



STREAM HEALTH INITIATIVE

Phase II Proposals

Introduction

The fourteen proposals included in this report are based on the collaborative work of County staff, community members, and stakeholder groups and organizations over the course of the year. There are many other possible options; however, these were selected due to their positive impact on addressing the overarching project goal of improving stream health in the Rural Area, and each was determined to address one or more of the goals in the [Vision & Goals for Stream Health in our Community](#). The numbers associated with each proposal are for reference only and do not indicate prioritization.

Equity impacts were a consideration in proposal development discussions and are reflected in the structure and content of some of the proposals. A full equity impact assessment will be done prior to implementation of any of the projects or programs, utilizing the Equity Impact Assessment Framework developed by the Office of Equity and Inclusion.

Guide to the Proposals

Category

Proposals fall into one of three categories:

- Regulatory
- Incentives and Voluntary Opportunities
- Monitoring, Education, & Partnerships

Description

An overview of the proposed project, which may include background information, analysis, work items, and future next steps.

Anticipated Outcomes

A brief description of the likely results and potential impacts of the project.

Department and External Partners

Projects may include collaboration and support from multiple County departments and external partners. The departmental lead is listed first, followed by other departments and partners.

Existing Staff Time

Estimated number of hours needed for existing staff to develop or adopt the proposed project or program. This does not include ongoing time for implementation.

- Small = 0-80
- Medium = 80-320
- Large = >320



Long-Term Additional Staff

Estimated number of full-time equivalents (FTEs) required for long-term implementation and/or annual administration of the proposed project or program. Includes position type and estimated fully burdened cost where known.

Cost Estimate

Cost estimates are general ranges and do not consider outside funding sources (such as state funds, federal funds, or grants) that may reduce the project's cost to the County. Cost estimates do not include staffing-related costs.

- 0
- \$ = <50,000
- \$\$ - 50,000-100,000
- \$\$\$ = 100,000-500,000
- \$\$\$\$ = >500,000
- ↻ = recurring annual costs.

Realization Timeframe

Estimated number of years for program/project development once resources (staffing and/or funding) are in place.

Alignment

Illustrates overlapping goals, strategies, and recommendations from the Comprehensive Plan, Climate Action Plan, and Biodiversity Action Plan by showing relevant section numbers from each plan. A table showing the detailed descriptions of each numbered item is available at the end of this report for cross-referencing.

1

Stream Buffer Overlay District

Category: Regulatory

Description

Perpetual retention and management of stream buffers is a provision of the Chesapeake Bay Preservation Act and was required in Albemarle County's Water Protection Ordinance (WPO) prior to 2014, when the ordinance was updated to better align with the Virginia Stormwater Management and Erosion and Sediment Control programs. Although the requirement existed in the WPO prior to 2014, County staff did not have clear guidance or the capacity to enforce it.

Currently, the WPO only requires retention of vegetation and avoidance of impacts within stream buffers during a land disturbing activity (LDA). This proposal aims to reintroduce the requirement that stream buffers be retained irrespective of a LDA and in perpetuity following a LDA, while maintaining the existing exemptions outlined in the WPO for agriculture, forestry, and other limited land uses. The location and extent to which stream buffers are retained would be consistent with Sec. 17-600 of the WPO and illustrated as 'Water Protection Ordinance Buffers' in the County GIS.

Implementation of this proposal would involve:

- Creation of a Stream Buffer Overlay District within the Zoning Ordinance, to include permitted uses within the district and enable enforcement;
- Updating the language of the WPO to require buffer retention outside of a LDA, to align with the Zoning Ordinance and enable enforcement; and
- Development of clear standard operating procedures and enforcement guidelines for CDD staff.

Anticipated Outcomes

- Strengthening protection of a broad network of stream buffers throughout the County, providing for stream health, climate resiliency and wildlife habitat;
- Filtering nonpoint source pollution and helping minimize erosion and sedimentation beyond the timeframe of a land disturbing activity, contributing to addressing known impairments; and
- Providing clarity for both County staff and residents regarding specific uses that are permitted within stream buffers and ensuring that exemptions and allowances are narrowly tailored and well-defined.

DEPARTMENTS & EXTERNAL PARTNERS
Community Development
County Attorney's Office

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
1 FTE for enforcement in CDD:
Code Compliance Officer I - \$113,000

COST ESTIMATE (non-staff)
0

REALIZATION TIMEFRAME
1 year

ALIGNMENT

Comprehensive Plan
Natural Resources
1, 1a, 4, 6, 6a;
Historic, Cultural, and Scenic Resources
6, 9
Rural Area
2, 2i
Development Area
8, 8a

Climate Action Plan
L1.7, L1.13, L2.1

Biodiversity Action Plan
1.4, 14.1, 16.1

2

Strengthen Restoration & Mitigation Requirements

Category: Regulatory

Description

A review of the County’s existing requirements and guidelines has highlighted opportunities to strengthen and clarify standards for restoration and mitigation of regulated impacts to stream buffers. The primary instances when these standards apply include:

- When land use is converted from agriculture/forestry to development;
- For mitigation plans required due to anticipated impacts from a development or redevelopment project; and
- To address violations of the Water Protection Ordinance (WPO).

Requirements for restoration and/or mitigation depend on these circumstances, but also vary with the type of project, site characteristics, and the size and intensity of the impact. This proposal is focused on strengthening requirements and enforcement guidelines applicable in different scenarios by:

- Creating a comprehensive restoration and mitigation manual for Albemarle County; and
- Updating the Water Protection Ordinance to strengthen and clarify requirements and to refer to the manual for specific guidelines.

