Webinar Wednesday

Conowingo Watershed Implementation Plan (CWIP)

September 6, 2023

Conowingo Watershed Implementation Plan (CWIP)

Agenda

- Welcome and Introduction
- CWIP Background and Implementation Strategy
- Funding Opportunities
- Other Innovations
- BMP Opportunity Analysis
- Tracking and Reporting
- Questions

Will Parson, Chesapeake Bay Program

CWIP Background and Implementation Strategy

CWIP Background: The Need

Dams in the Lower Susquehanna watershed, with context to the Susquehanna and Chesapeake Bay watersheds.

The Conowingo Dam and Reservoir:

- historically trapped and stored sediment

A 2015 study by U.S. Army Corps of Engineers & Maryland Dept. of the Environment:

- reservoir has reached dynamic equilibrium is mostly filled, no longer trapping sediment & associated nutrients

After implementing Chesapeake Bay Total Maximum Daily Load (Bay TMDL) and Phase III WIPs, additional reductions needed:

- 6 million pounds of nitrogen and
- 0.26 million pounds of phosphorus

CWIP Purpose and Goals

- Addresses nutrient load not accounted for in 2010 Chesapeake Bay TMDL
- Targets a specific geography but is not site-specific
- CWIP implementation relies upon cooperative multi-jurisdictional effort

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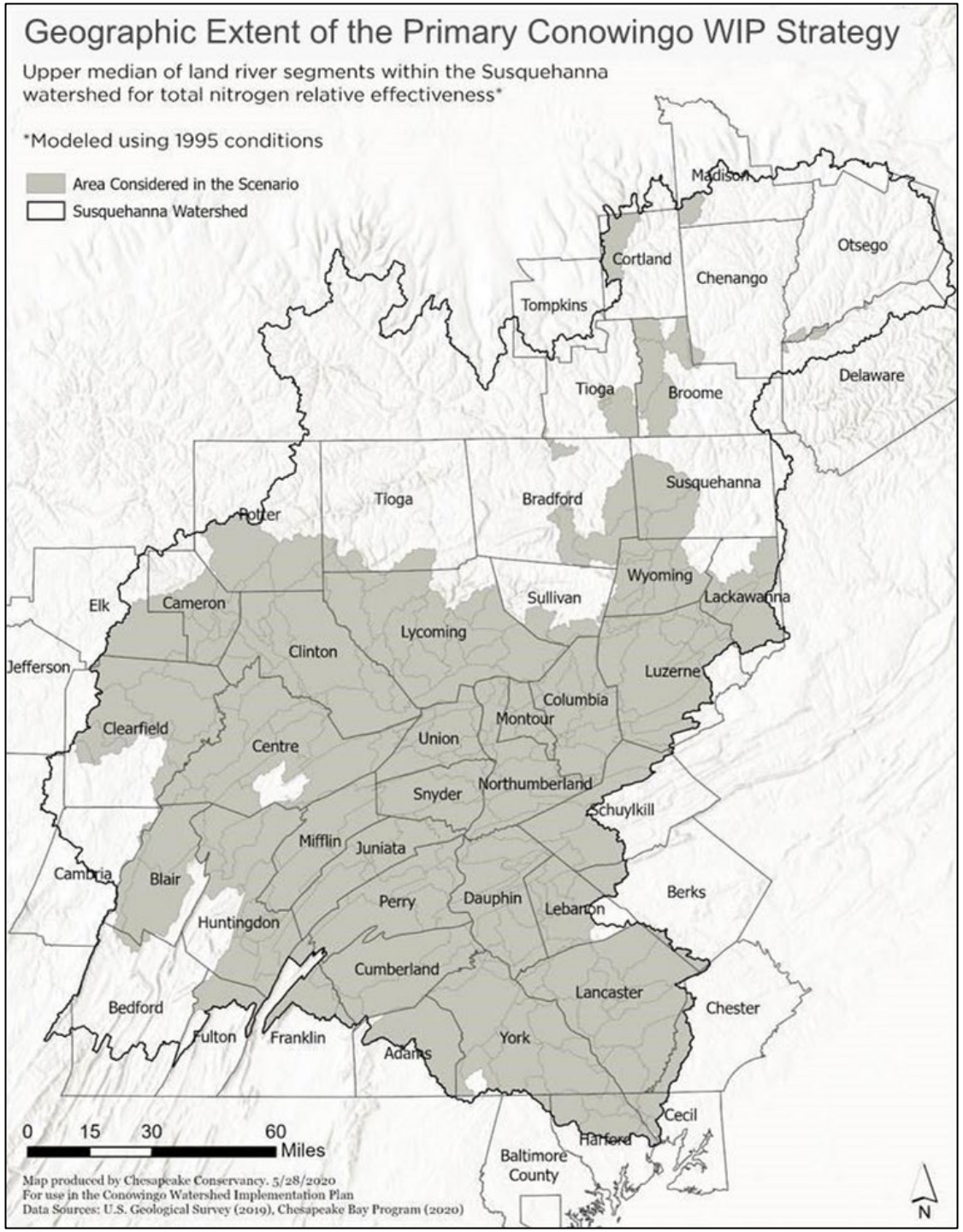
Primary Goal – minimize cost per pound for nitrogen reduction

