by a professional registered in the Commonwealth of Virginia pursuant to Article 1 (§ 54.1-400 et seq.) of Chapter 4 of Title 54.1 of the Code of Virginia
- 3) Site specific facilities shall be designed for the ultimate development of the contributing watershed based on zoning, comprehensive plans, local public facility master plans, or other similar planning documents.
- 4) All engineering calculations must be performed in accordance with procedures outlined in the current edition of the Virginia Stormwater Management Handbook.
- 5) The plan shall establish a long-term schedule for inspection and maintenance of stormwater management facilities that includes all maintenance requirements and persons responsible for performing maintenance. If the designated maintenance responsibility is with a part other than Caroline County, then a maintenance agreement shall be executed between the responsible party and Caroline County.

c. *Erosion and Sediment Control Plan*

The Erosion and Sediment Control Plan shall detail the methods and techniques to be utilized in the control of erosion, sedimentation, and stormwater during the land-disturbing and post-development phases. The Erosion and Sediment Control Plan shall contain the following components:

- 1) The name, address, and phone number of the person preparing the Plan and a statement that the Plan was prepared by a licensed professional engineer, architect, certified landscape architect, or land surveyor registered in the state.
 - 2) The location of all buffers required by this Code or the Code of Virginia, including, but not limited to all buffers designated as Resource Protection Area buffers pursuant to Section 17, Article XV, of the Zoning Ordinance of Caroline County or any other buffer imposed or required pursuant to any other section of the Zoning Ordinance of Caroline County. The plan also shall contain a certification that prior to any land disturbing activity:
 - i. All buffer areas and wetlands shall be conspicuously flagged or otherwise identified and not disturbed unless authorized by law; and
 - ii. The applicant shall notify the Administrator upon completion of flagging and before any land-disturbing activities commence.
 - 3) Measures to control erosion and sediment.
 - 4) A comprehensive drainage plan.
 - 5) Evidence that no more land than is necessary to provide for the desired use or development shall be disturbed.
 - 6) A statement incorporating by reference the minimum standards of the Erosion and Sediment Control Regulations of the Virginia Water Control Board (9VAC25-840-10 et seq.)
 - 7) A statement that prior to any land disturbing activity, all wetlands and RPA buffers shall be conspicuously flagged or otherwise identified, and that the applicant shall notify the Administrator upon completion of flagging and before any land-disturbing activities commence.
 - 8) Evidence that applicable U.S. Army Corps of Engineers and state permits necessary for activities in state waters and wetlands or appropriate waivers of jurisdiction have been obtained.
 - 9) Evidence that a water quality impact assessment, as required by Section 1-7.2(2), this ordinance has been performed for any proposed development within an RPA, including any buffer area modification or reduction, and for any development in an RMA which, due to the unique characteristics of the site or intensity of the proposed development, is considered to be environmentally sensitive land.
 - 10) Evidence showing compliance with the stormwater technical criteria.
- d. SWPPP requirements for discharges to impaired waters, surface waters with an applicable TMDL wasteload allocation established and approved prior to the term of this general permit, and exceptional waters. The SWPPP shall:
- 1) Identify the impaired water(s), approved TMDL(s), pollutant(s) of concern, and exceptional waters identified in 9VAC25-260-30 A 3 c, when applicable;
 - 2) Provide clear direction that:
 - i. Permanent or temporary soil stabilization shall be applied to denuded areas immediately after final grade is reached on any portion of the site;
 - ii. Nutrients shall be applied in accordance with the manufacturer's recommendations or an approved nutrient management plan and shall not be applied during rainfall events; and
 - iii. A modified inspection schedule shall be implemented in accordance with Part I B 4 or Part I B 5.
- b. Pollution prevention (P2) plan. The P2 plan shall be included in the SWPPP and shall be updated throughout the duration of the land-disturbing activity. The P2 may be submitted for approval prior to the start of land disturbance. This plan shall:

- i. Identify the potential pollutant-generating activities and the pollutant that is expected to be exposed to stormwater;
- ii. Describe the location where the potential pollutant-generating activities will occur, or if identified on the site plan, reference the site plan;
- iii. Identify all nonstormwater discharges, as authorized in Section 1-6.2(B) of this ordinance, that are or will be commingled with stormwater discharges from the construction activity, including any applicable support activity;
- iv. Identify the person responsible for implementing the pollution prevention practice or practices for each pollutant-generating activity (if other than the person listed as the qualified personnel);
- v. Describe the pollution prevention practices and procedures that will be implemented to:
- vi. Prevent and respond to leaks, spills, and other releases including (i) procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases; and (ii) procedures for reporting leaks, spills, and other releases in accordance with Part III G;
- vii. Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities (e.g., providing secondary containment such as spill berms, decks, spill containment pallets, providing cover where appropriate, and having spill kits readily available);
- viii. Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including the clean-up of stucco, paint, form release oils, and curing compounds (e.g., providing (i) cover (e.g., plastic sheeting and temporary roofs) to prevent contact with stormwater; (ii) collection and proper disposal in a manner to prevent contact with stormwater; (iii) a similarly effective means designed to prevent discharge of these pollutants);
- ix. Minimize the discharge of pollutants from vehicle and equipment washing wheel wash water, and other types of washing (e.g., locating activities away from surface waters and stormwater inlets or conveyance and directing wash waters to sediment basins or traps, using filtration devices such as filter bags or sand filters, using similarly effective controls);
- x. Direct concrete wash water into a leak-proof container or leak-proof settling basin. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters;
- xi. Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, and concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete, and other trash or building materials;
- xii. Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, and sanitary wastes; and
- xiii. Address any other discharge from the potential pollutant-generating activities not addressed above; and
- xiv. Describe procedures for providing pollution prevention awareness of all applicable wastes, including any wash water, disposal practices, and applicable disposal locations of such wastes, to personnel in order to comply with the conditions of this section.

Section 1-7.5 Review of Plans and Modifications

1. *Evaluation of WQIA.* For development or redevelopment within the RPA, the Administrator shall review and evaluate the WQIA. Upon the completed review of a WQIA, the Administrator will determine if any proposed modification or encroachment into the buffer area is consistent with the provisions of this section and make findings based upon the following criteria:
 - a. The necessity of the proposed encroachment and the ability to place improvements elsewhere on the site to avoid disturbance of the buffer area;
 - b. Whether impervious surface is minimized;
 - c. Whether proposed mitigation measures, including the revegetation plan and site design, result in minimal disturbance to all components of the RPA, including the 100-foot buffer area;
 - d. Whether proposed mitigation measure will work to retain all buffer area functions: pollutant removal, erosion and runoff control;
 - e. Whether proposed best management practices, where required, achieve the requisite reductions in pollutant loadings;
2. The Administrator shall review all required plans and shall approve or disapprove plans according to the following:
 - a. The Administrator shall determine the completeness of a plan in accordance with Section 1-7.2 through Section 1-7.4 of this Ordinance, and shall notify the applicant, in writing, of such determination, within 15 days of receipt. If the plan is deemed to be incomplete, the above written notification shall contain the reasons the plan is deemed incomplete.
 - a. The Administrator shall have an additional 60 calendar days from the date of the communication of completeness to review the plan, except that if a determination of completeness is not made within the time prescribed in subdivision (1), then plan shall be deemed complete and the Administrator shall have 60 calendar days from the date of submission to review the plan.
 - b. The Administrator shall review any plan that has been previously disapproved, within 45 calendar days of the date of resubmission.
 - c. During the review period, the plan shall be approved or disapproved and the decision communicated in writing to the person responsible for the land-disturbing activity or his designated agent. If the plan is not approved, the reasons for not approving the plan shall be provided in writing. Approval or denial shall be based on the plan's compliance with the requirements of this Ordinance.
 - d. If a plan meeting all requirements of this Ordinance is submitted and no action is taken within the time provided above in subdivision (b) for review, the plan shall be deemed approved.
3. Approved plans may be modified as follows:
 - a. Modifications to an approved plan shall be allowed only after review and written approval by the Administrator. The Administrator shall have 60 calendar days to respond in writing either approving or disapproving such request.
 - b. The Administrator may require that an approved plan be amended, within a time prescribed by the Administrator, to address any deficiencies noted during inspection.
4. The Administrator shall require the submission of a construction record drawing for permanent stormwater management facilities. The Administration may elect not to require construction record drawings for stormwater management facilities for which recorded maintenance agreements are not required pursuant to Section 1-8(b).

Section 1-7.5 Stormwater Technical Criteria for Regulated Land Disturbing Activities

- A. To protect the quality and quantity of state water from the potential harm of unmanaged stormwater runoff resulting from land-disturbing activities, Caroline County hereby adopts the technical criteria for regulated land-disturbing activities set forth in Part II B of the Regulations, as amended, expressly to include 9VAC25-270-63 [water quality design criteria requirements]; 9VAC25-870-65 [water quality compliance]; 9VAC25-870-66 [water quantity]; 9VAC25-870-69 [offsite compliance options]; 9VAC25-870-72 [design storms and hydrologic methods]; 9VAC25-870-74 [stormwater harvesting]; 9VAC25-870-76 [linear development project]; and 9VAC25-870-85 [stormwater management impoundment structures or facilities], which shall apply to all land-

disturbing activities regulated pursuant to this Ordinance except as expressly set forth in Subsection (b) of this Section.

- B. Until June 30, 2019, any land-disturbing activity for which a currently valid proffered or conditional zoning plan, preliminary or final subdivision plat, preliminary or final site plan or zoning with a plan of development, or any document determined by the County as being equivalent thereto, was approved by the County prior to July 1, 2012, and for which no coverage under the general permit has been issued prior to July 1, 2014, shall be considered grandfathered by the Administrator and shall not be subject to the technical criteria of Part II B [of the Regulations], but shall be subject to the technical criteria of Part II C [of the Regulations] for those areas that were included in the approval, provided that the Administrator finds that such proffered or conditional zoning plan, preliminary or final subdivision plat, preliminary or final site plan or zoning with a plan of development or any document determined by the County as being equivalent thereto, (i) provides for a layout and (ii) the resulting land-disturbing activity will be compliant with the requirements of Part II C. In the event that the County-approved document is subsequently modified or amended in a manner such that there is no increase over the previously approved plat or plan in the amount of phosphorous, leaving each point of discharge of the land-disturbing activity through stormwater runoff, and such that there is no increase over the previously approved plat or plan in the volume of runoff, the grandfathering shall continue as before.
 - 1. Until June 30, 2019, for local, state, and federal projects for which there has been an obligation of local, state, or federal funding, in whole or in part, prior to July 1, 2012, or for which the Department has approved a stormwater management plan prior to July 1, 2012, such projects shall be considered grandfathered by Caroline County and shall not be subject to the technical requirements of Part II B of the Regulations, but shall be subject to the technical requirements of Part II C of the Regulations for those areas that were included in the approval.
 - 2. For land-disturbing activities grandfathered under this Subsection, construction must be completed by June 30, 2019, or portions of the project not under construction shall become subject to the technical requirements of Subsection (a) above.
- C. In cases where governmental bonding or public debt financing has been issued for a project prior to July 1, 2012, such project shall be subject to the technical requirements Part II C of the Regulations, as adopted by the County in Subsection (b) of this Section.
- D. The Administrator may grant exceptions to the technical criteria requirements of Part II B or Part II C of the Regulations, provided that (i) the exception is the minimum necessary to afford relief, (ii) reasonable and appropriate conditions are imposed so that the intent of the Act, the Regulations, and this Ordinance are preserved, (iii) granting the exception will not confer any special privilege that are denied in other similar circumstances, and (iv) exception requests are not based upon conditions or circumstances that are self-imposed or self-created. Economic hardship alone is not sufficient reason to grant an exception from the requirements of this Ordinance.
 - 1. Exceptions to the requirement that the land-disturbing activity obtain required VSMP authority permit shall not be given by the Administrator, nor shall the Administrator approve the use of a BMP not found on the Virginia Stormwater BMP Clearinghouse Website, or any other control measure duly approved by the Administrator.
 - 2. Exceptions to requirements for phosphorus reductions shall not be allowed unless offsite options otherwise permitted pursuant to 9VAC25-870-69 have been considered and found not available.
- E. Nothing in this section shall preclude an operator from constructing a more stringent standard at their discretion.