Several existing resources currently help inform the County’s standards, including the Virginia Department of Conservation and Recreation’s (DCR) [Riparian Buffers Modification & Mitigation Manual \(2003\)](#) and the [Virginia Conservation Assistance Program \(VCAP\) Implementation and Design Manual](#). However, creation of a single guidance document specific to the County would enable adoption of a comprehensive and up-to-date approach, and include standard operating procedures and workflow to guide County staff. The manual is proposed to be developed by a consultant, working collaboratively with County staff. Updates to the County Code will be completed by County staff.

Anticipated Outcomes

- Improving the County’s ability to address impacts to stream buffers by outlining best practices for restoration, as well as specific requirements and options for mitigation in Albemarle County; and
- Helping provide clarity on these standards and the circumstances in which they apply for landowners, developers, and County staff.

DEPARTMENTS & EXTERNAL PARTNERS
 Community Development
 Facilities and Environmental
 Services
 County Attorney’s Office

EXISTING STAFF TIME
 Small

LONG-TERM ADDITIONAL STAFF
 0

COST ESTIMATE (non-staff)
 \$

REALIZATION TIMEFRAME
 1-1.5 years

ALIGNMENT
 Comprehensive Plan
 Natural Resources
 1, 1a, 4, 6, 6a
 Historic, Cultural, and
 Scenic Resources
 6, 9
 Rural Area
 2, 2i
 Development Area
 8

Climate Action Plan
 L1.7, L1.13, L2.1

Biodiversity Action Plan
 1.4, 14.1, 16.1

3

Environmental Restoration ZTA

Category: Regulatory

Description

Environmental restoration projects are not currently permitted by the Zoning Ordinance, except when located within the Flood Hazard Overlay District (FHD). This may be an impediment to implementation of important restoration projects in other areas, such as along a headwater stream outside of the FHD. As a result, a zoning text amendment (ZTA) is proposed to clarify that environmental restoration projects, specifically stream mitigation and nutrient banks, are permitted by-right throughout the County, subject to consistent regulations for their review and approval.

Work items associated with this proposal include:

- Adopting a ZTA to clarify §30.3.11 of the County Code, which describes and permits 'environmental restoration projects' by-right within the Flood Hazard Overlay District, but does not specifically describe stream mitigation and nutrient banks;
- Adopting a ZTA to permit environmental restoration projects, specifically stream mitigation and nutrient banks, as a use permitted by-right in all zoning districts; and
- Developing regulations for their review and approval.

Anticipated Outcomes

- Removal of potential barriers for implementation of restoration projects;
- Clarified regulations for both County staff and residents;
- Increase in stream restoration projects, providing direct benefits for stream health and co-benefits such as climate resiliency and habitat; and
- Increased ability for mitigation to occur locally within the County.

DEPARTMENT & EXTERNAL PARTNERS
Community Development
County Attorney's Office

EXISTING STAFF TIME
Small

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (non-staff)
0

REALIZATION TIMEFRAME
0.25 years

ALIGNMENT
Comprehensive Plan
Natural Resources
1, 4, 6, 6a
Historic, Cultural, and Scenic Resources
6, 9
Rural Area
2, 2i
Development Area
8

Climate Action Plan
L.1.7, L.1.13

Biodiversity Action Plan
17.1

4

Sustainable Onsite Sewage Treatment Systems

Category: Incentives & Voluntary Opportunities / Regulatory

Description

Poorly maintained onsite septic systems are known to be one of the top contamination sources for local and regional water, including the Chesapeake Bay. Ground and surface water contamination from failing systems can have serious impacts on drinking water and public health, harm aquatic ecosystems, and present significant costs to property owners. Regular maintenance of existing systems can help prevent these negative outcomes.

There are over 32,000 onsite septic systems in the County. Standards exist for siting and approval by Virginia Department of Health (VDH) for new construction of onsite septic systems, and VDH has a tracking system for operation and maintenance of alternative systems. However, there are no regulations for long-term maintenance or sustainability of conventional systems.

This proposal is intended to address this issue through two work items:

- Provide financial assistance to low-income residents to help subsidize septic pump-outs, inspections, and system repairs; and
- Phase adoption of the provisions of the Chesapeake Bay Preservation Area Designation and Management Regulations (see Virginia Administrative Code §9VAC25-830-130 (7a), which require pump-outs for all systems at least once every five years (or documentation of inspection).

A financial assistance program for septic pump-outs and system repairs is currently provided through the Thomas Jefferson Soil and Water Conservation District (TJSWCD); however, it is only available periodically through grant funds from DEQ in TMDL watersheds. Scaling up the program to include broader, county-wide assistance is recommended prior to adoption of regulations.

Model ordinances exist throughout the Tidewater where the Chesapeake Bay Preservation Act is mandated, and in several western localities, such as the City of Harrisonburg and Loudoun, Clarke, and Franklin Counties.

Phased implementation over a 3-5 year period is recommended, to include:

- Establishment of the assistance program;
- Drafting of the new regulations, public hearing, and adoption;
- Hiring staff for initial outreach to landowners (to determine pump-out/inspection date for each system), data collection, and input;
- Development of an ongoing notification and tracking system, as well as guidelines to ensure compliance; and
- Staggered hiring of staff for intake, administration, and enforcement.

