

Carbon Co-Benefits from Implementing the Commonwealth's Phase III WIP

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SIGNIFICANT CONTRIBUTIONS BY ARIANNA JOHNS



WIP III Background

On August 23, 2019 Virginia released its Chesapeake Bay TMDL Phase III Watershed Implementation Plan

- Culmination of 2 year planning effort
- Plan for BMPs to reduce Nitrogen and Phosphorus by 2025
- Local Engagement
 - 95 Local Governments,
 - 15 Planning District/Regional Commissions
 - 32 Soil and Water Conservation Districts
- Account for the load impacts of Growth and Climate Change through 2025
- Practice selection focused on Cost-Effectiveness and Co-Benefits

COMET-Farm

- CarbOn Management & Emissions Tool (COMET)
 - Online carbon-capture calculator
 - Estimates the environmental benefits associated with conservation practices
 - Farm Scale - uses spatially-explicit data on climate and soils
 - Uses NRCS best management practices
- Developed by USDA in partnership with Colorado State University
 - Dr. Adam Chambers

Additional Assumptions

- Utilized COMET model BMP data
- Averaging to County scale
- Bay BMP designations to NRCS Practices
- Calculations
 - Soil Carbon (Soil Health & Climate Resiliency Co-benefits)
 - CO₂e Sequestration (Climate Mitigation Co-benefits)

Best Management Practices Included

Cover Crops

Tillage Management

Prescribed Grazing

Soil Conservation Plans

Tree Planting

Land Retirement to Ag Open Space

Riparian Forest Buffers

Riparian Grass Buffers

Urban Tree Planting-Canopy

Urban Forest Planting

Wetland Restoration

Living Shorelines

Carbon Co-Benefit Estimates

Estimates of CO₂e and Soil Carbon are available

- by Year 2009-2019 and WIP III 2025 (2020 under development)
- by Practice
- by Bay Watershed County

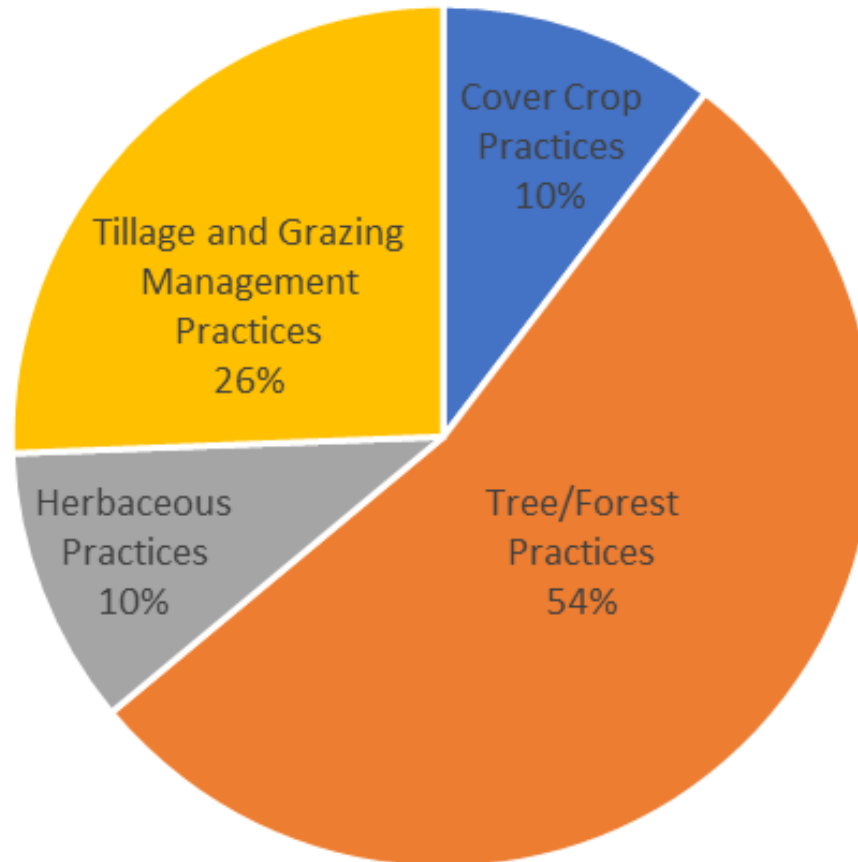
Practices verified to be on the ground in 2019

- About 1M acres of implemented BMPs
- 442,803 Tons CO₂e Sequestered
 - 70,241Tons Soil Carbon Added

In 2025 with full implementation of the WIP III

- About 2.9M acres of planned BMPs
- 2,011,195 Tons CO₂e Sequestered
 - 228,094 Tons Soil Carbon Added

WIP III Carbon Sequestered by Practice Type



Carbon Co-Benefits in Context

What is 2 Million Tons of CO₂e?

- 1.5% of greenhouse gas emissions in Virginia (2014 estimate)
- 4% of transportation generated CO₂ emissions in Virginia (2018 estimate)
 - Equivalent of about 400,000 cars off of the road for a year
- Growing 33 million tree seedlings for 10 years
 - About 4 trees per person in the Commonwealth

Carbon Co-Benefits from Implementing the Commonwealth's Phase III WIP

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Virginia Community Flood Preparedness Fund

April 29, 2021

Joshua Saks

Commonwealth of Virginia

Virginia Community Flood Preparedness Fund

Statutory Requirements for the Fund (§ 10.1-603.25)

All expenditures from the fund will be guided by these specific statutory requirements:

1

Moneys in the Fund shall be used solely for the purposes of enhancing flood prevention or protection and coastal resilience.