Section 1-8 Long-term Maintenance of Permanent Stormwater Facilities

- A. The Administrator shall require the establishment of a long-term schedule for maintenance and inspection of stormwater facilities which will include the designation of the persons responsible for performing maintenance and a description of maintenance requirements. If the designated maintenance responsibility is with a party other than Caroline County, a maintenance agreement shall be executed between the County and the responsible persons. At a minimum, maintenance requirements shall:
 - a. Be submitted to the Administrator for review and approval prior to stormwater management plan approval

- b. Be stated to run with the land
- c. Provide for all necessary access to the property for purposes of maintenance and regulatory inspections;
- d. Provide for all necessary maintenance, inspection, and submission of reports to the Administrator.
- e. Be enforceable by all appropriate governmental parties.

Section 1-9 Compliance Monitoring and Inspections

- A. Caroline County shall require the operator of the land-disturbing activity to perform and document inspections or necessary maintenance in accordance with the approved schedule for long-term maintenance and inspections. The operator shall maintain documentation of inspections and maintenance to ensure compliance with the approved plans and to determine effectiveness of measures for managing stormwater and controlling erosion and sedimentation. The Administrator may utilize the operator’s inspection reports as a means for determining compliance with approved plans.
- B. The Administrator or his/her appointee shall periodically inspect the land-disturbing activity during construction for:
 - 1. Compliance with the approved erosion and sediment control plan;
 - 2. Compliance with the approved stormwater management plan;
 - 3. Development, updating, and implementation of a pollution prevention plan; and
 - 4. Development and implementation of any additional control measures necessary to address a TMDL;
- C. Inspection and Entry. The Administrator or his/her appointee may, at reasonable times and circumstances, enter any regulated facility for the purpose of obtaining information, conducting surveys, or investigations necessary in the enforcement of the provisions established in this Ordinance. Upon presentation of credentials or other documents as required by law, the Administrator or his/her appointee shall have:
 - 1. Access to and copy any records kept under the conditions of this Ordinance;
 - 2. Inspect and photography and facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this general permit; and
 - 3. Sample or monitor, for the purpose of ensuring state permit compliance or as otherwise authorized by the Clean Water Act or the Virginia Stormwater Management Act, any substances or parameters at any location.
- D. Post-construction inspections of stormwater management facilities required by the provisions of this Ordinance shall be conducted by the Administrator or his appointee, pursuant to the County’s adopted and State Board approved inspection program, at a minimum of once every five (5) years.
- E. *Emergency Conditions.* Nothing contained herein shall make an inspection unreasonable under an emergency situation.

Section 1-10 Hearings

- A. Any permit applicant or permittee, or person subject to Ordinance requirements, aggrieved by any action of Caroline County taken without a formal hearing, or by inaction of the County, may demand in writing a formal hearing by the Board of Supervisors causing such grievance, provided a petition requesting such hearing is filed with the Administrator within 30 days after notice of such action is given by the Administrator.
- B. The hearings held under this Section shall be conducted by the Board of Supervisors at a regular or special meeting of the Board of Supervisors.
- C. A verbatim record of the proceedings of such hearings shall be taken and filed with the Board of Supervisors. Depositions may be taken and read as in actions at law.
- D. The Board of Supervisors shall have power to issue subpoenas and subpoenas duces tecum, and at the request of any party shall issue such subpoenas. The failure of a witness without legal excuse to appear or to testify or to produce documents shall be acted upon by the local governing body, or its designated member, whose action may include the procurement of an order of enforcement from the circuit court. Witnesses who are subpoenaed shall receive the same fees and reimbursement for mileage as in civil actions.

Section 1-11 Fees

- A. No person may engage in any land-disturbing activity until he has acquired a land-disturbing permit, unless the proposed land-disturbing activity is specifically exempt from the provisions of this Ordinance, and has been paid the required fees and any required bonds posted.
- B. Fees to cover costs associated with implementation of a VSMP related to land-disturbing activities and issuance of general permit coverage and VSMP authority permits shall be imposed in accordance with Virginia State Code §62.44.15:28. When a site or sites has been purchased for development within a previously permitted common plan of development or sale, the Applicant shall be subject to fees associated with the disturbed acreage of their site or sites according to §62.44.15:28.
- C. Fees for the modification or transfer of registration statements from the general permit issued by the State Board shall be imposed in accordance with 9VAC25-870-825. If the general permit modifications result in changes to stormwater management plans that require additional review by the County, such reviews shall be subject to the fees set out in 9VAC25-870-825. The fee assessed shall be based on the total disturbed acreage of the site. In addition to the general permit modification fee, modifications resulting in an increase in total disturbed acreage shall pay the difference in the initial permit fee paid and the permit fee that would have applied for the total disturbed acreage.
- D. An administrative fee as set by the County shall be paid to the Caroline County Treasurer at the time of submission of required plans in accordance with Section 1-6 of this Ordinance.
- E. The annual permit maintenance fee shall be imposed in accordance with 9VAC25-870-830, including fees imposed on expired permits that have been administratively continued. With respect to the general permit, these fees shall apply until the permit coverage is terminated.
- F. The fees set forth herein shall apply to:
 - 1. All persons seeking coverage under the general permit.
 - 2. All permittees who request modifications to or transfers of their existing registration statement for coverage under a general permit.
 - 3. Persons whose coverage under the general permit has been revoked shall apply to the Department for an Individual Permit for Discharges of Stormwater from Construction Activities.
- G. No general permit application fees will be assessed to:
 - 1. Permittees who request minor modifications to general permits as defined in this Ordinance. Permit modifications at the request of the permittee resulting in changes to stormwater management plans that require additional review by the Administrator shall not be exempt pursuant to this section.
 - 2. Permittees whose general permits are modified or amended at the initiative of the Department, excluding errors in the registration statement identified by the Administrator or errors related to the acreage of the site.
- H. Fees for re-inspections, non-compliance with this ordinance, improper SWPPP inspections and documentation, and repeated erosion and sediment control failures shall be in accordance with the County's Schedule of Fees.
- I. All incomplete payments shall be deemed as nonpayments, and the applicant shall be notified of any incomplete payments. Interest may be charged for late payments at the underpayment set forth in 9VAC25-870-770 and is calculated on a monthly basis at the applicable periodic rate. A ten-percent late payment fee shall be charged to any delinquent (over 90 days past due) account. The County shall be entitled to all remedies available under the Code of Virginia in collecting any past due amount.
- J. These requirements are in addition to all other provisions relating to the issuance of permits and are not intended to otherwise affect the requirements for such permits

Section 1-12 Appeals

Final decisions of the Administrator or the Plan Approving Authority under this article shall be subject to review by the Caroline County Circuit Court, provided an appeal is filed within 30 days from the date of any written decisions adversely affecting the rights, duties, or privileges of the person engaging in or proposing to engage in land-disturbing activities.

Section 1-13 Penalties and Enforcement

- A. If the Administrator determines that there is a failure to comply with any requirements or provisions of this ordinance, notice shall be served upon the permittee or person responsible for carrying out the approved plan, by any of the following: verbal warnings and inspection reports, notices of corrective action, consent special orders, and notices to comply. Written notices shall be served by registered or certified mail to the address specified in the application or by delivery at the site of the development activities to the agent or employee supervising such activities.
1. The notice shall specify the measures needed to comply with the permit conditions and shall specify the time within which such measures shall be completed.
 2. If a permittee fails to comply with a notice issued in accordance with this Section within the time specified, the Administrator may issue an order requiring the owner, permittee, person responsible for carrying out an approved plan, or the person conducting the land-disturbing activities without an approved plan or required permit to cease all land-disturbing activities until the violation of the permit has ceased, or an approved plan and required permits are obtained, and specified corrective measures have been completed.
- B. Any person who violates any provision of this Ordinance may be liable to Caroline County in a civil action for damages. Such civil penalty shall not to exceed \$32,500 for each violation within the discretion of the court. Each day of violation of each requirement shall constitute a separate offense.
1. Violations for which a penalty may be imposed under this Subsection shall include but not be limited to the following:
 - i. No state permit registration;
 - ii. No SWPPP;
 - iii. Incomplete SWPPP;
 - iv. SWPPP not available for review;
 - v. No approved erosion and sediment control plan;
 - vi. Failure to install stormwater BMPs or erosion and sediment control;
 - vii. Stormwater BMPs or erosion and sediment control improperly installed or maintained;
 - viii. Operational deficiencies;
 - ix. Failure to conduct required inspections;
 - x. Incomplete, improper, or missed inspections; and
 - xi. Discharges not in compliance with the requirements of Section 4VAC 50-60-1170 of the general permit.
 1. The Administrator may issue a summons for collection of the civil penalty and the action may be prosecuted in the appropriate court.
 2. In imposing a civil penalty pursuant to this Subsection, the court may consider the degree of harm caused by the violation and also the economic benefit to the violator from noncompliance.
 3. Any civil penalties assessed by a court as a result of a summons issued by the County shall be paid to into the treasury of the County to be used for the purpose of minimizing, preventing, managing, or mitigating pollution of the waters of the County and abating environmental pollution therein in such manner as the court may, by order, direct.
- C. Without limiting the remedies which may be obtained in this section, any person violating or failing, neglecting, or refusing to obey any injunction, mandamus or other remedy obtained pursuant to this section shall be subject, in the discretion of the court, to a civil penalty not to exceed \$2,000 for each violation. A civil action for such violation or failure may be brought by Caroline County.
1. Any civil penalties assessed by a court shall be paid into the treasury of Caroline County, except that where the violator is the locality itself, or its agent, the court shall direct the penalty to be paid into the state treasury.
- D. The County Attorney shall, upon request of Caroline County or the permit issuing authority, take legal action to enforce the provisions of this ordinance.

- E. The Administrator or the owner of property which has sustained damage or which is in imminent danger of being damaged, may apply to the Circuit Court of Caroline County to enjoin a violation or a threatened violation of this ordinance, without the necessity of showing that an adequate remedy at law does not exist.
 - 1. However, an owner of property shall not apply for injunctive relief unless (i) he has notified in writing the person who has violated the local program, and the program authority, that a violation of the local program has caused, or creates a probability of causing, damage to his property and (ii) neither the person who has violated the local program nor the program authority has taken corrective action within fifteen days to eliminate the conditions which have caused, or created the probability of causing damage to his property.
- F. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations within a reasonable time.
- G. Any structure constructed, reconstructed, enlarged, altered or relocated that is not in compliance with this article may be declared by the Board of Supervisors to be a public nuisance in accordance with Section 15.2-900 of the Code of Virginia and Chapter 77 of the Code of Caroline County and abated as such.
- H. Nothing in this section shall be deemed to limit the authority of the County to apply to the County Circuit Court for injunctive relief to enjoin a violation or threatened violation of this Section, or to seek damages in a civil action.