Anticipated Outcomes

- Protecting public health and drinking water;
- Preserving groundwater and stream health; and
- Helping residents avoid costly repairs that can result from neglect.

DEPARTMENT & EXTERNAL PARTNERS
 Community Development
 Facilities and Environmental Services
 County Attorney's Office
 VDH
 TJSWCD

EXISTING STAFF TIME
 Large

LONG-TERM ADDITIONAL STAFF
 4 FTEs in CDD for intake, administration, & enforcement. Position type and cost TBD.

COST ESTIMATE (non-staff)
 🔄 \$\$\$\$

REALIZATION TIMEFRAME
 3-5 years

ALIGNMENT
 Comprehensive Plan
 Natural Resources
 1, 1a, 1d, 4, 6a
 Rural Area
 2
 Development Area
 8
 Climate Action Plan
 L.1.7, L.2.3

Development Phase Carryover Items

Category: Regulatory

Description

In the July 15, 2020 Stream Health Work Session (Development Focus), three proposals were supported by the Board but delayed due to staffing needs. This proposal outlines these proposals for reconsideration at this time. Amendments to the WPO have been drafted and staff are ready to finalize the proposals and schedule a public hearing, pending approval of the staffing request.

i) Incremental Development {See Phase I (Development Focus) Proposal #5}

The intent of this proposal is to address land disturbance activities on individual parcels where phased disturbances are less than 10,000 square feet (sf) but cumulatively exceed 10,000 sf. The Board has expressed strong support for implementing the Greene County policy, which requires permitting when performing a land disturbing activity on previously developed parcels, regardless of the size of the disturbed area. To reduce the burden this proposal would have on staff and the community, an agreement in lieu of a plan for cumulative disturbances up to the 10,000 sf threshold is proposed. A plan would be required for cumulative disturbances that exceed 10,000 sf.

ii) 2-layer Erosion & Sediment Control (ESC) measures {See Phase I (Development Focus) Proposal #A1}

This proposal would require two-layered perimeter control measures where land disturbances occur within two-hundred feet of a stream or wetland. Control measures could include the installation of two layers of silt fence (or a diversion dike and silt fence) around the perimeter of a land disturbance. The intent of this requirement is to increase protection of streams, wetlands, and waterways from sedimentation. This proposal may increase development costs.

iii) 25% improvement factor {See Phase I (Development Focus) Proposal #A3}

This proposal is to require a 25% improvement factor for erosion and sediment control measures when projects are located within a watershed with an approved sediment TMDL. The intent of this requirement is to increase efficiencies of on-site ESC measures and help address the County's sediment TMDL streams. This proposal may increase development costs.

Anticipated Outcomes

- Improving protection of our waterways by strengthening the Water Protection Ordinance; and
- Reducing construction-related impacts on stream health and water quality through additional or enhanced erosion and sediment control measures.

DEPARTMENTS & EXTERNAL PARTNERS
Community Development
County Attorney's Office

EXISTING STAFF TIME
Small

LONG-TERM ADDITIONAL STAFF
2 FTEs in CDD for plan review and enforcement, and to provide support to help meet the requirements of the VESCP and VSMP programs:
Civil Eng. I - \$98,000
Eng. Inspector II - \$117,000

COST ESTIMATE (non-staff)
0

REALIZATION TIMEFRAME
0.5 years

ALIGNMENT
Comprehensive Plan
Natural Resources
1, 1a, 4, 6a
Historic, Cultural, and Scenic Resources
6, 9
Rural Area
2
Development Area
8
Climate Action Plan
L.1.7
Biodiversity Action Plan
14.1, 16.1

6

Land Conservation for Water Quality

Category: Incentives & Voluntary Opportunities

Description

Conservation easements, voluntary agreements that permanently protect natural resources, rural land uses, and the scenic beauty of the Rural Area, are one of the most effective conservation tools available. Provisions to protect stream health are typically included; however, there are opportunities to increase and strengthen them (such as requiring protection of intermittent streams). Because easement acquisition has historically been largely opportunistic, a shift towards focusing on high priority geographic areas for conservation may prove to be a more direct and impactful approach.

The purpose of this proposal is to achieve direct, strategic, and perpetual protection of vulnerable streams and high-quality buffers, by augmenting the County's existing land conservation programs to 1) enable acquisition of new riparian buffer easements; and 2) strengthen water quality protection provisions of new and existing whole property easements. Easement are often donated; however, establishing a funding mechanism to support the program (as described in Proposal 7) would incentivize participation, increasing the program's effectiveness and accessibility. Work items include:

Program Development

- Development of program goals, procedures, and acceptance guidelines;
- A GIS analysis to identify high priority geographic areas for conservation and to prioritize unprotected stream reaches within them; and
- Deed research, using the Department of Conservation and Recreation's easement database, to identify existing easements with opportunities to strengthen protection of stream health.

Program Implementation

- Outreach to existing easement landowners to encourage amendments with stronger water quality provisions, such as expanded buffer widths, intermittent stream buffers, livestock exclusion, and other BMPs; and to further reduce development potential where possible;
- Outreach to new landowners in priority areas to encourage new buffer easements, or new whole property easements that protect streams; and
- Program administration, including negotiating easement terms, drafting, legal review, and recordation.

Anticipated Outcomes

- Establishing a network of permanently protected vegetated buffers on the landscape, protecting streams from sedimentation and nutrient impacts;
- Contributing to the County's goals of climate resiliency, through carbon storage and flood mitigation;
- Protecting biodiversity, by providing wildlife corridors and supporting natural vegetation and aquatic habitat; and
- Protecting the scenic beauty and character of the Rural Area.