2

Priority shall be given to projects that implement community-scale hazard mitigation activities that use nature-based solutions to reduce flood risk.

3

No less than 25 percent of the moneys disbursed from the Fund each year shall be used or set aside for projects in low-income geographic areas.

4

Localities shall use moneys from the Fund primarily for the purpose of implementing flood prevention and protection projects and studies in areas that are subject to recurrent flooding as confirmed by a locality-certified floodplain manager.



The Community Flood Preparedness Fund

The Virginia Community Flood Preparedness Fund will provide support for regions and localities across Virginia to reduce the impacts of flooding, including flooding driven by climate change. The Fund will prioritize projects that are in concert with local, state and federal floodplain management standards, local resilience plans and the Virginia Coastal Resilience Master Plan. The Fund will empower communities to complete vulnerability assessments and develop and implement action-oriented approaches to bolster flood preparedness and resilience.

Program Goal

The Community Flood Preparedness Fund

Grant Award Criteria

Timing

The Fund will hold two grant rounds per year. The Round 1 application window will run from April 1- June 1, with August grant awards. Round 2 will run from August 1-December 1 with December grant awards.

Eligible Entities

The following entities may apply for grants from the Fund

Localities

PDCs (on behalf of localities)

Soil and Water Conservation Districts

Tribal Governments

Application Process

To be determined by annual grant manual and RFP.

Project Selection

Project selection and grant awards will be determined by DCR in consultation with the Commonwealth Chief Resilience Officer and the Special Assistant for Coastal Protection and Adaptation.

The Community Flood Preparedness Fund

Grant Award Criteria

- Grants will only be considered for projects that are part of a locality's resilience plan, or of state and regional significance.
- Each year, the Fund's Grant Manual and scoring criteria will set cost share ratios for various types of projects. Grants will prioritize green infrastructure and community scale projects through a sliding cost share.
- In the coastal zone, projects will be prioritized by the Coastal Resilience Master Plan.
- Grants scoring will consider the fiscal capacity of the applying localities.
- Minimum grant awards by category will be as follows: Projects \$50,000; Studies \$25,000; Plans \$25,000. Project grants will not be capped.
- Total expenditure per grant round will be determined by DCR in consultation with the Commonwealth Chief Resilience Officer and the Special Assistant for Coastal Adaptation and Protection. First round is \$18 million.

The Community Flood Preparedness Fund

Grant Categories

Planning

- Flood preparedness and resilience plan development
- Delineations of areas of recurrent flooding and storm surge vulnerability
- Updated estimates of rainfall intensity
- Local or regional flood studies.
- Detailed mapping and analysis
- Education and Outreach
- Technical staff training

Studies and Data Collection of Statewide and Regional Significance

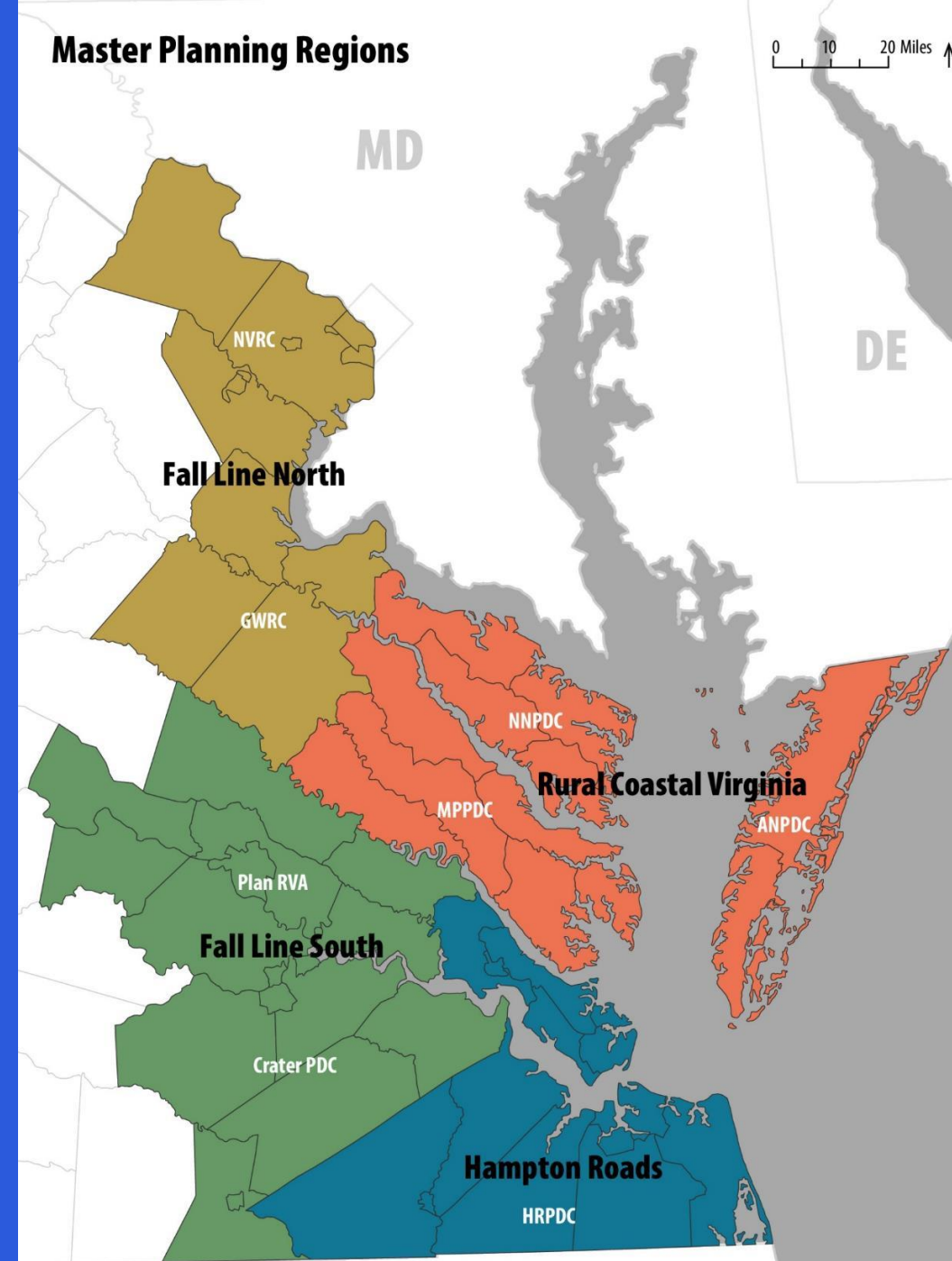
- Hydrologic and hydraulic studies
- Precipitation modeling
- Sea level rise projections
- Impact analysis
- Assessments of dams and impounding structures
- Stream and tide gauges