Section 1-14 Severability

If any section, subsection, sentence, clause, phrase, word, or provision of this ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, then said holding shall not be so construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

Appendix C: Plant Central Rappahannock Natives Steering Committee Meeting Summaries

A. Attendance Record

Committee Members	Affiliation	12/14/15	1/19/16	2/22/16	4/19/16	6/9/16	8/11/16	9/1/16	9/21/16
Bryant Phillips	Berkley Group		X						
Michael Lott	DCR	X	X	X				X	
David Nunnally	Caroline County		X					X	
Bryan Hofman	Friends of the Rappahannock		X						
Darren Coffey	GWRC	X	X	X	X	X	x	X	X
Shaina Schaffer	GWRC		X	X	X	X	x	X	X
Tim Ware	GWRC	X	X	X	X	X		X	X
Pattie Bland	Hanover-Caroline SWCD	X	X		X	x	x	X	X
John Westermeier	Master Gardner	X	X	X	X		x	X	X
Laura Westermeier	Master Gardner	X	X	X			x	X	X
Jim Scibek	Master Naturalist	X	X	X		X		X	X
Tracy Blevins	Plants Map		X	X	X	X	x	X	
Tricia Garner	Rappahannock Valley Garden Club			X				x	X
Kyle Haynes	Tri-County/City SWCD	X	X	X					
Mike Anderson	Tri-County/City SWCD		X						
Katie Abel	Tri-County/City SWCD								X
Marta Perry	Tri-County/City SWCD								X
Richard Finklestein	UMW		X	X					
Joni Wilson	UMW		X						
Lucee Kossler	USDA-NRCS		x						
Nancy Vehrs	VA Native Plant Society	X			X	x			X
Beth Polak	VA CZM Program	X			X	X	x	x	
Virginia Witmer	VA CZM Program	X	x	X	X	X	x		X
Brent Hunsinger	VNLA	X	x	X	X	x		x	X
Total		12	19	13	10	10	7	13	13

B. Plant Central Rappahannock Natives Steering Committee Minutes



George Washington Regional Native Plant Campaign

Interest Meeting

December 14, 2015
10:30 a.m. – 12 p.m.
GWRC Conference Room

Notes

Attendees

Pattie Bland	Laura Westermeier	Tim Ware
Kyle Haynes	Jim Scibek	Beth Polak
Brent Hunsinger	Michael Lott	Virginia Witmer
John Westermeier	Nancy Vehrs	Darren Coffey

Tim Ware welcomed the group and began with introductions of all attendees. Darren Coffey gave an overview of the project and turned the meeting over to Beth Polak. Beth provided an orientation of the project including the CZM Program funding. Development of a GWRC native plant campaign strategy is being funded as a special project of the GWRC's FY 2015 coastal technical assistance grant from Virginia CZM, which began October 1, 2015 and ends on September 30, 2016. Virginia Witmer then described the regional and state native plant marketing efforts and how the GW project will tie into those other campaigns. Virginia distributed fact sheets highlighting these efforts, which are available on the program's website at

<http://deq.state.va.us/Programs/CoastalZoneManagement/CZMIssuesInitiatives/NativePlants.aspx>

Darren Coffey asked the attendees if they would be willing to be the Steering Team and there was unanimous consent to do so. He then asked for the Team to identify WHAT current efforts were underway, WHO else might be invited to the table, and what the NEXT steps might be.

Current Efforts and Available Resources

Participants described current communication and education initiatives to encourage native plant use including:

- Fredericksburg Farmers Market Plant Clinic (April thru September from 9-12)
- Friends of the Rappahannock (FOR) retrofit program
- Soil & Water Conservation District (SWCD) marketing efforts including an annual event and the Virginia Conservation Assistance Program (VCAP) which has gained the support needed to expand the program Bay-wide in Virginia. VCAP is an urban cost share program that supports the installation of small scale best management practices throughout Virginia's Chesapeake Bay Watershed to improve water quality.
- Other efforts include: Downtown Greens, Plants Map, Cossey Park, and Fredericksburg Academy

- A Department of Environmental Quality (DEQ) competitive grant is available to implement a regional guide as part of the overall Native Plants campaign.
- The Virginia CZM Program anticipates that it will have funding available in its FY 2016 annual award from NOAA to offer Virginia's 8 coastal planning district/regional commissions through a competitive process. (These funds will be available in addition to the annual coastal technical assistance grant given to the PDCs.) An RFP will be issued early in 2016. The GWRC has the option of submitting a proposal to support development of a regional native plant guide and other campaign materials. If awarded, these funds would be available on October 1, 2016 – by which time a George Washington region native plant campaign strategy will have been drafted (as a final product of the FY 15 CZM grant), specifying the next steps and multi-media needed to implement the campaign.

Stakeholders Discussion

Team members identified who else might be invited to participate on the Steering Team to strengthen the effort and help to communicate back out to the larger community.

Possible additions include:

- Ann Little, Tree Fredericksburg (treefred@cox.net)
- Richard Finklestein, UMW, CLEAR (rfinkels@umw.edu)
- Ann Kuo, Marstel Day, CLEAR (akuo@marstel-day.com)
- Fredericksburg Home Builders Association (FHBA)
- Fredericksburg Realtors Association (FRA)
- Regional landscape architects and designers (any ideas?)
- Joni Wilson, UMW, native plant expert (jwilson@umw.edu)
- Virginia Cooperative Extension (Guy Mussey, gmussey@vt.edu)
- Natural Resources Conservation Service (NRCS) (Lucee Kossler, lucia.kossler@va.usda.gov)
- Downtown Greens (Sarah Perry, sarah.perry@downtowngreens.org)
- Plants Map (Bill Blevins, BillBlevins@me.com)
- David Nunnally, Caroline Environmental Planner (dnunnally@co.caroline.va.us)

Discussion of Next Steps

Darren asked when the next meeting should be held and Tuesday, January 19th at 1pm was the agreed upon time. The main topic at the next meeting will be a discussion of the steps needed to conduct research and draft a social marketing campaign specifically targeted at increasing native plant use. GWRC will share a timeline laying out the steps in this process, which it submitted in its FY 15 grant scope of work to Virginia CZM. Stakeholder focus group meetings are one key element to a successful campaign. Identifying these groups and conducting interviews along with the dissemination of plant provider and general public surveys needs to be discussed. Who does what, how and when.

Happy holidays and see everyone in January!



George Washington Regional Native Plant Campaign

January Meeting

January 19, 2015

1:00 p.m. – 2:30 p.m.

GWRC Conference Room

Notes

Attendees

Pattie Bland
Kyle Haynes
Brent Hunsinger
John Westermeier
Laura Westermeier
Jim Scibek
Michael Lott

Nancy Vehrs
Tim Ware
Bryan Hofmann
Mike Anderson
Richard Finkelstein
Joni Wilson
Tracy Blevins

Tracy Blevins
Virginia Witmer
Shaina Schaffer
Bryant Phillips
Darren Coffey

Tim Ware welcomed the group and began with introductions of all attendees. Darren Coffey gave an overview of the steps in designing a social marketing campaign. He also shared the project timeline with the group (as presented in the FY15 grant scope).

The team brainstormed what groups should be targeted for stakeholder meetings and interviews.

- Central Rappahannock Master Naturalists
- Central Rappahannock Master Gardeners
- Central Rappahannock Master Tree Stewards
- Friends of the Rappahannock
- UMW target groups (to be identified by Joni and Richard)
- J. Sergeant Reynolds
- Germanna
- Soil & Water Conservation Districts (land owners who are implementing)
- Garden Club of Virginia
- VNLA

Virginia Witmer distributed examples of the general public survey and focus group interview guide sheets. There was general discussion about how to target producers and conduct those interviews. There was also discussion of how to tie the general survey into the process to make this research and input phase as productive as possible. The group agreed to email Darren producer information for dissemination to the group.

The group decided it wanted to meet in February to discuss specific strategy steps in conducting the interviews and general public survey. Members were still a bit unclear as to how to best approach that process.

The next meeting will be on February 22nd at 1pm at the Tri-County/City SWCD, 4811 Carr Drive, Fredericksburg.



George Washington Regional Native Plant Campaign

Steering Team Meeting

February 22, 2016

Tri-County/City SWCD, 4811 Carr Drive, Fredericksburg

NOTES

Review of Survey and Plant Provider Information

Team discussed who should be the primary target of the campaign. Point of sale, or where people buy their plants, was the consensus. A provider list of 27 providers was approved by the team.

Discussion of Implementation Methodology

The team agreed the survey period should be from March 15th through May 15th. A Survey Monkey link will be disseminated for distribution. An ad with the link embedded will also be created. The ad will be posted to the George Washington Regional Commission website and can also be posted on other sites and distributed via email, hard copies, social media, and SWCD newsletters.

Garden centers will be contacted to donate (or would we purchase) gift cards for a raffle incentive to participate in the survey.

Provider surveys should be sent as soon as possible with follow-up in July.

Wrap-Up and Next Steps

Next meeting is April 19th at 1pm, GWRC.



George Washington Regional Native Plant Campaign

April 19, 2016

1:00 p.m. – 2:30 p.m.

GWRC Conference Room

Notes

Virginia Witmer gave a brief project update emphasizing the importance of developing an audience focused strategy, identifying barriers, and ultimately developing a regional plant guide that identifies the native plants.

The public survey is online and has been disseminated widely. Virginia is still looking into online advertising options such as Fredericksburg Today and the Fredericksburg Freelance Star.

Efforts will focus on surveying the current supply of native plants. Participants volunteered for different suppliers and those assignments are forthcoming on an amended provider list. Additionally, Brent and Kyle were volunteered to get two gift certificates donated from Roxbury and Meadows at a \$50 value each. These cards will be raffled to give away to survey participants.

The group discussed the possibility of a campaign name, *Plant Central Rappahannock Natives*. The group agreed that Central was more appropriate than Greater due to the geographical boundaries of PD 16 as well as consistency with the existing Master Gardner and Master Naturalist group names.

The online survey will continue through May and then efforts will concentrate on Focus group recruitment/scheduling and provider interviews. The next meeting will be scheduled for three hours to absorb the survey results, review the interview guide, supply inventory results, and discuss other project implementation methods.

The next meeting location and date will be confirmed in the near future based on Doodle Poll results. The meeting will be from 1-4pm.



George Washington Regional Native Plant Campaign

June 9, 2016

1:00 p.m. – 4:00 p.m.

GWRC Conference Room

Notes

Virginia Witmer gave an overview of the initial results from the online survey. Individuals from each of the GWRC jurisdictions have completed the survey. The online survey will continue through June. A visual advertisement and several print ads ran for the survey. Print ads will continue to run weekly throughout June. The group discussed opportunities to further advertise the survey such as distributing the visual ad at the Farmer's Market or other local events.

Virginia briefly discussed the GWRC region native plant list and the group provided their methodology for voting on which plants they would like included in the guide. Virginia reminded the partners to continue adding to the plant list and that any additions should also be noted on the supply inventory spreadsheet. The group discussed the initial results from the local provider survey assignment. The group also noted the need to consider whether to include cultivars in the native plant guide.

Brent suggested that his company could donate two \$50 native plant packages for the survey raffle instead of giving away \$50 garden center gift cards. This would ensure the raffle winner receives native plants. The group supported Brent's suggestion and thanked him for the donation.

The group discussed strategies for focus group recruitment. It was agreed that a question should be added to the survey asking if the individual would be interested in being a part of a focus group. There will be 1-2 focus groups held in July consisting of 4-8 people. John volunteered to help Darren and Virginia facilitate the focus groups.

The next meeting will be scheduled for three hours to discuss the survey and supply results, discuss initial focus group results, and begin formulating the native plant campaign strategy. Virginia will distribute the online survey results prior to the next meeting.

The next meeting will be on August 11th in the GWRC conference room. The meeting will be from 1-4pm.



George Washington Regional Native Plant Campaign

August 11, 2016

1:00 p.m. – 4:00 p.m.

GWRC Conference Room

Notes

A summary of the pre-campaign quantitative and qualitative research was distributed. Virginia Witmer and Darren Coffey gave an overview of the results – derived from the survey circulated May–July via print and on-line advertisements and partner distribution (80 respondents) and a focus group conducted at GWRC on July 26, 2016 (four participants). The input from the focus group participants generally mirrored the results from the survey. A majority of the participants in both the survey and the focus group identified themselves as fairly knowledgeable about native plants, and their responses indicated that they understand what qualifies a plant as native and the value and benefits of native plants, however they felt that more marketing and education about native plants in the region is needed, specifically which plants are native to the area. Of particular note was the informed language used by both the survey respondents and the focus group participants when asked to describe “native plants” and their particular characteristics. A lack of availability of native plants and providers in the area was identified as a significant barrier.

After reviewing the results, the group then discussed the components to, and the process and steps needed in outlining, a campaign strategy. We discussed who the research indicated should be the primary and secondary audiences of a Plant Central Rappahannock Natives campaign. Also informing this discussion was the insight of Tim Ware, GWRC Director, about the significant suburban development taking place in the region, including 17,000 new homes planned in Spotsylvania alone. The group felt this clearly indicates an important and timely opportunity exists for a campaign to focus on and influence the landscaping decisions to be made on a significant number of acres in this fast growing region. The group suggested – with more discussion needed with the remaining members of the planning team – that the primary audiences for the campaign be developers/landscapers, urban/suburban females, and urban/suburban families with higher income/education levels. The group also discussed plant providers/suppliers as a possible secondary audience, although the group noted that within the GWRC region, there are very few local plant providers, that residents are traveling outside the region for plants and a campaign can illustrate the need for an expanded local market.