DEPARTMENTS & EXTERNAL PARTNERS
Community Development
County Attorney's Office

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF

1 FTE for in CDD for outreach, stewardship, monitoring, and increasing capacity to support the County's existing land conservation programs.
Planner - \$85,000

COST ESTIMATE (non-staff)
0

REALIZATION TIMEFRAME
1 year

ALIGNMENT

Comprehensive Plan

Natural Resources
1, 4, 6, 6a

Historic, Cultural, and Scenic Resources
6, 6a, 9

Rural Area
2, 2b, 2d, 2e, 2f, 2i, 7, 7a

Climate Action Plan

L.1.1, L.1.3, L.1.5, L.1.6,
L.1.7, L.1.13, L.2.3, L.2.6,
L.3.1, L.3.2

Biodiversity Action Plan

1.1, 1.2, 1.3, 1.4, 1.6, 1.7,
2.1, 2.2, 2.3, 5.1, 5.2, 5.3

7

Riparian Conservation Assistance Program

Category: Incentives & Voluntary Opportunities

Description

The purpose of this proposal is to establish a mechanism to prioritize and fund permanent conservation of the highest-value riparian areas in the County. This program would utilize an equitable approach by scaling the level of support according to the financial need of the property owner. By using a targeted and strategic system to identify and prioritize projects with the greatest conservation value, this program would also maximize the County's investment in conservation.

With this program, funding may be provided for:

- Partial purchase of new riparian easements, whole property easements, and easement amendments, as described in Proposal 6; and/or
- Transactional costs, such as appraisals, legal fees, and surveys.

Transactional costs are a major barrier for many landowners to participating in conservation easement programs. Recognition of this issue has spurred other organizations to have similar programs established. Two examples that could serve as a model are [Loudoun County's Conservation Easement Assistance Program](#) and the Virginia Outdoors Foundation's Preservation Trust Fund [Easement Assistance Grants](#). Both of these programs provide assistance to landowners with demonstrated financial need, and encourage conservation projects where they would not otherwise be possible.

To maximize water quality benefits and select projects with the highest conservation value, establishment of criteria and process for ranking, scoring, and prioritization is recommended, including:

- A GIS analysis to prioritize geographic areas that help protect the public water supply, improve water quality, and/or provide important benefits for conservation and connectivity; and
- A scoring system to provide additional priority to projects based on the length of stream protected, and inclusion of other provisions that strengthen protection of water quality, such as expanded buffer widths, intermittent stream buffers, livestock exclusion, and other BMPs.

Anticipated Outcomes

- Development of an equitable and accessible program that would enable broad participation by rural landowners; and
- Achieving permanent land conservation with a focus on water quality, that helps provide protection for stream health, increase climate resiliency, support biodiversity, and protect scenic resources.

DEPARTMENTS & EXTERNAL PARTNERS
Community Development
County Attorney's Office

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
0 - With the 1 FTE recommended in Proposal 6, the land conservation staff would have the capacity to administer this program.

COST ESTIMATE (non-staff)
\$\$\$

Amount allocated annually would determine the number and scale of projects. Grant opportunities are available to leverage County resources.

REALIZATION TIMEFRAME
1 year

ALIGNMENT
Comprehensive Plan
Natural Resources
1, 4, 6, 6a
Historic, Cultural, and Scenic Resources
6, 6a, 9
Rural Area
2, 2b, 2d, 2e, 2f, 2i, 7, 7a

Climate Action Plan
L.1.1, L.1.3, L.1.5, L.1.6,
L.1.7, L.1.13, L.2.3, L.2.6,
L.3.1, L.3.2

Biodiversity Action Plan
1.1, 1.2, 1.3, 1.4, 1.6, 1.7,
2.1, 2.2, 2.3, 5.1, 5.2, 5.3

Stability for Agricultural Cost-Share Programs

Category: Incentives & Voluntary Opportunities

Description

This proposal is designed to support and expand voluntary cost-share programs that incentivize the use of conservation best management practices (BMPs) on agricultural properties. Staff from the Thomas Jefferson Soil and Water Conservation District (TJSWCD) administer the state-funded agricultural cost-share programs available in the County. Recruiting farmers to adopt BMPs requires knowledgeable staff who can develop relationships, establish trust, and share their expertise through personalized site visits. This level of service can only be achieved with enough highly skilled agricultural conservation specialists to meet the demand. Unfortunately, in many years, funding from the state to support SWCD personnel costs falls short, limiting what can be accomplished. Recognizing a need for additional staff support for the agriculture program, in FY20 the County provided a one-time contribution of \$60,000 to help support a position at TJSWCD. That year, \$1.39 million in state cost-share funding was allocated to conservation practices on Albemarle County farms. However, the staff support was not established as a long-term arrangement or renewed. Providing stable annual funding to support highly-skilled TJSWCD staff to administer and grow the agricultural cost-share incentive programs would protect stream health by increasing implementation of BMPs on agricultural lands, and strengthen the ability to leverage state funds for these programs.

Anticipated Outcomes

- Higher enrollment in agricultural cost-share programs and increased implementation of agricultural BMPs;
- Reduced sediment, nutrient, and/or bacteria inputs into waterways from agricultural operations;
- Improved vegetation cover in riparian corridors and uplands;
- Additional ecosystem services (e.g., habitat, carbon sequestration);
- Stronger leveraging of state funds; and
- Accelerated progress toward meeting Virginia's Chesapeake Bay TMDL pollutant reduction targets, as well as local TMDL targets.