Project

- Conservation and restoration of floodplains, coastal barriers, natural infrastructure
- Construction or modification of flood control infrastructure
- Stream restoration and bank stabilization
- Public outreach

Four Master Planning Regions

- Hampton Roads (HRPDC)
- Rural Coastal Virginia (A-NPDC, MPPDC, NNPDC)
- Fall Line North (GWRC and NVRC)
- Fall Line South (Crater and PlanRVA)





OFFICE OF THE GOVERNOR OF THE COMMONWEALTH OF VIRGINIA

STATE LANDS WATERSHED IMPLEMENTATION PLAN

ANN JENNINGS

VIRGINIA DEPUTY SECRETARY OF
NATURAL RESOURCES

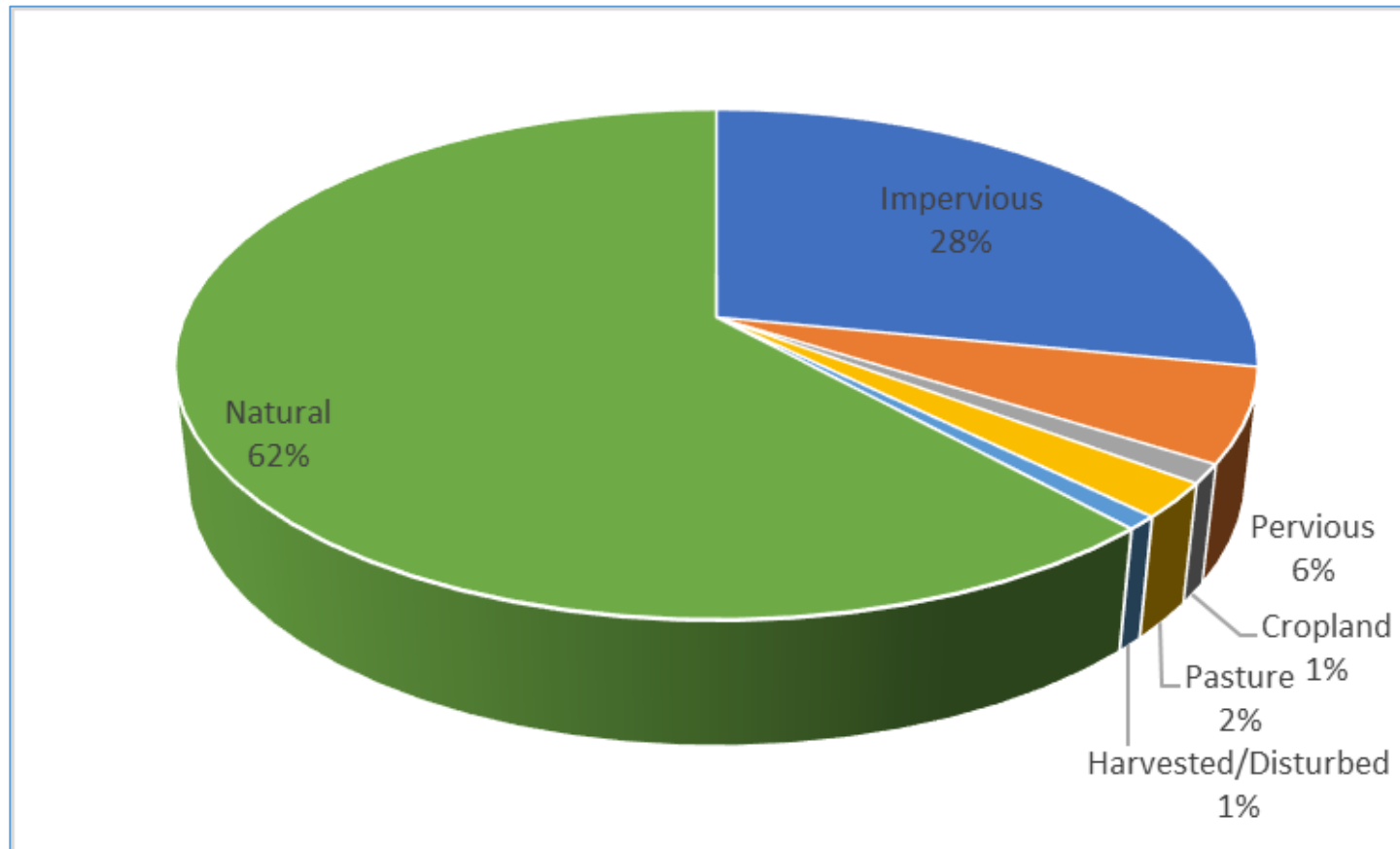
PHASE III WIP – INITIATIVE #3

The Secretary of Natural Resources, in consultation with the Secretary of Administration and the Governor’s Conservation Cabinet, will establish a team of state agency staff to develop a **state agency watershed implementation plan** to achieve significant reductions in nonpoint source nutrient and sediment pollution originating from the lands and activities of all state agencies, public institutions of higher learning and other state governmental entities that own/or manage land in Virginia. The first step in this process is the identification and mapping of all state owned and/or managed lands not already encompassed in local government efforts. Once the area of state-owned lands is established, the land use on these areas will be used to determine the aggregate level of nutrient reductions needed. **Virginia will strive to achieve reductions of nutrient and sediment pollution from state-owned and/or managed lands consistent with expectations of this WIP.** The team will consider innovative approaches to achieving the aggregate reductions most cost-effectively, including geographic targeting, trading, and maximizing co-benefits.

STATE LANDS WIP TEAM

- Ann Jennings, Office of Natural Resources
- Katie Sallee, Office of Natural Resources
- Mike Nolan, Department of General Services
- Ed Zimmer, Department of Forestry
- Timothy Newton, Department of Corrections
- Meghan Mayfield, Department of Corrections
- Tom Allen, Old Dominion University
- George Mcleod, Old Dominion University
- Chad Peevy, Old Dominion University
- Chris Swanson, Department of Transportation
- Ed Wallingford, Department of Transportation
- Tracey Harmon, Department of Transportation
- Stephen Schoenholtz, Virginia Water Resources Research Center
- Brian Benham, Virginia Tech
- David Spears, Department of Mines, Minerals, and Energy