The group also discussed the need to identify other groups that should be involved in the implementation phase of the campaign, including Tree Fredericksburg.

Virginia suggested that the planning team be engaged in two more 90 minute meetings to outline the campaign strategy with homework in between meetings. Although at this critical stage in the development of a new social marketing campaign it would be ideal to have as members partners as

possible at a face-to-face meeting, we will provide both a Go-To-Meeting link and conference line to facilitate participation by as many partners as possible. It will be important that the campaign developed reflects everyone's input. The 1st meeting will focus on finalizing the audience and messaging for the campaign. The 2nd meeting will focus on designing/outlining the campaign strategy. This draft strategy is to be submitted by the GWRC in a grant report to the Virginia CZM Program this fall. Beth Polak, Virginia CZM grant manager for this project, pointed out that the meetings must take place prior to the official end of the grant on September 30. As of October 1, the GRWC will receive another grant from Virginia CZM to implement the campaign, including production of multi-media materials such as a new regional native plant guide. We will need continued engagement from partners in the coming year to implement the campaign, and we will know better what this will entail as the campaign is designed and we go forward. During campaign implementation, the strategy (messages and materials) will be piloted and tested, so there will be additional opportunity to tweak the strategy as needed to ensure the both the messaging and delivery are effective.

The meeting concluded with the drawing of the raffle winners – Kelly Johnson and Mary Henderson. They were both very excited to learn they had won!



George Washington Regional Native Plant Campaign

September 1, 2016

1:30 p.m. – 3:00 p.m.

GWRC Conference Room

Notes

The group briefly discussed questions members of the planning team had regarding the Narrative Summary of Focus Group and Survey Results from the draft Native Plants Project Report.

The group then began discussing the intended audience for the Plant Central Rappahannock Natives campaign. The benefits of using native plants will vary depending upon the audience, thus identifying the intended audience is an important step in developing the campaign strategy. The group spent some time reviewing the primary and secondary audience suggestions from the August 11th meeting. Given that there are very few local plant providers, the group noted that plant providers should not be the primary audience. After some discussion, the group decided that the primary audience would be homeowners, developers, professional landscapers and HOAs (buyers) while the secondary audience would be installers, designers, retailers, and nurseries (suppliers).

The group also discussed the messaging for the campaign. Virginia gave an overview of some of the other regional plant campaigns and said she will provide links to their campaign materials. The group discussed potential campaign slogans and tag lines. Darren suggested the slogan, "Central Rappahannock's history is rooted in its native plants," with a tagline of "Beautiful, Beneficial, Sustainable." Additionally, the group began discussing potential logos. Virginia stated she would try to prepare a logo to discuss at the next meeting.

The next meeting will focus upon wrapping up the campaign strategy which will be included in the GWRC's grant report to the CZM program. Virginia reminded the team that during campaign implementation, the strategy (messages and materials) will be piloted and tested, so there will be additional opportunity to tweak the strategy as needed to ensure both the messaging and delivery are effective.

The next meeting will be held on September 21st from 3-4:30 pm at GWRC.



George Washington Regional Native Plant Campaign

September 21, 2016

3:00 p.m. – 4:30 p.m.

GWRC Conference Room

Notes

Darren reviewed the audience and messaging components of the campaign strategy which were discussed at the September 1st meeting. The group affirmed that the primary audience will be homeowners, developers, professional landscapers, and HOAs (buyers) while the secondary audience will be installers, designers, retailers, and nurseries (suppliers). The group also confirmed that the campaign slogan will be “Central Rappahannock’s history is rooted in its native plants,” with a tagline of “Beautiful, Beneficial, Sustainable.”

The group then began discussing the other components of the campaign strategy:

- Native Plant Image/Perception – Virginia shared the logos from the other campaigns and noted that CZM is working to show that the different regional campaigns are connected. She asked the group to decide on a tree and an animal to use for the Plant Central Rappahannock Natives campaign. The group spent some time discussing potential ideas for logos. The logo might include an oak and a wood duck. The team will vote on the logo at a later time.
- Barriers – The group reviewed results from the focus group and the online survey. Noted barriers to using native plants include the idea that native plants are scraggly/weedy, lack of information about native plants, and limited availability of native plants within the region.
- Availability – As the group previously noted, lack of availability of native plants within the region is a significant barrier to using native plants. The group discussed the need to focus campaign efforts on the demand side with the hope that providers will increase their supplies of native plants.
- Education Objectives – Helping consumers to be able to identify plants that are native to the region is an important objective of this campaign. The group noted that the native plant guide will be the primary component to support that objective. Other possible methods to increase awareness and help consumers to be able to identify native plants include demonstration gardens, plant tags, and promotion of the Flora app.
- Behavior Change Measures – The group discussed how they would evaluate the effectiveness of the campaign. It was suggested that they could re-inventory suppliers to see if native plant supplies increased. Brent pointed out that supplies would vary depending on the time of year so that might not be the best way to measure effectiveness.
- Timing of Campaign “Rollout” – The group also discussed the best time to rollout the campaign. The group agreed that it would be good for the campaign introduction to coincide with the lead up to Earth Day 2017. This would also line up with Garden Week.

The outline for the campaign strategy will be available in the google docs folder. The steering team partners will have until September 27th at noon to provide further input on the campaign strategy. The campaign strategy will be included in GWRC's grant report to the Coastal Zone Management (CZM) program. Virginia reminded the team that there will be opportunity to tweak the strategy during campaign implementation.

GWRC received a competitive grant from CZM to implement the Plant Central Rappahannock Natives Campaign. That grant cycle begins on October 1st. The group decided that it would be beneficial to meet in October to lay out the schedule and further discuss implementation strategies. A doodle poll has been issued to select the best time for the October meeting.

Appendix D: Plant Central Rappahannock Natives Campaign Research Assessment and Strategy Outline

Plant Central Rappahannock Natives Campaign Research Assessment and Strategy Outline

The George Washington Regional Commission (GWRC) received a Coastal Zone Management Technical Assistance grant in October 2015 that, in part, funded research and design of a regional native plants campaign - *Plant GW Natives* – based on social marketing principles, similar to others funded by the Virginia Coastal Zone Management Program in other regions of the coastal zone. A regional multi-partner Steering Team, made up of local government, non-profit, and business representatives, was formed in December 2015 and has been engaged in the research and strategy design phases of the campaign, which will be implemented between October 2016 and September 2017 with additional grant funding from the Virginia CZM Program. The two tools used to conduct the pre-campaign research were a focus group and an online survey. The responses to this research will be used to design the framework for a social marketing campaign strategy tailored around the wants and needs of the region. This document summarizes the findings of this research and outlines the campaign framework (audience, messaging and strategy components based on the research) in the final section.

1 NARRATIVE SUMMARY – FOCUS GROUP

The George Washington Regional Commission (GWRC) hosted a focus group on July 26, 2016 with four individuals from the region. The focus group consisted of one individual with considerable knowledge of native plants, two participants with good knowledge, and one with little knowledge of natives, but a strong desire to learn more. The focus group mirrored the online survey results to a large extent in that they were a more educated audience on the topic and the need for more information about native plants and where they are supplied is needed. This identified supply-demand-information gap has been demonstrated in regional native plant marketing campaigns in the coastal zone, and is also clearly evident in the GW region.

A summary of responses to the questions asked in the focus group is offered below.

How would you describe your approach to landscaping? The group focused on historic landscape restoration, using natives for low maintenance, and highlighted the need for more information on and accessibility to native plants.

Who do you tend to involve in your landscaping decisions? The group was very self-reliant and utilized resources ranging from their own knowledge to books, garden clubs, neighbors and online sources. Barriers to meaningful information in the region and supply of materials was again emphasized.

What season of the year do you tend to focus your gardening landscaping decisions/actions? Spring and Fall won the day with this group, but they also like being outside year round doing something (Fall – cleanup; Spring – planting; Summer – gardening).

Where do you get information about the plants you use/buy? Online, books, social media, and plant tags were the main information sources along with other people. The historic nature of natives was also emphasized and much can be learned about native plants from our historic sites.

Where do you tend to get the plants you use in your landscaping/gardening projects? The importance of buying local was a major point of emphasis, but the difficulty in doing so was also emphasized. Therefore, the suppliers cited were all from all over including big box, nurseries, plant societies, farmers' markets, and any other available resources.

How do you decide which plants you use in your landscaping/gardening projects and what factors (plant characteristics, price, and environmental value) do you consider when you select plants for your landscaping interest? Environmental conditions and historical appropriateness were the main factors cited with low maintenance and aesthetics also important. The survival of the plant is paramount ("right plant, right place") while price is the last consideration.

What adjectives do you feel describe "native plants?" Hardy, low maintenance, diverse, natural, adaptive, and unique were among the most used adjectives.

If you had to tell someone else about using native plants, what would you say? Exciting that there could be more variety, environmentally supportive, "belongs there".

Trusted messengers – The most trusted organizations regarding native plant information included the Master Gardeners and Naturalists, the Virginia Native Plant Society, and the Virginia Cooperative Extension. Academic, regional and local agencies were moderately trusted; and state agencies and associations, including the Virginia Nursery and Landscape Association were among the least trusted.

Have you purchased a plant because it was labeled as being a native plant? Three yes and one no.

What was your experience when you used native plants? Fantastic, excellent.

What, if anything, has kept you from using native plants? Desire for more visual appeal, lack of knowledge of what is native and what is not, as well as general information regarding the benefits of natives.

The group was interested in all of the following ways to promote and learn more about native plants:

- ✓ Visiting a native plants demonstration garden
- ✓ Seeing or hearing a public advertisement explaining native plants benefits and options
- ✓ Reading an article explaining native plants benefits and options
- ✓ Purchasing plants clearly identified as native plants for the Central Rappahannock region
- ✓ A guide to native plants found in the Central Rappahannock region, with photos and descriptions
- ✓ Access to online resources or a website with information on plants native to the Central Rappahannock region
- ✓ Mobile (smartphone, tablet) access to online resources or website with information on plants native to the Central Rappahannock region
- ✓ Attending a native plant sale

- ✓ Attending a class or workshop on native plants

Of the items listed, which would have the most impact on your decision to purchase and plant a native plant? As a group they agreed that the plant sales, guide book, native garden visit, and online resources are their favorites.

Of all the things we have discussed today, what is sticking with you? What message or idea has had the most impact on you today? Availability of native plants and knowledge were the top issues with the importance of advertising and involving suburbia emphasized.

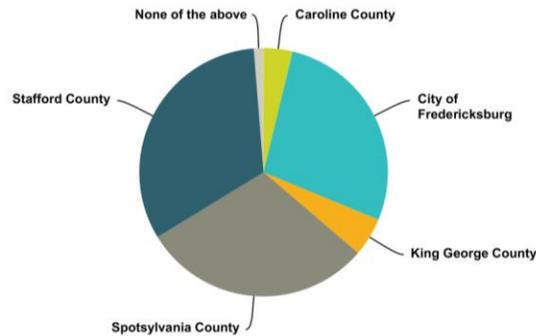
Has your thinking about native plants changed since the focus group began? How so? Final thoughts? Hopeful; historic nature of the area and state has potential; and the interest of suburbia is vital.

2 NARRATIVE SUMMARY – SURVEY

The Regional Native Plant Campaign Steering Team posted an online survey from May-June 2016. The team ran a print advertisement in a local paper, the Freelance Star, as well as a digital ad on the paper's website. Team members also distributed a link to the survey through various listservs and distributed hardcopies at local public events. While participation was limited (80 respondents), the sample reflects the region and validates the findings from the focus group and accurately captures the experience of the steering team. An examination of the survey results, in tandem with the Focus Group summary, will develop the campaign framework.

Q1 Which of the following best describes where you live?