DEPARTMENTS & EXTERNAL PARTNERS
Facilities & Environmental Services
TJSWCD

EXISTING STAFF TIME
Small

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (non-staff)
🔄 \$\$

REALIZATION TIMEFRAME
Immediate

ALIGNMENT

Comprehensive Plan
Natural Resources
1, 4, 6
Historic, Cultural, and Scenic Resources
6a
Rural Area
2, 7a

Climate Action Plan
L.1.6, L.1.13, L.2.3, L.3.1, L.5.6

Biodiversity Action Plan
1.1, 1.2, 1.3, 14.3, 15.1

9

Leverage Agricultural BMP Incentives

Category: Incentives & Voluntary Opportunities

Description

State cost-share funding incentivizes adoption of conservation best management practices (BMPs) on agricultural properties. In the County, those financial incentives are administered by the Thomas Jefferson Soil and Water Conservation District (TJSWCD).

With a specific eye toward improving the health of streams that flow through farmlands in the County, this proposal is to provide annual funding for agricultural BMPs to maximize the impact of available state funding. With these funds, the TJSWCD could 1) attract more farmers to participate in the agricultural cost-share programs; 2) increase the number, scope, and impact of BMPs installed and adopted; and/or 3) improve the longevity of existing BMPs.

The levels of cost-share funding available from the state program for each specific agricultural BMP can vary from year-to-year. The proposed County funds could help strategically fill gaps in the state cost-share program to address the most critical needs in a given year. Examples include:

- Excluding livestock from streams;
- Establishment and protection of wider stream buffers;
- Tree plantings in buffer zones;
- Equine/horse operation BMPs; and
- Re-enrollment for maintaining existing BMPs.

Anticipated Outcomes

- Stronger leveraging of state funds to implement more agricultural conservation projects in the County;
- Reduced sediment, nutrient, and/or bacteria inputs into waterways from agricultural operations;
- Improved vegetation cover in riparian corridors and uplands;
- Additional ecosystem services (e.g., habitat, carbon sequestration); and
- Accelerated progress toward meeting Virginia's Chesapeake Bay TMDL pollutant reduction targets, as well as local TMDL targets.

DEPARTMENTS & EXTERNAL PARTNERS
 Facilities & Environmental Services
 Community Development
 TJSWCD

EXISTING STAFF TIME
 Medium

LONG-TERM ADDITIONAL STAFF
 0.25 FTE in FES. Position type and cost TBD.

COST ESTIMATE (non-staff)
 \$\$\$

REALIZATION TIMEFRAME
 0.5 Year

ALIGNMENT

Comprehensive Plan
 Natural Resources
 1, 4, 6
 Historic, Cultural, and Scenic Resources
 6a
 Rural Area
 2, 7a

Climate Action Plan
 L.1.6, L.1.13, L.2.3, L.3.1, L.5.6

Biodiversity Action Plan
 1.1, 1.2, 1.3, 14.3, 15.1

Expand Albemarle Conservation Assistance Program (ACAP)

Category: Incentives & Voluntary Opportunities

Description

The Albemarle Conservation Assistance Program (ACAP) serves as an incentive to construct features that reduce stormwater pollution to streams and/or enhance native wildlife habitat on residential and other developed lands. ACAP supplements the Virginia Conservation Assistance Program (VCAP), which the Thomas Jefferson Soil and Water Conservation District (TJSWCD) has administered locally for multiple years. Funded projects include rain gardens, native plant landscape beds, meadows, permeable pavement, and other types of conservation practices.

For the first two years of ACAP's existence (FY20 and FY21), the County allocated \$32,000 annually to the program. During that time, 20 new conservation projects with a total value of nearly \$150,000 were established in the County through a combination of VCAP, ACAP, and landowner contributions. In addition to the financial assistance, the program provides extensive technical assistance to landowners.

The TJSWCD reports that even in this early stage of ACAP (which has been "advertised" very little), demand has far exceeded the amount of cost-share funding available through the program. To bridge that gap and work towards increasing residential stormwater management and other conservation projects in the County, this proposal recommends an increase to ACAP funding as early as FY23, followed by incremental increases in funding for each subsequent year.

Anticipated Outcomes

- Stronger leveraging of state funds to implement more residential conservation projects in the County;
- Reduced sediment, nutrient, and/or bacteria inputs into County waterways from non-agricultural properties;
- Improved vegetation cover in riparian corridors and uplands;
- Additional ecosystem services (e.g., habitat, carbon sequestration); and
- Accelerated progress toward meeting Virginia's Chesapeake Bay TMDL pollutant reduction targets, as well as local TMDL targets.

DEPARTMENTS & EXTERNAL PARTNERS
Facilities & Environmental Services
TJSWCD

EXISTING STAFF TIME
Small

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (non-staff)
🔄 \$\$

REALIZATION TIMEFRAME
0 years

ALIGNMENT
Comprehensive Plan
Natural Resources
1, 1d, 4, 6
Historic, Cultural, and Scenic Resources
6a
Rural Area
2

Climate Action Plan
L.1.7, L.2.3

Biodiversity Action Plan
1.1, 1.2, 1.3, 3.4, 14.3

11

Low Impact Development Study

Category: Incentives & Voluntary Opportunities

Description

Low-impact development (LID) is an approach that uses or mimics natural processes to manage stormwater as close to its source as possible. The intent is to reduce the impact of built areas and promote the natural movement of water across the landscape, helping to protect water quality and aquatic habitat, as well as mitigate major flood events. LID typically involves preserving and recreating natural features and minimizing imperviousness with practices such as bioretention facilities, rain gardens, and permeable pavements. The purpose of this proposal is to explore options to increase implementation of LID practices in the County through regulatory, incentive-based, and/or educational opportunities.