- Kristin Carter, University of Virginia
- Nathan Burrell, Department of Conservation and Recreation
- Gray Anderson, Department of Wildlife Resources
- James Martin, Department of Environmental Quality
- Arianna Johns, Department of Environmental Quality
- Megan Bascone, Department of Environmental Quality

STATE LANDS – LAND COVER



STATE LANDS – REDUCTION TARGETS

Basin	SWIP Acres	Total N Reduction	Total P Reduction
Potomac	62,915	28,000	3,200
Rappahannock	33,941	22,000	800
York	51,284	17,000	900
James	230,415	47,000	4,800
Eastern Shore	12,234	8,000	400
Virginia Bay Watershed	390,789	122,000	10,100

STATE LANDS – PROGRAMMATIC ACTIONS

- Standards for Sustainable Agriculture and Forestry
- Converting Managed Turf to Native Landscapes
- Unregulated Stormwater Runoff from Impervious Surfaces on Developed Land
- Native Habitat Valuation for Human Health, Wildlife, and Water Quality
- Onsite Sewer Systems
- Pilot Fee-for-Documented-Performance Projects
- Community Outreach and Education
- Aligning Habitat Restoration, Resilience, and Water Quality Goals
- Build Water Quality Improvements into Virginia’s Hazard Mitigation Plan
- Interagency Technical Support and Collaboration
- Clean Water Jobs Training Collaborative



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STATE LANDS WATERSHED IMPLEMENTATION PLAN

ANN JENNINGS

VIRGINIA DEPUTY SECRETARY OF
NATURAL RESOURCES

Department of Corrections Implementing SWIP at the State Farm



Kenny Raiford
Department of Corrections



Amber Ellis
James River Association



DOC Agribusiness Unit

Charged with assisting DOC Food Service by producing and distributing fruits, vegetables, milk, meat, juice, and other food items in an effort to reduce the department's institutional food cost.

The program also provides a variety of training opportunities for inmates that can assist them in finding employment upon reentry.

The Agribusiness program employs staff and inmates who together operate farms and production facilities at 24 sites statewide.



State Farm Agribusiness

Located in Powhatan and Goochland counties, divided by the James River.

The State Farm operation includes beef and dairy cattle, grain crops, vegetable crops, milk and meat processing.

4500 acre farm operated by staff and inmates assigned to the State Farm Work Center and State Farm Enterprise Unit.

The State Farm operation is the largest farm managed by the DOC.