Answered: 80 Skipped: 0

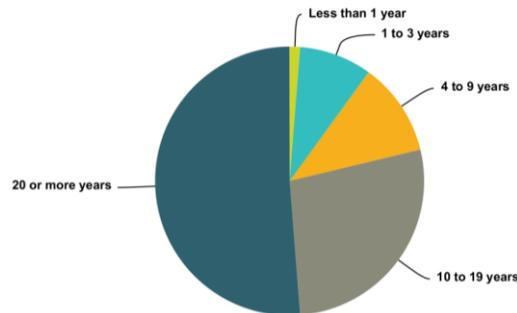


Answer Choices	Responses	
Caroline County	3.75%	3
City of Fredericksburg	27.50%	22
King George County	5.00%	4
Spotsylvania County	30.00%	24
Stafford County	32.50%	26
None of the above	1.25%	1

The majority of participants were from Fredericksburg, Stafford, and Spotsylvania. Based on other survey feedback, along with focus group participation, this may indicate a participation trend (and interest) from urban and suburban populations. More rural areas did not participate as well.

Q2 For how many years have you lived in the Greater Rappahannock region?

Answered: 80 Skipped: 0

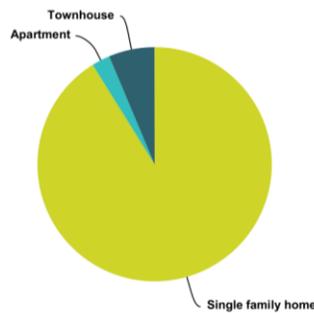


Answer Choices	Responses
Less than 1 year	1.25% 1
1 to 3 years	8.75% 7
4 to 9 years	11.25% 9
10 to 19 years	27.50% 22
20 or more years	51.25% 41

Over three-quarters of participants have lived in the area over a decade and over half have lived in the area for over 20 years. So interest in the survey by “native” participants is significant!

Q3 Which of the following best describes your residence?

Answered: 79 Skipped: 1



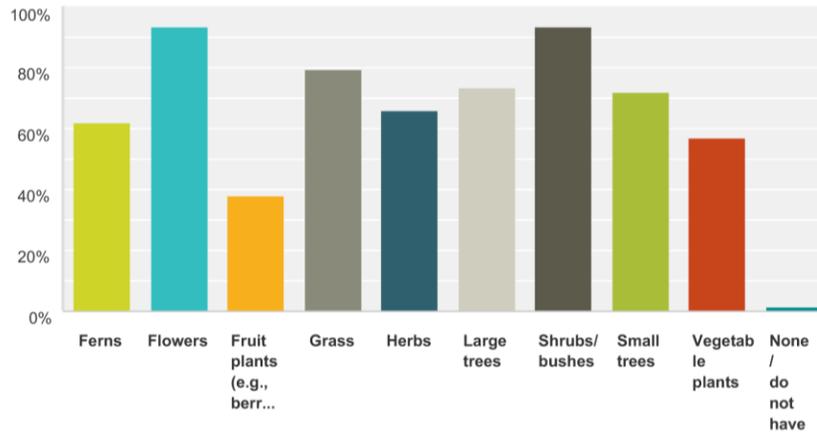
Answer Choices	Responses
Single family home	91.14% 72
Apartment	2.53% 2
Condo	0.00% 0
Duplex	0.00% 0
Townhouse	6.33% 5
Total	79

#	Other (please specify)	Date

The overwhelming participation by single family home owners/occupants indicates an older, more established demographic of respondents which was also reflected in the Focus Group.

Q4 What types of plants do you currently have on your property or expect to plant on your property this year? (Select all that apply.)

Answered: 79 Skipped: 1



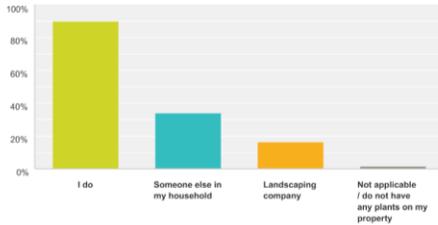
Answer Choices	Responses
Ferns	62.03% 49
Flowers	93.67% 74
Fruit plants (e.g., berries, melons, etc.) / fruit trees (e.g., apple tree)	37.97% 30
Grass	79.75% 63
Herbs	65.82% 52
Large trees	73.42% 58
Shrubs/bushes	93.67% 74
Small trees	72.15% 57
Vegetable plants	56.96% 45
None / do not have any plants on my property	1.27% 1
Total Respondents: 79	

#	Other (please specify)	Date
1	Have master plan for next five years	7/2/2016 3:05 PM
2	water plants	4/18/2016 9:32 AM

This pattern indicates a wide, fairly even distribution among the listed categories. Respondents seem to have an acumen/interest in plants based on this result.

Q5 Who cares for the plants (including trees, shrubs / bushes, flowers, etc.) on the property where you live? (Select all that apply.)

Answered: 79 Skipped: 1



The survey respondents are overwhelmingly the caretakers for the plant portion of their properties. A third of respondents do indicate other primary assistance and less than a fifth use professional help.

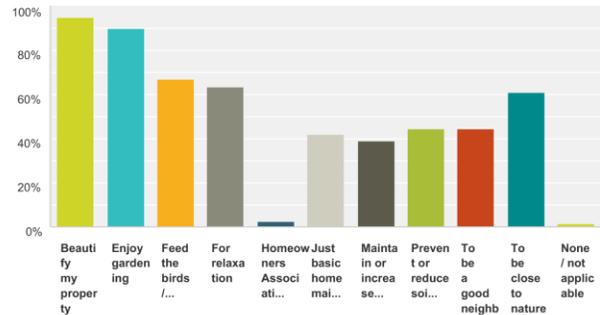
Answer Choices	Responses
I do	89.87% 71
Someone else in my household	34.18% 27
Landscaping company	16.46% 13
Not applicable / do not have any plants on my property	1.27% 1
Total Respondents: 79	

#	Other (please specify)	Date
1	Arborist and person hired to mow (not landscaping company).	4/12/2016 10:42 PM
2	I care for the flower beds	3/29/2016 9:56 AM

The responses affirm a wide variety of reasons for plant care by a demographic that seems to enjoy the outdoors and take pride in their property's appearance. Aesthetics, gardening, wildlife, and recreation are among the top reasons listed. Teaching children was also mentioned and that is encouraging!

Q6 Which of the following are reasons you or others in your household plant and/or care for plants on your property? (Select all that apply.)

Answered: 79 Skipped: 1

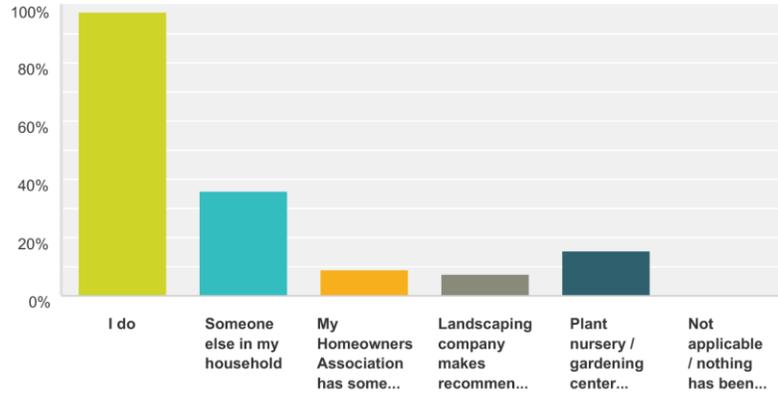


Answer Choices	Responses
Beautify my property	94.94% 75
Enjoy gardening	89.87% 71
Feed the birds / butterflies	67.09% 53
For relaxation	63.29% 50
Homeowners Association requirements	2.53% 2
Just basic home maintenance	41.77% 33
Maintain or increase property value	39.24% 31
Prevent or reduce soil erosion	44.30% 35
To be a good neighbor / help maintain the neighborhood	44.30% 35
To be close to nature	60.76% 48
None / not applicable	1.27% 1
Total Respondents: 79	

#	Other (please specify)	Date
1	To teach my kids.	6/11/2016 11:15 AM
2	Most of the property has been undisturbed since the Civil war. Current plantings are for cultivation of flowers and vegetable, with emphasis on birds and pollinators.	4/22/2016 11:46 AM

Q7 Who influences and/or decides what types of plants are planted on the property where you live? (Select all that apply.)

Answered: 78 Skipped: 2



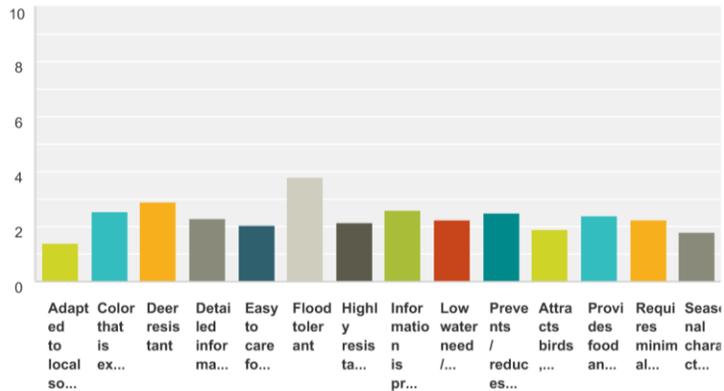
Answer Choices	Responses
I do	97.44% 76
Someone else in my household	35.90% 28
My Homeowners Association has some restrictions / guidelines for planting	8.97% 7
Landscaping company makes recommendations / decisions about what to plant	7.69% 6
Plant nursery / gardening center staff recommendations	15.38% 12
Not applicable / nothing has been planted on my property for many years	0.00% 0
Total Respondents: 78	

#	Other (please specify)	Date
1	Basic landscaping provided when built; we will expand, augment	7/2/2016 3:05 PM
2	My son and daughter (both scientists)	6/16/2016 3:32 PM

This also reflects much of the response of the Focus Group. The survey participants are overwhelmingly the interested party in their household regarding plants. Again, just over a third indicated other significant participation and interest while less than a quarter of participants indicated professional assistance. Nurseries or garden centers were twice as significant as landscape companies in this educational/advisory capacity. The results also demonstrate that you should never overlook the advice of qualified offspring!

Q8 If you were to add or change plants on your property, how important would each of the following plant characteristics or other items be to you when selecting plants?

Answered: 77 Skipped: 3



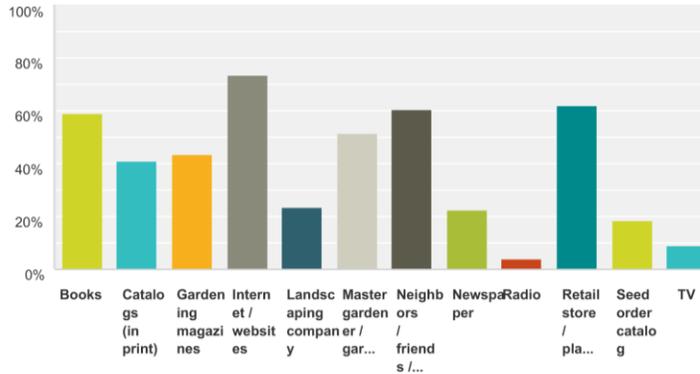
	Extremely Important	Important	Somewhat Important	Not Very Important	Not At All Important	Total	Weighted Average
Adapted to local soil and climate conditions	66.67% 50	29.33% 22	2.67% 2	1.33% 1	0.00% 0	75	1.39
Color that is exciting or exotic	15.79% 12	31.58% 24	38.16% 29	13.16% 10	1.32% 1	76	2.53
Deer resistant	22.67% 17	22.67% 17	14.67% 11	24.00% 18	16.00% 12	75	2.88
Detailed information provided with plant about how to care for it	22.08% 17	40.26% 31	25.97% 20	9.09% 7	2.60% 2	77	2.30
Easy to care for / low maintenance	25.97% 20	50.65% 39	19.48% 15	2.60% 2	1.30% 1	77	2.03
Flood tolerant	4.05% 3	13.51% 10	10.81% 8	41.89% 31	29.73% 22	74	3.80
Highly resistant to insects / diseases	22.08% 17	46.75% 36	25.97% 20	3.90% 3	1.30% 1	77	2.16
Information is provided about the local environmental impact of the plant	10.67% 8	38.67% 29	36.00% 27	9.33% 7	5.33% 4	75	2.60
Low water need / drought tolerant	17.11% 13	50.00% 38	22.37% 17	10.53% 8	0.00% 0	76	2.26
Prevents / reduces soil erosion	16.44% 12	35.62% 26	36.99% 27	5.48% 4	5.48% 4	73	2.48
Attracts birds, butterflies	38.67% 29	40.00% 30	16.00% 12	4.00% 3	1.33% 1	75	1.89
Provides food and habitat for local wildlife	27.63% 21	34.21% 26	21.05% 16	6.58% 5	10.53% 8	76	2.38

While these responses indicate an overall awareness and appreciation for most of the listed characteristics, it is notable that two-thirds of respondents list “adapted to local soil and climate conditions” as Extremely Important. Almost another third indicate that it is Important. Other characteristics attributable to native plants are also listed as important at some significant level. Deer

resistance was listed as not as important by over a third of participants again indicating a more urban or suburban response. Flood tolerance was also not a major concern.