This work will initially involve:

- Conducting a code and ordinance review to identify areas where current language may discourage or inhibit LID; and
- Exploring the pros/cons and applicability of low impact development in the context of existing County codes, design standards, and state stormwater management regulations.

Future next steps might involve:

- Engaging community stakeholders to help identify:
 - Existing barriers (e.g. cost, risk, maintenance, loss of development area, time, complexity); and
 - Potential opportunities (e.g. incentives that might motivate/encourage implementation);
- Updating policies, developing guidance documents, and adopting ordinance changes to allow, encourage, or potentially require LID under certain circumstances; and
- Developing incentives to encourage implementation of LID for existing subdivisions, new development, or redevelopment.

Anticipated Outcomes

- Broad mitigation of impacts from stormwater runoff in the County;
- Better stormwater management, which can provide a wide range of benefits for stream health, including filtering pollutants, reducing flood impacts, minimizing erosion, and allowing for groundwater recharge; and
- Increased utilization of native plants in developed areas, providing habitat for birds and pollinators, as well as climate-related co-benefits such as carbon sequestration and mitigation of the urban heat island effect.

DEPARTMENTS & EXTERNAL PARTNERS
Community Development
Facilities and Env. Services
County Attorney's Office
Communications and Public
Engagement

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (non-staff)
0

REALIZATION TIMEFRAME
1-2 years

ALIGNMENT
Comprehensive Plan
Natural Resources
1, 1a, 4, 6
Historic, Cultural, and
Scenic Resources
6, 9
Rural Area
2
Development Area
8

Climate Action Plan
L.1.7, L.1.13, L.2.1, L.2.6

Biodiversity Action Plan
16.4

Stream Quality Assessment Program

Category: Monitoring, Education, and Partnerships

Description

There is broad community interest and support for increasing our knowledge of the status of the County's waterways. Throughout the course of this project, a high number of requests from residents for site specific assessments of waterways on their properties have been received. This presents an opportunity to increase stream health and water quality data while simultaneously providing a service to landowners. This proposal is to develop and fund a County-wide stream quality assessment program. Each assessment would likely involve an evaluation of aquatic insect populations in the stream channel and the quality of the riparian buffer zone, as well as recommendations for improvements. In addition to educating landowners, these assessments could serve as a screening tool to identify new long-term monitoring sites or priority restoration projects.

The Rivanna Conservation Alliance's (RCA) current water monitoring programs provide high quality and long-term stream health data within the Rivanna River watershed. Building on this expertise, RCA has indicated a willingness to develop and lead this new program County-wide, in coordination with County staff. A phased approach is recommended, which may include:

- Developing stream assessment protocols and piloting the program with a small number of landowners;
- Refining protocols and training RCA volunteers to help conduct site visits; and
- Scaling-up the number of site visits (~25 per year) and "opening" requests to landowners throughout the County.

Anticipated Outcomes

- More data available for assessing stream health, identifying monitoring and reference sites, and identifying restoration needs;
- Providing an educational opportunity to landowners, which may ultimately contribute to land and water stewardship actions.

DEPARTMENTS & EXTERNAL PARTNERS
Facilities & Environmental Services
Rivanna Conservation Alliance

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (*non-staff*)
🕒 \$

REALIZATION TIMEFRAME
0.5 - 1 years

ALIGNMENT
Comprehensive Plan
Natural Resources
1d
Rural Area
7, 7a
Climate Action Plan
L.1.6, L.2.1, L.2.3, L.5.6
Biodiversity Action Plan
3.3, 3.4, 14.3

13

New Landowner Education Project

Category: Monitoring, Education, & Partnerships

Description

The purpose of this project is to expand and formalize a new landowner education project, to help inform new landowners of cost-share, conservation, and stewardship opportunities available in the County. This project would employ a multi-pronged approach to outreach, which may include:

- Utilizing GIS to identify parcels and new landowners within the highest priority geographic areas for water quality protection and conservation;
- Direct outreach to new landowners to provide an information packet with curated information and educational resources;
- Creating and updating digital resources on the County’s website to provide:
 - A central hub for citizens to learn about environmental stewardship, landowner opportunities, and local programs; and
 - An updated new resident guide that includes a section on environmental stewardship;
- Distribution of a general mailing with a QR code or web address to direct County residents to the website resources; and
- Exploring development of new landowner workshops in partnership with local conservation organizations.

Anticipated Outcomes

- Increasing awareness of available opportunities and resources for conservation and restoration practices, especially in high priority areas;
- Increasing conservation and stewardship of the natural landscape, with a focus on improving stream health, while simultaneously contributing to the County’s climate and biodiversity conservation goals.