Training Opportunities

Inmates working on the farm and production sites have the opportunity to receive certifications in:

- Beef Quality Assurance

- Artificial Insemination of Cattle

- Proper Pesticide Handling

- ServSafe

- Forklift Operations

- Variety of production equipment operations

State Farm Dairy

- Milks up to 200 cows twice per day
- DOC also purchases milk from the Virginia Tech Dairy Science Operation
- Currently ships over 1 million gallons of milk annually, as well as ice cream
- Inmates in the care of DOC receive 2 eight ounce servings of milk daily





DOC currently has beef cows at 14 prison sites around the Commonwealth.

The large rural land masses, which the prisons are located on, are great for beef cow production.

The cattle are sold and the revenue is returned to the General Fund.

The beef cow herd also serves as a research herd for the Virginia-Maryland School of Veterinary Medicine located at Virginia Tech.



State Farm Conservation Project

The 1500+ dairy and beef cattle at the State Farm have been provided drinking water from the many ponds, streams, and ditches located on the property.

In an effort to become better stewards of the land this project has become a priority.

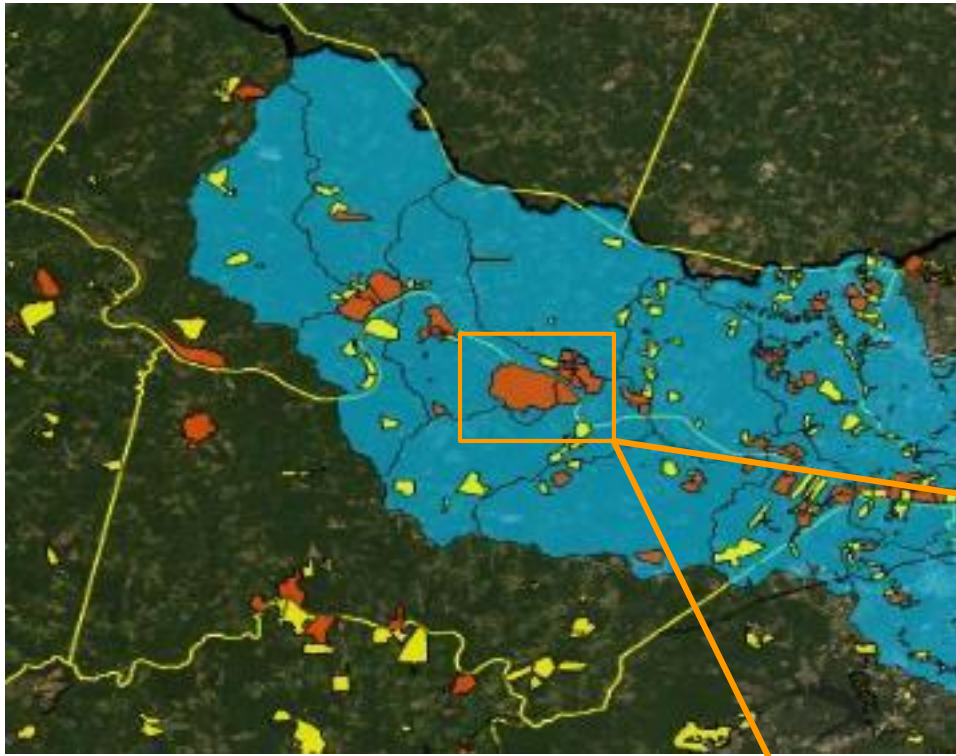
The Agribusiness Unit recognizes the importance of state agencies leading the agricultural industry with the utilization of best management practices.

DOC was excited to receive the invitation to discuss conservation opportunities at the State Farm and are proud to be working with the other agencies on this large scale venture.

These groups have put together a plan with an anticipated outcome of which we can all be proud.

Priority Project

Tier 1 in James Restoration Planner
NFWF Priority Subwatershed



Big Initiatives Call for a Team Approach!



Department of Corrections
Hunter Landis/Kenny Raiford



Soil & Water Conservation Districts
Keith Burgess



Department of Forestry
Deya Ramsden



The Nature Conservancy
Karen Johnson



Virginia Cooperative Extension
Nicole Shuman



James River Association
Amber Ellis/Joey Shelton



Inspired and informed
by the Upper and
Middle James
Riparian Consortium

*“Growing partnerships for healthy
streamside ecosystems for clean water in the
James River today and tomorrow.”*

Leveraging Funding Sources

Funding Source	Amount	Fiscal Agent	Use
DOF State Lands Fund	\$150,000	DOF	Fencing material and/or labor, buffers
NFWF-INSR	\$100,000	JRA	Water lines, heavy use areas, crossings
VA Aquatic Resource Trust Fund	\$1,000,000	TNC	Wetland restoration, fencing, buffers
VEE-JRWQIP	\$196,754	DOF	Forest buffers, gully stabilization
Total Current Funding Available	\$1,446,754		





Agricultural Infrastructure

Expected Metrics:

100,000+ lf in exclusion fencing

Accomplishments:

- Plans almost complete for Q1
- Started install!