Q9 What sources would you or others in your household be likely to use to help decide what plants to purchase and/or how to care for your plants? (Select all that apply.)

Answered: 76 Skipped: 4



Answer Choices	Responses
Books	59.21% 45
Catalogs (in print)	40.79% 31
Gardening magazines	43.42% 33
Internet / websites	73.68% 56
Landscaping company	23.68% 18
Master gardener / garden club	51.32% 39
Neighbors / friends / relatives	60.53% 46
Newspaper	22.37% 17
Radio	3.95% 3
Retail store / plant nursery / garden center displays or staff advice	61.84% 47
Seed order catalog	18.42% 14
TV	9.21% 7
Total Respondents: 76	

#	Other (please specify)	Date
1	I was a Master Gardener in another state.	7/2/2016 3:08 PM
2	I seek advice from historical horticulturists at surrounding historic gardens	4/22/2016 11:51 AM
3	Native Plant Experts	4/12/2016 10:05 PM

The responses reinforce those received by the Focus Group with the majority of information coming from the internet/social media, reputable written media, or other people albeit professionals, clubs, or associates/friends. Word of mouth and information sharing (either electronically or in person) seems to be a strong preference along with self-guided research.

Q10 If you selected gardening magazines, websites, or seed order catalog above, please specify which ones below:

Answered: 39 Skipped: 41

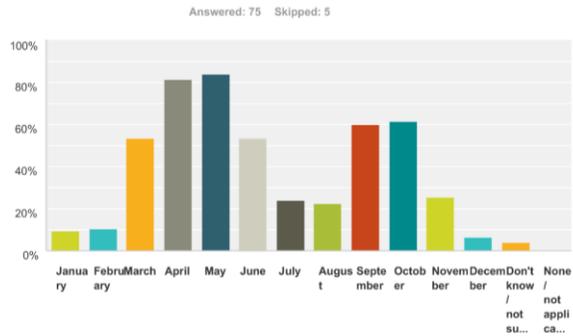
Google Meadow Farms Southern Living
White Flower Farm Gardening^{Tech} Seeds

In addition to Southern Living and Google other gardening magazines and specific websites were prominent. Comments include:

- Farmer's Almanac
- Dave's Garden
- Organic Life
- groworganic.com,
- Wayside Gardens
- YouTube
- Fine Gardening
- Plantsmap.com
- Home Depot/Lowes
- Extension sites,
- Meadow Farms
- Brent and Becky's Bulbs
- Burpee's
- Seed Savers Exchange
- Edible Landscaping
- VA Tech
- UPA
- VA Gardener
- Renee's seeds
- wiki.iris (AIS website)
- Garden & Gun
- The American Gardener
- Johnny's select seeds
- Extension Office web site
- Scheeper's Garden
- southern exposure seed exchange
- Master gardener website
- Fine Gardening
- Brecks
- Bluestone
- Birds & Blooms
- Johnnys
- Southern Exposure seed catalog
- Garden Gate
- Horticulture Magazine
- White Flower Farm
- AHS
- Audubon
- Home and Land
- Birds
- Ivy Nursery
- Garden Club of Virginia (gcvirginia.org)

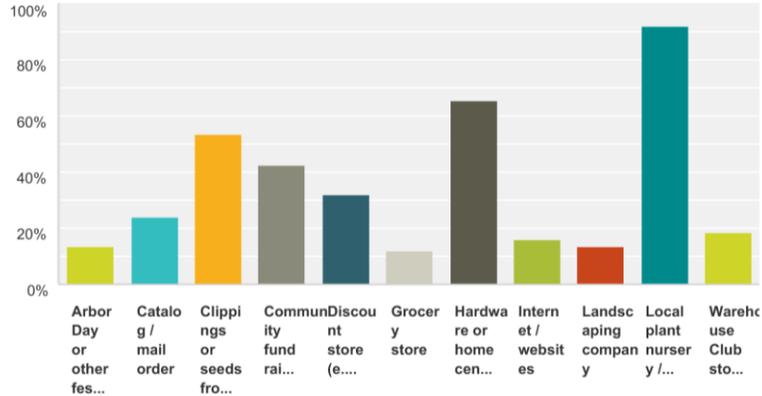
Spring and Fall are the primary seasons for purchasing. The Focus Group indicated more clean up and lawn care in the Fall, with a desire for more color. Spring is the heavy planting season. Summer is a focus for gardeners as well.

Q11 In which month or months are you or others in your household likely to purchase plants? (Select all that apply.)



Q12 If you were to add or change plants on your property, where would you or others in your household be likely to purchase / obtain plants? (Select all that apply.)

Answered: 75 Skipped: 5



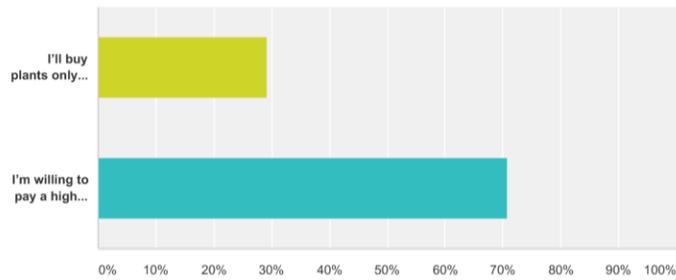
Answer Choices	Responses
Arbor Day or other festivals	13.33% 10
Catalog / mail order	24.00% 18
Clippings or seeds from friends	53.33% 40
Community fund raising events including plant sales	42.67% 32
Discount store (e.g., Wal-Mart, Target, Kmart, etc.)	32.00% 24
Grocery store	12.00% 9
Hardware or home center store (e.g., ACE, Home Depot, Lowes, etc.)	65.33% 49
Internet / websites	16.00% 12
Landscaping company	13.33% 10
Local plant nursery / garden center	92.00% 69
Warehouse Club store (e.g., Costco, Sam's Club, etc.)	18.67% 14
Total Respondents: 75	

#	Other (please specify)	Date
1	Lewis Ginter Plant Sale, National Arboretum Plant Sale, Edible Landscaping, Esbenshades, Farmers Markets,	5/17/2016 5:10 PM
2	Will travel to nurseries for something special in Ashland, Charlottesville, Mt. Vernon	4/13/2016 8:22 AM
3	Sharing with friends, i.e. digging seedlings and transplanting	3/29/2016 10:13 AM

The purchase trend is to buy locally at non-chain stores if possible. Still, home garden centers such as Lowes or Home Depot constitute about two-thirds of respondents with another third from discount stores. Buying local, even from national chain stores is a strong desire among participants if the materials are available. People are also willing to travel for special events or sales to get desired materials. A community orientation is again present in these results as indicated by friends, plant sales, and other events.

Q13 Which best describes how you would decide between pricing and quality when purchasing plants?

Answered: 72 Skipped: 8

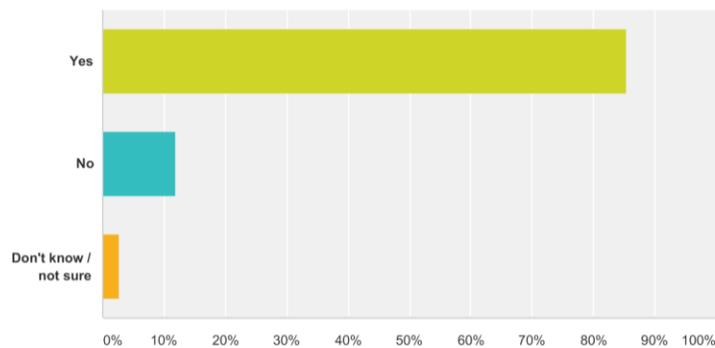


Answer Choices	Responses
I'll buy plants only when I can get a bargain price / significant discount / big sale	29.17% 21
I'm willing to pay a high price to get top quality and the exact types of plants I want	70.83% 51

This response reflects sophisticated participants that are fairly (or very) serious about their plant quality. Less than a third of respondents indicated price is a driver in their decision-making.

Q14 In the past 12 months, have you read about or heard people discussing "Native Plants"?

Answered: 75 Skipped: 5

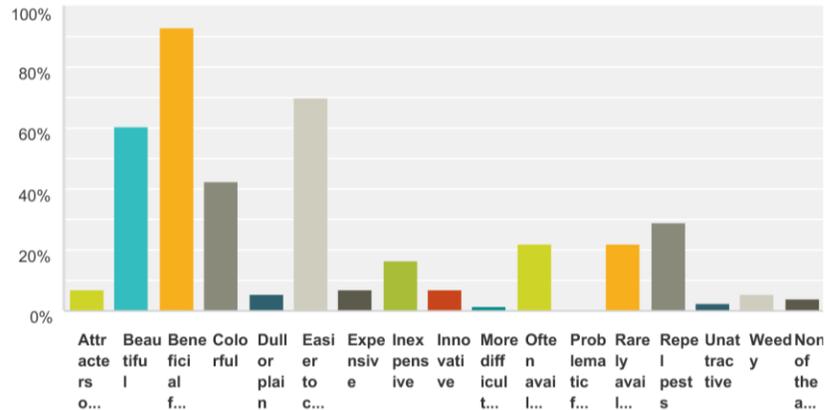


Answer Choices	Responses
Yes	85.33% 64
No	12.00% 9
Don't know / not sure	2.67% 2

This response indicates a more sophisticated demographic with respect to landscape/gardening experience. Well over three-quarters of the participants have heard discussion about native plants in the past year.

Q15 Which of the following adjectives, if any, do you feel describe “Native Plants”?

Answered: 73 Skipped: 7

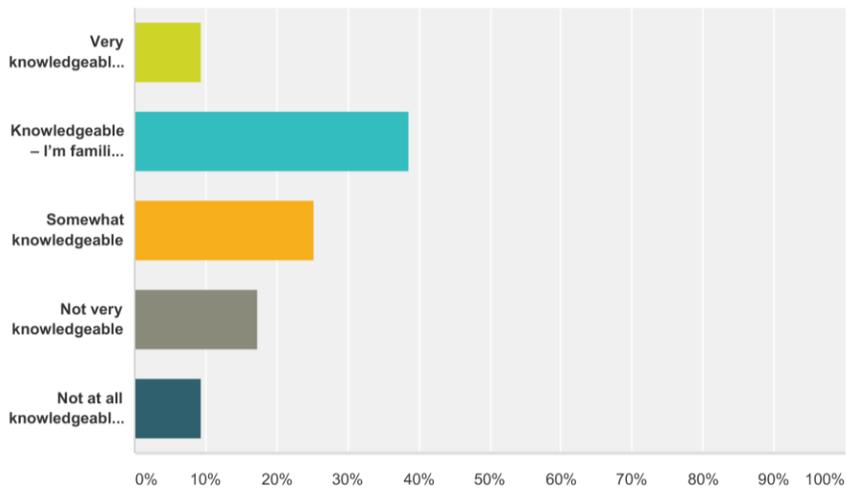


Answer Choices	Responses
Attractors of pests	6.85% 5
Beautiful	60.27% 44
Beneficial for the environment	93.15% 68
Colorful	42.47% 31
Dull or plain	5.48% 4
Easier to care for than other types of plants	69.86% 51
Expensive	6.85% 5
Inexpensive	16.44% 12
Innovative	6.85% 5
More difficult to care for than other types of plants	1.37% 1
Often available where I shop for plants	21.92% 16
Problematic for the environment	0.00% 0
Rarely available where I shop for plants	21.92% 16
Repel pests	28.77% 21
Unattractive	2.74% 2
Weedy	5.48% 4
None of the above	4.11% 3

Beneficial, beautiful and easier to care for are the top responses with pest resistance also factoring in. Availability was a major concern in the Focus Group (and with the Steering Team) and is also indicated here, but interestingly also offset by “often available where I shop for plants”. This is another indication of the level of sophistication of the survey participants since it has been well documented from provider inventories and other means that the low supply for natives is an issue in the region.