DEPARTMENTS & EXTERNAL PARTNERS

Community Development

Facilities & Environmental Services

Communications and Public Engagement

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (non-staff)
🔄 \$

REALIZATION TIMEFRAME
1 year

ALIGNMENT

Comprehensive Plan

Natural Resources
1d,

Historic, Cultural, and Scenic Resources
6a

Rural Area
2 2b, 2d, 2i, 7, 7a

Climate Action Plan

L.1.3, L.1.6, L.1.11, L.2.1, L.2.3, L.3.1, L.3.2, L.5.6

Biodiversity Action Plan

1.6, 1.7, 2.1, 3.2, 3.3, 3.4, 5.1, 5.2, 5.3, 14.2, 14.3, 15.1, 20.2, 20.4, 20.6

Expand Watershed Education in Schools

Category: Monitoring, Education, and Partnerships

Description

Public feedback during the Stream Health Initiative has included broad support for increasing education opportunities that can help raise the “stream health IQ” of County residents, especially for younger generations. The purpose of this proposal is to integrate into the curriculum, schedule, and budget a hands-on watershed science field experience for every 6th grade student in each of the five public middle schools.

For many years, County students have attended a field trip to the Moorman’s River at Camp Albemarle in 4th grade, where they are introduced to topics such as stream health, pollution, and aquatic insects. This long-standing program is organized and staffed by TJSWCD with support from Rivanna Master Naturalists volunteers and is funded by both Albemarle County Public Schools (ACPS) and FES’ water resources program. Virginia Standards of Learning call for 6th grade science curricula to cover the topic of watersheds (SOL 6.7); this proposed program would support this standard while simultaneously reinforcing and building upon the concepts introduced in 4th grade.

This proposed 6th grade watershed education program would involve in-classroom instruction, a field trip, an “action project” (such as tree planting) for students to apply watershed protection concepts they have been taught. Students will explore a stream near their school, adding a place-based element to what is currently taught in the curriculum. The program would require a multi-partner effort, with Rivanna Conservation Alliance (RCA) as lead coordinator and community volunteers assisting with field activities. In recent years, RCA has been providing similar educational activities in Burley, Jack Jouett, and Walton Middle Schools, and is eager to offer these opportunities for all of the County’s 6th graders. In early discussions, ACPS’s Lead Coach for Science expressed support for this proposal.

Anticipated Outcomes

- Meaningful, place-based watershed educational experiences for every 6th grade student in the County (over 1000 students a year), kindling a sense of curiosity and stewardship; and
- Opportunities for community volunteers to share their knowledge of and love for stream health with younger generations.

DEPARTMENTS & EXTERNAL PARTNERS
Facilities & Environmental Services

ACPS
RCA

EXISTING STAFF TIME
Medium

LONG-TERM ADDITIONAL STAFF
0

COST ESTIMATE (*non-staff*)
\$

REALIZATION TIMEFRAME
1 Year

ALIGNMENT
Comprehensive Plan
Natural Resources
1d
Rural Area
7

Climate Action Plan
L.1.6, L.2.3

Biodiversity Action Plan
3.3

STREAM HEALTH INITIATIVE

Alignment with other County Plans

Comprehensive Plan
Natural Resources
Objective 1: Ensure clean and abundant water resources for public health, business, healthy ecosystems, and personal enjoyment by preventing shortages and contamination.
Strategy 1a: Continue to apply the Watershed Protection Ordinance throughout the County to help protect and preserve water resources.
Strategy 1d: Educate the public on how they can help with water resource protection.
Objective 4: Protect the biological diversity and ecological integrity of the County in both the Rural Area and Development Areas.
Objective 6: Retain and improve land cover near rivers and streams and protect wetlands.
Strategy 6a: Continue to use the Water Protection Ordinance, critical slopes regulations, and other measures to preserve designated river and stream valleys in their natural state, to protect significant resources associated with river and stream valleys, and to provide buffer areas.
Historic, Cultural, and Scenic Resources
Objective 6: Continue to protect and enhance scenic resources for residents and tourists.
Strategy 6a: Continue to promote voluntary measures to protect for scenic resources.
Objective 9: Protect the scenic quality of Albemarle's streams.
Rural Area
Objective 2: Protect and preserve natural resources, which include mountains, hills, valleys, rivers, streams, groundwater, and continuous and unfragmented land for agriculture, forestry, biodiversity and natural resource protection.
Strategy 2b: Provide information to property owners in the Rural Area on alternatives to subdividing their land, including donating conservation easements and use value taxation.
Strategy 2d: Continue to promote conservation easements to provide a financially attractive way for landowners to protect family farms in Albemarle County and their unique open space resources, to provide an opportunity for landowners to voluntarily sell a conservation easement to a public agency to be held in trust for perpetuity, and to preserve important features of the Rural Area for all.
Strategy 2e: Strengthen the Acquisition of Conservation Easements (ACE) Program by providing a stable dedicated funding source and staff resources for administering the program.
Strategy 2f: Continue to provide staff support to the Public Recreational Facility Authority (PRFA).
Strategy 2i: Encourage connectivity of conservation land wherever feasible.
Objective 7: Provide information to citizens so they are well-informed and understand the cultural, economic, and ecological aspects of the Rural Area.
Strategy 7a: Inform existing property owners, realtors, and prospective property owners in the Rural Area that the Rural Area is not intended for residential development. Instead, emphasis is placed on stewardship of the land, retaining agricultural and forestal activities, protecting natural resources and maintaining unfragmented land to protect biodiversity.
Development Area
Objective 8: Preserve natural systems which are shown for preservation on Master Plan Land Use Plans.
Strategy 8a: Continue to provide detailed information on elevation, steep slopes, streams, stream buffers, floodplain, and wooded areas through the County's Geographic Information System (GIS) on-line database and share this information with property owners and developers
Strategy 8b: Review new State and federal water resource protection requirements for consistency with County stream buffer regulations in the Development Area. If necessary, update County stream buffer regulations for intermittent streams and modify Master Plans accordingly.