Next Steps:

- Finish fencing, watering, and gully stabilization in Q1 by Summer 2021
- Designs for Q2-Q4 and install by Spring 2022



Partners:



Forestry

Expected Metrics:

100+ acres of riparian forest buffer

What we've accomplished:

- 10 acres of riparian buffers were installed this spring in Q1 including a mix of hardwoods and loblolly pine
- A portion of the planting served as the installation training site to State Farm inmates

What's next:

- More buffers in Q1
- Natural regeneration in Q2-4 by Spring 2022



Partners:

James River Buffer
Program



Wetlands

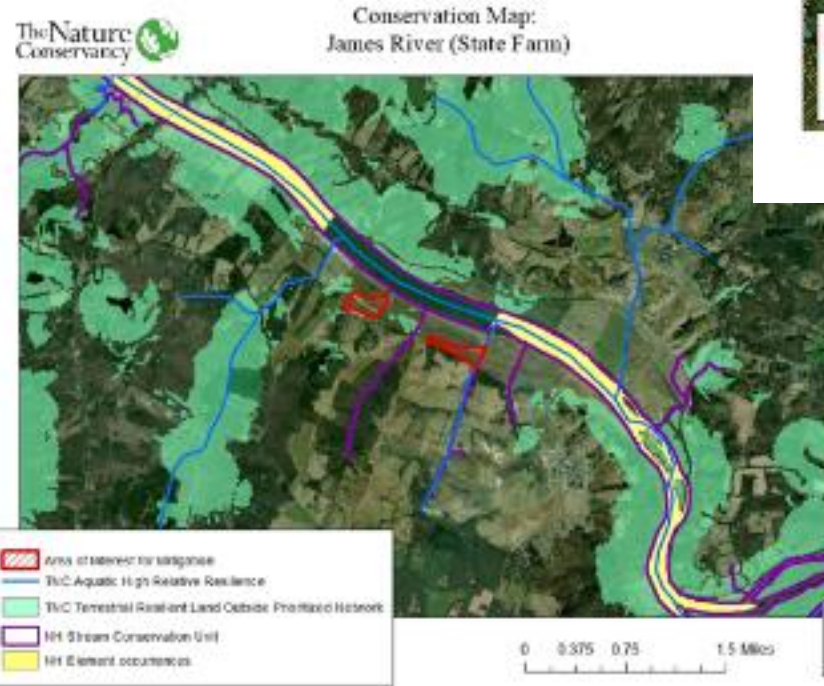
Expected Metrics: 15+ acres of restored wetlands in floodplain

What we have accomplished:

- Feasibility study of entire floodplain, hydrology wells installed
- Proposal and presentation to Interagency Review Team

What's next:

- Public Notice of wetland restoration proposal and initial approval by regulatory agencies
- Design plan development



Partners:



Additional State and Federal Agencies

Training

Goal: Pilot CBLP-Buffers Certificate and Fencing Training

What we've accomplished:

- October 2020 Fixed-Knot Fencing Workshop for 6 inmates and 4 staff
- Winter/Spring 2021 Riparian Buffer Training: An 18 hour Chesapeake Bay Landscape Professional training program on riparian buffer planning, installation, and maintenance

What's next:

- Maintenance training in May
- Assess program for future



Partners:



QUESTIONS



OYSTER RESTORATION UPDATE

Ellen Bolen, Deputy Commissioner

April 29, 2021





Eastern Branch
Elizabeth River



2021

Great Wicomico

2021

Piankatank

Lower York

RESTORED!

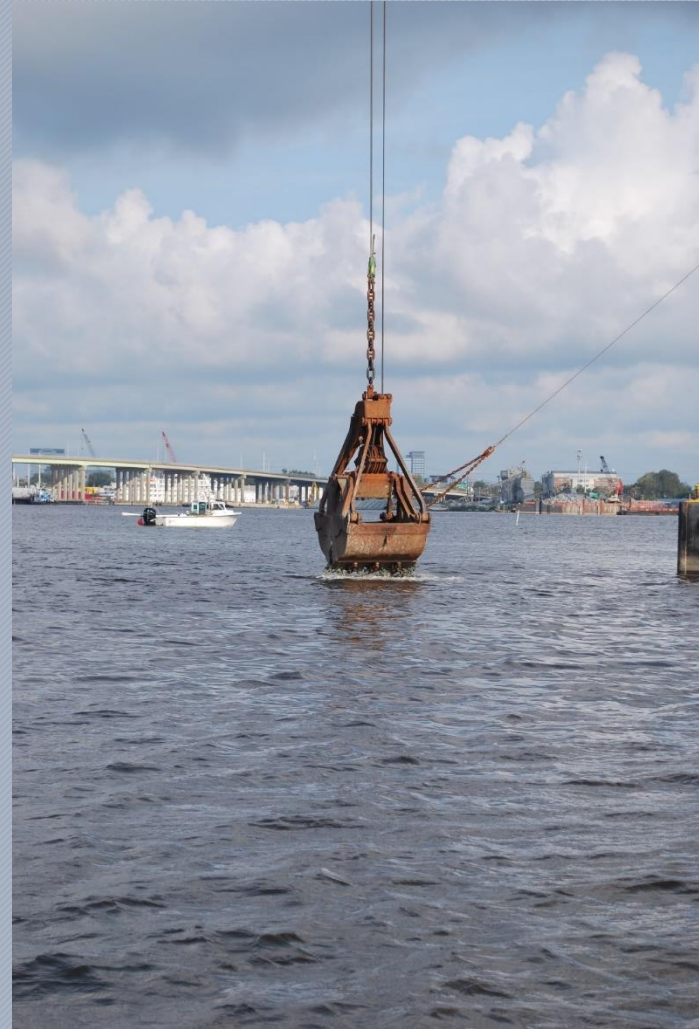
Lafayette

Lynnhaven

Eastern Branch Elizabeth River

RESTORED!