Q16 How knowledgeable are you about “Native Plants”?

Answered: 75 Skipped: 5



Answer Choices	Responses
Very knowledgeable – I've worked closely with them and can identify many in my area	9.33% 7
Knowledgeable – I'm familiar with the term and can identify some in my area	38.67% 29
Somewhat knowledgeable	25.33% 19
Not very knowledgeable	17.33% 13
Not at all knowledgeable – I have no idea what "Native Plants" are	9.33% 7

Three quarters of the participants are knowledgeable about native plants. This is a higher than expected statistic, but not completely surprising for the relatively high educational levels in the region. It would also be expected that many users taking a plant survey would have some interest in the topic to begin with.

Q17 In your own words, how would you describe what "Native Plants" are and what impact or particular characteristics they have? (If you are not knowledgeable about this term, please describe what you would expect it to mean.)

Answered: 59 Skipped: 21

Local Woods Soil Interesting Grow Easier
Native Plants Require
Environment Pollinators
Plants that are
Indigenous Rapid
Drought Tolerant

- Plants that are indigenous to an area. They feed and support the native insects, mammals and birds. they are more tolerant of the local soil and climate conditions.
- Natural plants to an area
- Native plants are historic to the region. They are much needed as more and more open space is paved over. Native plants are necessary for preserving nature and biodiversity.
- Indigenous or became well established in this area; can be weeds and ugly but they support an ecosystem and require low/no care, self-seeding or propagating
- I think..... plants that are plentiful in the area
- I would expect it means what is local to the area?
- Native means they are (or were) original to the area in which they grow, or are planted. Not imported from another area of the world.
- They are plants that are indigenous to this part of Virginia and so are best suited to the environmental conditions on my property, provided I provide the correct cultural requirements (light and soil) for them. Native plants attract wildlife, birds, and butterflies and are usually low maintenance and resistant to disease.
- I have 412 plants in my front yard. Most are not native. This year, planting more grasses and trying to plant more natives specifically for the pollinators.
- Plants that have adapted to a specific area's climate, soil and conditions and play nicely with the rest of the ecosystem.
- Native are generally non-invasive and that is a huge plus. However I prefer showier plants. There is a reason that "japonica-type" are popular. They are nice in manmade landscapes.
- Native Plants seem to describe those that are prevalent and thrive in a particular area. Particular characteristics could include the fact that they are found more often than not, in an area or areas, and are "hardy." They may even improve the area's soil and or air quality.

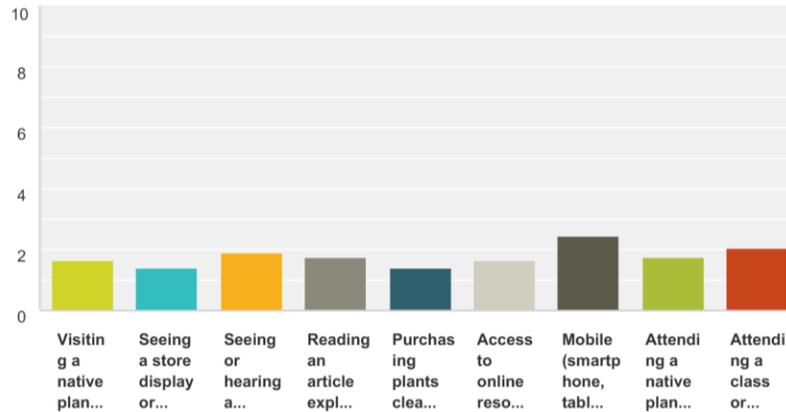
- Plants that are native to my area.
- Plants that are native to this area.
- They are easy to grow in the area where they belong (native). They take less watering, fertilizer, bug spray and are easier on the surroundings. They help the birds, bees and butterflies in the area. They are not harsh on the environment.
- I would imagine they are plants that are indigenous to the area and that they would be fairly easy to care for, as they naturally grow here.
- Indigenous plants that - through evolution - have survived and flourished in the specific ecosystem.
- Plants that grow naturally and easily in a given area, and are best suited for that environment. They support the wildlife there, too. Low maintenance, hardy and often beautiful.
- They are plants that traditionally grow here and are naturally suited to the environment.
- Plants that grow naturally in my planting zone.
- Except for deer damage, I feel they are resistant to pests, more drought tolerant and very attractive for berries and foliage. I am trying to support the zebra swallow tail butterfly by planting paw paw trees but I find them difficult to obtain.
- Plants that naturally occur in the area, as opposed to plants that are foreign (brought from other areas). Native plants are well adapted to the area where they are from and are beneficial to the environment.
- Plants that are grown in the area
- Native plants are indigenous to Virginia. I have many plants that were planted in the early 1700's, and I consider them historical. Native plants, and long surviving (without invasion) was adapted to my particular property, attract creature beneficial to them, and repel, to the extent necessary to survive, pests that threaten them. Their ability to attract/repel is beneficial to my modern plants, and I try locate plants with a symbiotic relationship.
- Plants that work naturally with the environment.
- Native plants are those that naturally grow in my area or region and will attract the wildlife native to my area including birds, butterflies and insects
- Those plants/trees that are indigenous to Virginia, grow easily in the VA soil and tolerate VA weather.
- Plants that are indigenous to my part of the US--not imported from other countries. They are adapted to this particular climate, soil, water and exposure to sun. They provide required food, nectar and habitat for our native insects and animals. The native plants also control erosion and rapid run off into streams and lakes. In most cases they are not invasive like many of the imported plants. They attract native beneficial insects that control undesired insects.
- More likely to thrive as they evolved in this area.
- More beneficial to local wildlife.
- Native plants are adapted to the region in which they live, are not hybridized, and are usually more drought tolerant and disease resistant than other plants.
- Native plants are plants native to the region. Thereby helping to balance the ecosystem for both plants, animals and insects.
- Vegetation that is largely native to region and grows well in regional soil and climate conditions.
- Adaptive to the area. May require less maintenance. Good pollinators.

- Plants that have adapted to our zone, are therefore hardy, readily thrive and are easier to care for and less likely to have problems with insects and disease.
- These plants grow naturally in this or similar environs so they are adapted to our weather patterns (without needing extra water), can survive the native pests, and they provide nectar for local butterflies, birds, etc.
- Plants that grow and thrive naturally. Plants that compliment other plants, the soil, contribute to the well-being of the animals, insects and birds in the area.
- Those that grow here naturally or are suited to our environment, that are not invasive and benefit the wildlife of our area.
- Plants that are native to the area, that attract wildlife, butterflies, bees, etc. Plants that don't require as much work as ones that are non-native, drought tolerant, etc.
- Are part of our local environment
- Plants that survive in the wild in Virginia. They grow well in our soils with little or no fertilizer.
- Plants that grow naturally in the area.
- Native Plants are plants that can grow well in the environment of that area.
- Unique, interesting.
- Easy to grow in my area and good for the pollinators
- Easier to establish and maintain longevity
- They are extremely interesting and good for the environment.
- Plants that have adjusted to their environment and thrive in that particular area.
- Plants that are indigenous to an area because they have thrived in and are therefore well adapted to the area and act in balance with other natives to provide room and support to each other and provide habitat and food to wildlife and insects.
- Native plants are those which are beneficial to all species and the environment because they are what is intended to be here for the plant chain to function.
- Plants which have adapted to their environment and been in a location for a long time such as Jack in a Pulpit which thrives in a shade or woods area.
- Plants I did not plant i.e. growing in the wild or in the woods
- Easy to grow - doesn't need a lot of water - low maintenance
- They are plants that are adapted to the local environment and whose "home" is here, not imported or brought over here from another country. They support all living creatures, do much better and are overall good for the environment in all ways.
- Applies to plants that exist in our region and are appropriate to plant. Not likely to overwhelm a garden by rapid reproduction.
- Plants that naturally occurred in a habitat before man disrupted the environment. They are important food sources for native animals.
- Non-invasive, suitable for the climate and soil of the region, beneficial to other plants and species.
- Those that naturally grow where I live, making them hardy and beneficial to that specific area
- Able to handle the elements and conditions for our area

- Native plants are those that naturally grow in a specific region. Because they are native, they are naturally hardy for that specific area. Some natives can take over a space. Some are beautiful and some are just "ordinary."

Q19 How interested would you be in the following?

Answered: 75 Skipped: 5

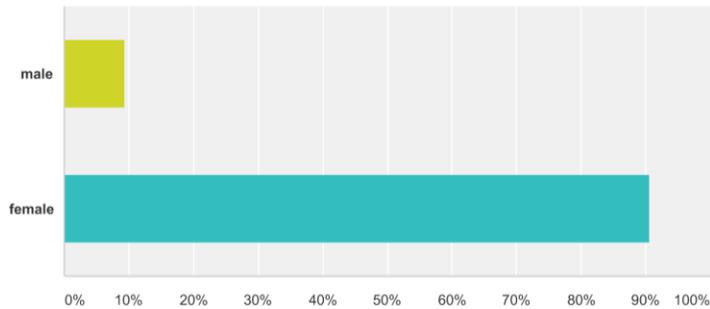


	Very Interested	Somewhat Interested	Maybe Interested	Not Very Interested	Not At All Interested	Total	Weighted Average
Visiting a native plants demonstration garden	56.00% 42	29.33% 22	12.00% 9	1.33% 1	1.33% 1	75	1.63
Seeing a store display or special area of a garden center devoted to native plants	64.86% 48	28.38% 21	6.76% 5	0.00% 0	0.00% 0	74	1.42
Seeing or hearing a public advertisement explaining native plants benefits and options	43.06% 31	33.33% 24	16.67% 12	5.56% 4	1.39% 1	72	1.89
Reading an article explaining native plants benefits and options	50.00% 36	29.17% 21	16.67% 12	2.78% 2	1.39% 1	72	1.76
Purchasing plants clearly identified as native plants for the Greater Rappahannock region	66.22% 49	25.68% 19	8.11% 6	0.00% 0	0.00% 0	74	1.42
Access to online resources or a website with information on plants native to the Greater Rappahannock region	61.64% 45	19.18% 14	15.07% 11	1.37% 1	2.74% 2	73	1.64
Mobile (smartphone, tablet) access to online resources or website with information on plants native to the Greater Rappahannock region	36.23% 25	18.84% 13	23.19% 16	8.70% 6	13.04% 9	69	2.43
Attending a native plant sale	52.00% 39	26.67% 20	14.67% 11	6.67% 5	0.00% 0	75	1.76
Attending a class or workshop on native plants	46.58% 34	21.92% 16	13.70% 10	16.44% 12	1.37% 1	73	2.04

Responses to this question indicate an overall interest in a variety of educational media. Online research seems to be the most common while reading or participating in an activity or sale are also viable options.