STREAM HEALTH INITIATIVE

Alignment with other County Plans

Climate Action Plan
<i>Landscape, Natural Resources, And Agriculture</i>
L.1.1: Maintain and increase the County’s land-conservation programs and related efforts, with a focus on keeping large forested properties intact and in forested land cover, to protect and increase carbon sequestration, as well as to protect water quality and habitat.
L.1.3: Connect landowners with existing funding sources, conservation assistance programs, and succession planning resources to minimize parcelization and fragmentation of farms and forested properties.
L.1.5: Include the carbon trapping potential of land as part of the ranking methodology for the County’s Acquisition of Conservation Easements (ACE) program, and offer additional points for landowners willing to commit to carbon-informed land management.
L.1.6: Provide general educational resources for landowners regarding the benefits of protecting, restoring, and appropriately managing natural areas.
L.1.7: Assess the feasibility of new programs or ordinances to further incentivize natural resource protection, restoration, and management.
L.1.11: Promote small forests (“Victory Forests”) instead of lawns on large lot subdivision parcels and other large rural residential parcels. Ensure equitable access for property owners of a full range of incomes and property sizes.
L.1.13: Incentivize and support the protection, enhancement, and restoration of vegetated riparian buffers and wildlife habitat corridors for multiple benefits, including carbon sequestration.
L.2.1: Promote the use of trees, shrubs, rain gardens, and native meadows in lieu of turf grass in landscape design and property management; encourage native species for additional benefits.
L.2.3: Provide education, resources, and assistance to landowners.
L.2.6: Reduce paved/impervious surfaces to mitigate heat islands.
L.3.1: Provide education, resources, assistance, and incentives to property owners and agricultural producers regarding rotational grazing methods, cropland management, agroforestry, and other best management practices that both improve soil health and increase carbon sequestration.
L.3.2: Encourage and incentivize retention of forest cover and carbon-informed management of managed forestland.
L.5.5: Continue to fund the Albemarle Conservation Assistance Program to provide support to residents for carbon-sequestration projects and other environmental improvement projects on residential land.
L.5.6: Provide information resources for County residents on land management techniques and tree-species selection for successful carbon sequestration.

Biodiversity Action Plan
1.1: Develop strategies to conserve and protect lands in the conservation focus areas.
1.2: Use existing conservation tools (e.g. conservation easements) to protect lands in the conservation focus areas, where possible.
1.3: Take appropriate actions to conserve and protect the high priority Important Sites identified in Appendix C.
1.4: Use existing conservation tools and develop strategies to protect lands that can serve as habitat corridors or connections among important habitat areas.
1.6: Educate and inform landowners about the conservation value and importance of conserving Important Sites, with special focus on the high priority sites.
1.7: Educate and inform the public about the conservation value and importance of conserving lands in the three conservation focus areas.
2.1: Promote the county’s ACE and PRFA conservation easement programs. Promote and support conservation easement programs of other organizations.
2.2: Revise ACE and PRFA easement-acceptance criteria to reflect biodiversity values and conservation needs. Incorporate data from this report and the NHC in assessing biodiversity values.
2.3: Ensure that all easements held by the county include terms that protect specifically identified biodiversity and other natural resources identified on the property.

STREAM HEALTH INITIATIVE

Alignment with other County Plans

Biodiversity Action Plan (cont.)
3.2: Contact the landowners of Important Sites throughout Albemarle County to educate and inform them of the biodiversity resources on and near their property. Develop relationships and encourage conservation of the land.
3.3: Conduct landowner workshops and other events aimed at educating target audiences and the general public and promoting conservation.
3.4: Serve as an information source and clearinghouse for landowners. Promote conservation efforts on the part landowners and the general public.
5.1: Target areas containing large forest blocks and promote their protection through conservation easements and other habitat protection tools.
5.2: Target areas of forested and other habitat corridors connecting large forest blocks and promote their protection.
5.3: Promote protection of forested and other habitat corridors with road and waterway crossings favorable to animal movements and prioritize these corridors for conservation.
14.1: Upon completing a review of current stream buffer rules, the county should strengthen stream buffer requirements.
14.2: Inform and educate landowners about the county's buffer regulations. Ensure that landowners who convert land from agriculture or forestry to a different land use are informed.
14.3: Educate the public on the value of stream buffers. Promote and support existing cost-share programs for buffers and livestock exclusion from streams. Promote locally native riparian plantings on non-agricultural lands through VCAP and other programs.
15.1: Educate landowners regarding cost share programs to create wetland buffers and exclude livestock from them.
16.1: Establish protection standards for urban streams.
16.4: Develop policies that encourage protection of existing natural streams and wetlands rather than the construction of stormwater facilities.
17.1: Allow Nutrient Banks and Wetland Mitigation banks as by-right uses adjoining the Rivanna River.
20.2: Create and assemble documents from other sources and develop mechanisms for the dispersal of information on biodiversity education topics
20.4: Create and distribute an informational flyer, to be mailed with tax bills, that provides simple landowner tips that promote biodiversity, best stewardship practices, and includes a link to the county's Natural Heritage web page.
20.6: Create and disperse a welcome package for new landowners with information about best practices for enhancing biodiversity on their property and opportunities for placing property in a conservation easement.