RESTORATION UPDATE



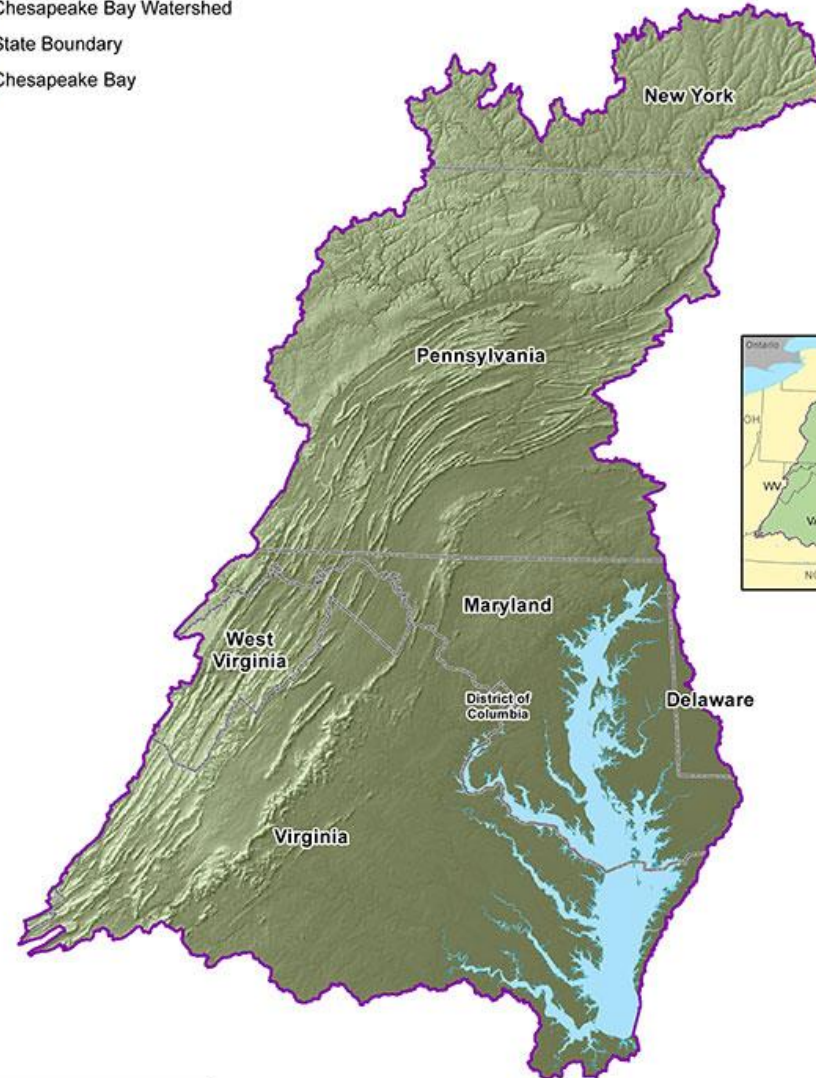
RESTORATION UPDATE



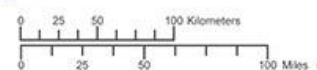
Chesapeake Bay Watershed



-  Chesapeake Bay Watershed
-  State Boundary
-  Chesapeake Bay



Data Sources: Chesapeake Bay Program
For more information, visit www.chesapeakebay.net
Disclaimer: www.chesapeakebay.net/termsofuse.htm





Chesapeake Bay Program
A Watershed Partnership

Meryem Karad, *Assistant Secretary of
Natural Resources, Commonwealth of
Virginia*

DEIJ Action Team

April 29, 2021

The five commitments in the PSC Action Statement



Chesapeake Bay Program
Science. Restoration. Partnership.

Diversity, Equity, Inclusion and Justice

Action Statement

Chesapeake Bay Program Principals' Staff Committee

The Chesapeake Bay watershed is home to diverse communities with rich variation in culture, demographics and perspectives. It is important to embrace this diversity and promote the meaningful involvement, treatment and inclusiveness of all people in the implementation of the *Chesapeake Bay Watershed Agreement*. In doing so, we will be better able to achieve healthy local streams and lands, as well as a vibrant Chesapeake Bay that is shared by all people throughout the watershed.