Q21 Are you:

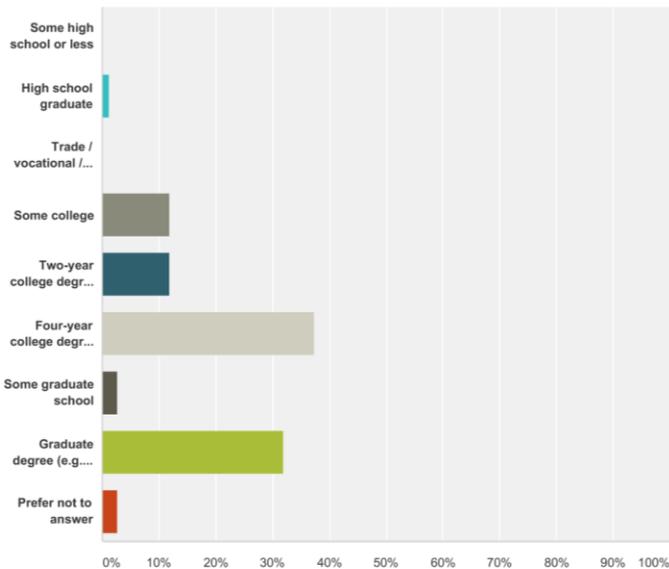
Answered: 74 Skipped: 6



Answer Choices	Responses
male	9.46% 7
female	90.54% 67

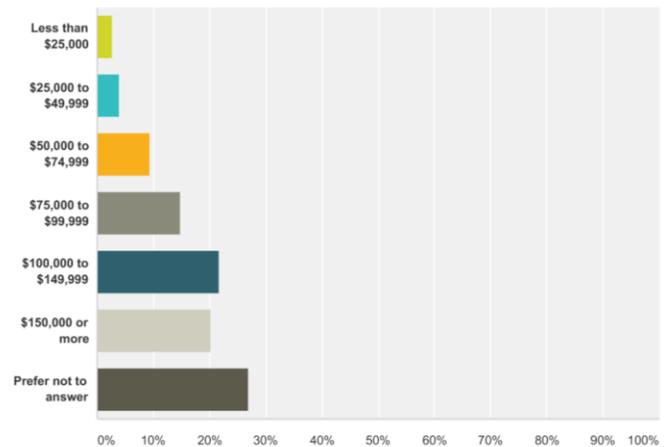
Q22 What is the highest level of education you have completed?

Answered: 75 Skipped: 5



Q23 What is your total annual household income before taxes?

Answered: 74 Skipped: 6



Survey respondents are overwhelmingly well educated, females with incomes above the region's median level. This reinforces much of the demographics in area and adds to the theory that suburbia may play a critical role in this campaign.

3 CAMPAIGN FRAMEWORK

Now that the Steering Team has the Focus Group and Survey results, we can use that information to create the framework for a native plants campaign. The following questions and answers can be used to frame the discussion. The indicated responses are largely derived from the input received, but need further discussion by the Team.

- 1) Who is our primary target audience that will likely be more receptive to learning more about native plants? *Based on our research, it appears that an urban or suburban female is a prime target audience. Beyond that, families with higher incomes or education levels living in or near the city or in other suburbanized areas of the region.*
- 2) Who is our secondary target audience? *Suppliers seem to be a logical secondary target since the lack of supply has been repeatedly indicated by the Steering Team and participants in the focus group and survey. Question one targets the demand side of the equation and question two addresses the supply side.*
- 3) What are people's perceptions about native plants? *Participants of the focus group demonstrated a very positive opinion of native plants, and overall the responses to the survey showed an understanding of what makes a plant native and the benefits of natives. . Overall very positive and surprisingly educated, particularly given the lack of information that is available. There seems to be a strong desire and interest for more information on native plants which is a strong support indicator for a campaign.*
- 4) Which plant attributes are people most interested in? Which in turn will help us narrow down the plant list for the guidebook? *Compatibility with the environment/space/soil, aesthetics, and general availability are among the top attributes.*
- 5) Where is our target audience most likely to shop for plants and obtain information about plants? *Other than the internet/social media, local events, clubs, nurseries, garden centers, and national retailers.*
- 6) What are the education needs of our target audiences? *They desire more information on natives in general and what is most appropriate to the area and why.*
- 7) When are people most frequently buying plants? *Spring then Fall.*
- 8) What are barriers or reasons people may be hesitant or uninterested to buy and plant natives on their property? *Lack of availability is by far the greatest barrier, closely followed by a lack of knowledge available to the general public of the benefits of using natives. The survey and focus group participants have significant interest in using natives. Price is not generally an obstacle. Lack of supply is a detriment, and an increase in demand should have a positive impact on supply.*
- 9) What should elements of our message be? *Buy local; be historic – buy native; natives are cost effective and low maintenance; natives are beautiful and colorful!*

- 10) Identify where to focus time and energy, i.e. target the placement and type of promotional materials that people are most likely to respond to. *Events, clubs, nurseries, garden centers, and educational agencies.*

4 PLANT CENTRAL RAPPAHANNOCK NATIVES CAMPAIGN STRATEGY COMPONENTS AND ELEMENTS

The primary audience will be homeowners, developers, professional landscapers, and HOAs (buyers) while the secondary audience will be installers, designers, retailers, and nurseries (suppliers). The group also confirmed that the campaign slogan will be “Central Rappahannock’s history is rooted in its native plants,” with a tagline of “Beautiful, Beneficial, Sustainable.” Other suggestion is “Native Plants: The Roots of the Central Rappahannock’s History.”

Expand and adjust as needed to capture detail and document progress

“Point of Sale Materials”

(Noticeable, self-explanatory prompts strategically placed reminding gardeners to use Central Rappahannock natives – the time and place a gardener is making a decision about what to plant)

Contact the retail centers in the vicinity and frequented by residents – Meadows Farms (three locations – Fredericksburg, Stafford), Roxbury Farm and Garden Center, Ground Keepers of Olde Towne Fredericksburg, Sunnyside Nursery & Garden Center, Stafford Nursery – to partner on testing the following point of sale materials:

- A. *Garden Center Banners or flags*
 - hangs at center to advertise that they sell Central Rappahannock Natives and includes campaign logo (item used in other campaigns and template is available)
- B. *Garden Center Signage*
 - to place next to a grouping of native plants available at the center – perhaps a kiosk with an inventory of native plants available and a laminated copy of the new regional native plant guide
- C. *Plant Tags*
 - Pot and hang tags featuring campaign logo and possibly QR code to track sales of natives (item used in other campaigns and template and vendor identified)
- D. *Please Carry Cards*
 - Encourage public (and garden club members) to take "Was looking for, please cards" when shopping. If a native plant that they are shopping for is not available, then the card is left with the retailer. Might also be used as a measurement tool if follow-up is done during the same season the next year to see how the retailer responded.

- “I am interested in purchasing native plants and would greatly appreciate it if you would consider stocking more native plants. Thanks!”
- “Please contact me, write in name, at write in phone or email when you stock name of native plant. Thanks!”
- “Thanks for stocking native plants. I’ll be sure to let my friends know!”

“Multi-Media Materials”

(visually colorful, captivating, communications - campaign message conveyed consistently and repeatedly in formats most effective at reaching gardeners)

A. *Regional native plant guide*

- To be printed, announced and ready for distribution at the campaign kick-off in April 2017. Produced by the planning team working with Virginia CZM staff. (item produced by other campaigns and a template is available)
 - Working Group members:

B. *Radio Ads*

- To advertise campaign launch and to highlight availability of native plants (focus on benefits and certain species) (sample scripts are available and can be heard on Plant ES Natives campaign website.)

C. *Articles*

- On campaign launch and bi-weekly articles to feature Central Rapp native plants in newspapers and partner publications
- Offer to write an article in the Garden Club of Virginia's *Journal* outlining the work done in this area with native plants. Readership is 3300+ statewide. Can write it in terms of "here's what's been done in the coastal regions, and either jump on board if it comes to yours or think about doing something in your region (if no grant available).

D. *Website*

- To include overview of campaign, clear message, what is a Central Rapp native (downloadable regional guide as well as HTML searchable list), where to get natives (garden center partners and their inventories), where to see natives (demo gardens with Central Rapp native tagged with campaign plant ID markers).
 - Workgroup members: Tracy Blevins, Virginia Witmer

E. *Campaign Exhibit*

(an opportunity to ask for public pledges and commitments from exhibit visitors to plant just one native – How to do this? Perhaps signage on a banner, or leaf on a mural of native tree etc:)

- To be circulated to partners for use at public events and perhaps native plant sale days set-up at partner garden centers. To be ready for use at campaign launch

event in April. Can be printed and laminated at VA CZM office. Will need to purchase the hardware and set-up an exhibit schedule and check-out sheet. Plant NOVA Natives has a great example exhibit.)

E. *Scripted Campaign Presentation*

- To be given at partner membership events. (Plant NOVA Natives has a scripted presentation that can be used as a template.)

Possible events/meetings to give presentation:

Area garden clubs during 2017-2018

F. *Promote the Availability of the Flora of Virginia App*

- *this app should be available by the end of this year or early 2017*

G. *Sponsor free, public presentations by prominent authors such as Doug Tallamy and Claudia West*

H. *Inexpensive Give-Aways:*

- Native plant seed packets - from Burpee or partners collect seed from their plants - perhaps historic site? - and pack in small envelopes which allows us to add a sticker with the campaign logo.

“Public or Media Events”

A. *Campaign Launch*

- To be held in April 2017 in conjunction with Earth Day or local spring garden tour. Team will select a location which would allow an expansion of an existing landscape with native plants so that installation of the plants is a component of the event and local VIPs are invited to participate (photo op).
- Perhaps include appearance by John Clayton interpreter to tie into historical theme

B. *Partner Plant Sales*

- Set-up a plant sale with a participating center(s) to coincide with the campaign launch. Otherwise organize for a day in spring 2017. (Plant NNK Natives has been successful at setting these up and could share experience.)

Partner Plant Sales:

- Each spring, date varies, TCCSWCD has a native plant seedling sale with plant selection (often trees and shrubs). People place their orders in advance and the district brings the orders to local farmers’ markets for pick up.

C. *Garden Club Tour*

- Offer to place a display in one of the gardens of the homes listed on The Rappahannock Valley Garden Club's Historic Garden Week Tours in April of 2017 and 2018. Would encourage having someone there to talk with visitors.

“Demonstration Gardens”

(demonstrating a norm, visually conveying an incentive to plant)

Identify and vet existing gardens that showcase native plants and can be highlighted as places to see native plants in a landscape setting. List on campaign website and provide owners/managers with copies of the regional guide to distribute. Potential demonstration garden sites:

- University of Mary Washington
- Caroline County Planning Department

A. Plant ID Markers

- Label natives plants at the vetted demonstration sites so that natives are easily located and identified. Plant ID markers would include the campaign logo for further branding of the campaign. (These markers are used by other coastal regional native plant campaigns, and a template and vendor is available.)
 - Possible locations for marker installation:
 - Belmont (Gari Melchers), especially along their trails
 - Chatham
 - Hugh Mercer Apothecary garden

Community Leader Outreach Kit

(developing a community norm, using personal contact to reinforce norm)

- Provide every campaign planning team member with a kit of all the multi-media materials, including the scripted campaign PP and copies of the guide for distribution. (Plant NoVA Natives has put one together and we could look at what they offer.)

Guide Content Suggestions:

- Tear-out coupon(s) offered by a local vendor, perhaps for a seed packet or discount or 1 free plant or (or a blank “coupon” where partners could add a sticker with coupon info or their custom message)
- Tear-out card(s) people can give to vendors:
 - “I am interested in purchasing native plants and would greatly appreciate it if you would consider stocking more native plants. Thanks!”
 - “Please contact me, write in name, at write in phone or email when you stock name of native plant. Thanks!”
 - “Thanks for stocking native plants. I’ll be sure to let my friends know!”
- Tear-out planting guide that folds to pocket size (see Monterey Bay Aquarium’s guide to seafood) – perhaps plants sorted by color or bloom time or best for xxx-conditions?

- The CA Native Plant Society has a nice questionnaire to help people think through what kinds of plants they might want. We might consider including it as a worksheet.
- Kids page with a coloring page on one side and some activities on the other side (word puzzle, fun facts, matching)
- A page that's a grid that people can use to map out their garden plans. Or perhaps where they can create a plant shopping list. Shopping list might work nicely as a tear-out.
- Could we include a seed packet for an easy to grow native in the guide itself?