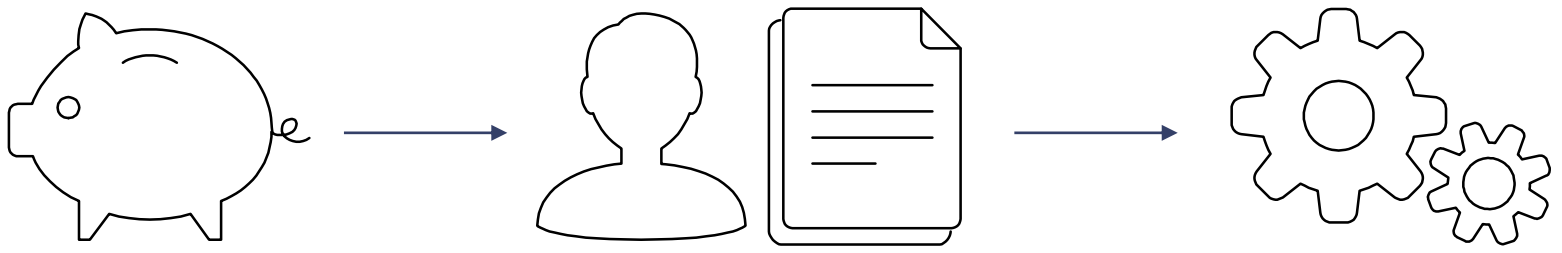
The Chesapeake Bay Program partners acknowledge that individually, each partner has established policies and programs with the goal of advancing environmental and public health protection for all. Through these programs, the seven Bay jurisdictions, Environmental Protection Agency, other federal agencies, the Chesapeake Bay Commission and partners are working to address and advance diversity and environmental justice issues. We also recognize that there is more we must do as a united partnership, and for this reason we explicitly and tangibly commit to diversity, equity, inclusion and environmental justice. Partners will continue to build on this work, sharing best practices, and with the acknowledgement that this work may indeed look different across the jurisdictions and space represented as a partnership, we will move forward together. Further, we recognize the importance of addressing racism and other forms of discrimination in our efforts, structures and acts of daily practices.

Recognizing this, the Chesapeake Bay Program accepts the report and recommendations in the Diversity, Equity, Inclusion and Justice Strategy (DEIJ Strategy) - developed by an independent consultant for the Chesapeake Bay Program Diversity Workgroup of the Stewardship Goal Implementation Team (GIT) and finalized in 2020. To the extent consistent with state and federal law and policy, members of the Principals' Staff Committee (PSC) will strive to implement the recommendations of the DEIJ Strategy. The Chesapeake Bay Program Diversity Workgroup, which was formed in 2014, started working with an independent DEIJ consultant in 2018 to conduct a DEIJ readiness assessment of the partnership and developed a tailored DEIJ Strategy that recommends the partnership:

- Increase racial and ethnic diversity among partnership staff and leadership.
- Help partners develop as DEIJ leaders who understand, respect and embrace cultural diversity.
- Provide partners with the tools to continually assess progress towards diversity, equity, inclusion, and justice goals.

The DEIJ Strategy contains recommendations that are grouped into four DEIJ framework focus areas. The consultant developed these recommendations based on interviews with Chesapeake Bay Program teams and leadership, a DEIJ readiness survey, two focus groups, a review of key partnership policy documents and input from the Diversity Workgroup. They provide a visionary framework to be used by the partnership as a guide to help integrate DEIJ into the implementation of management strategies and inform biennial logic and action plan activities that achieve the outcomes of the *Chesapeake Bay Watershed Agreement*.

HOW WAS THE DEIJ STRATEGY DEVELOPED?



1) EPA-funded project awarded to independent consultant

- 2) DEIJ Readiness Assessment of CBP
- Interviews
 - Focus Groups
 - Survey
 - Review of policy documents

3) Draft DEIJ Strategy developed and reviewed by Diversity Workgroup before finalized in April 2020

DEIJ Action Team “Vision”

DEIJ Strategy Implementation Plan

- ▶ Develop roadmap for implementing DEIJ Strategy Action Plan, identifying additional actions, subtasks, steps, and resources needed to ensure implementation by end of 2025.
- ▶ Develop recommendations for incorporating DEIJ Principles into existing infrastructure and advisory boards, to include environmental justice leaders and representatives from underrepresented groups, identifying feasible options.

Outreach and Communications

- ▶ Engage underrepresented communities in the development of the implementation plan and recommendations for the Community Advisory Board. Use the engagement process as a foundation for organizational change and meaningful and long-term engagement with underrepresented communities.

DEIJ Strategy Focus Areas

Strengthening CBP's Authorizing Environment for DEIJ

- >Objective 1: Create an authorizing environment for DEIJ

Advancing DEIJ Internally

- >Objective 2: Increase DEIJ in hiring, promotion and tenure
- >Objective 3: Increase DEIJ in appointee and volunteer bodies
- >Objective 4: Increase DEIJ in internal culture and training

Advancing DEIJ through Watershed Restoration Work

- >Objective 5: Advance DEIJ through GIT workplans and outcomes
- >Objective 6: Advance DEIJ through communications
- >Objective 7: Advance DEIJ through grant-making and contracting

Advancing DEIJ Performance of CBP Partners

- >Objective 8: Increase DEIJ Performance of Partners

Outreach & Communications

***Vision:** Engage underrepresented communities in the development of the implementation plan and recommendations for the Community Advisory Board. Use the engagement process as a foundation for organizational change and meaningful and long-term engagement with underrepresented communities*

How do we define “Meaningful Engagement/Involvement”?

- ▶ People have an opportunity to participate in decisions about activities that may affect their environment and/or health.
- ▶ The public's contribution may influence the decision
- ▶ Community concerns will be considered in the decision-making process
- ▶ Decision makers will seek out and facilitate the involvement of those potentially affected

Questions & Follow up

- ▶ Please feel free to contact me directly at Meryem.Karad@governor.virginia.gov