Core Goal – landscape scale restoration in the Susquehanna River basin

- Natural Filters (wetland restoration and riparian forest buffers)
- Sustainable Farm Practices (prescribed grazing and conservation tillage)
- Nutrient Reduction Practices (nutrient management and manure Incorporation)

Implementation Geography: Summary

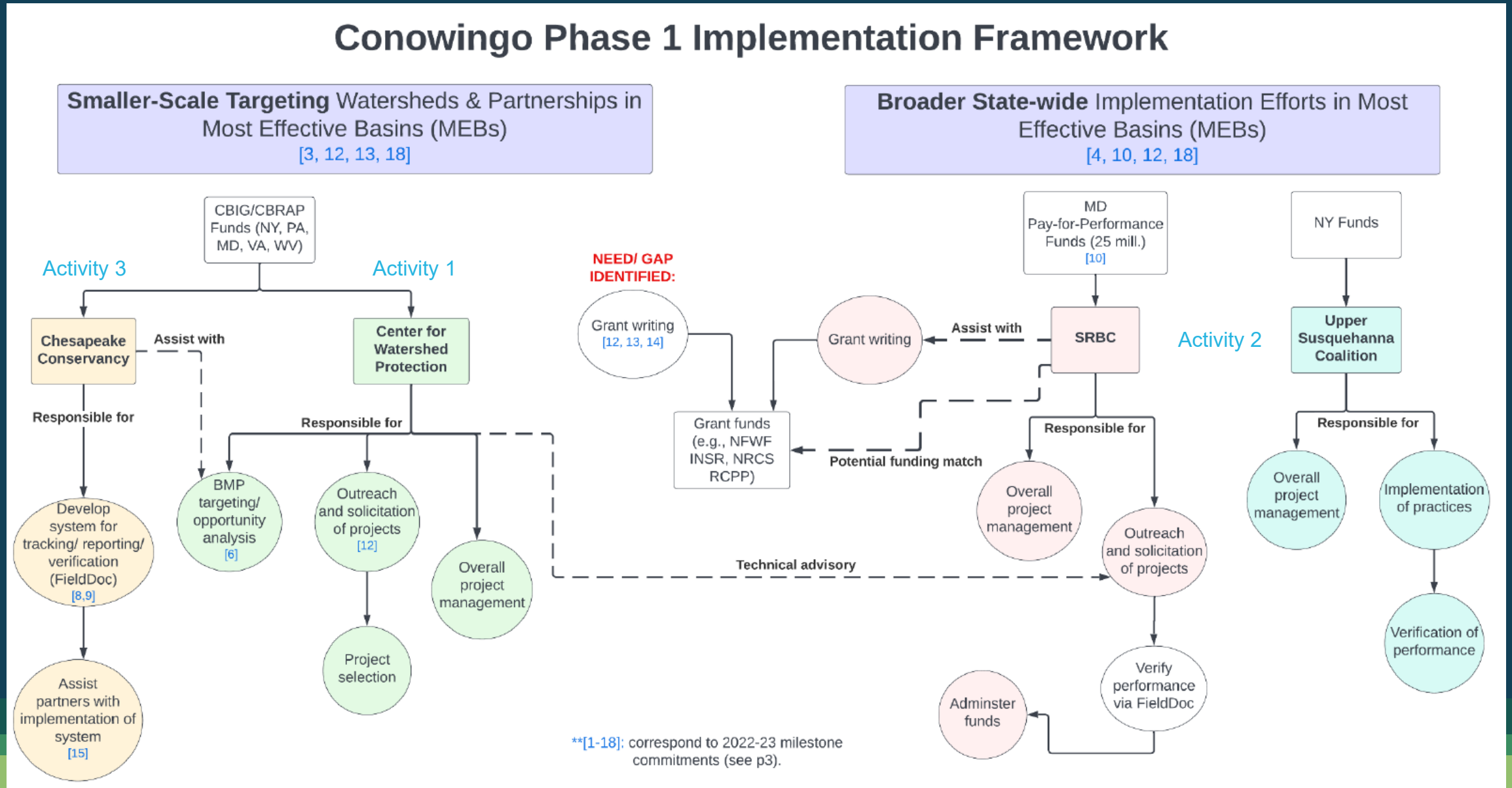
Geographic Extent	Above-the-median, nitrogen-effective Land-River Segments (LRSs) within the Susquehanna Basin
BMP Sector(s)	Agricultural + Urban
States Involved	Maryland, Pennsylvania, New York
Nitrogen Reduction	6.7 Million pounds/year
Total Annualized Cost	$53.3 Million/year
Cost Per Pound	$8



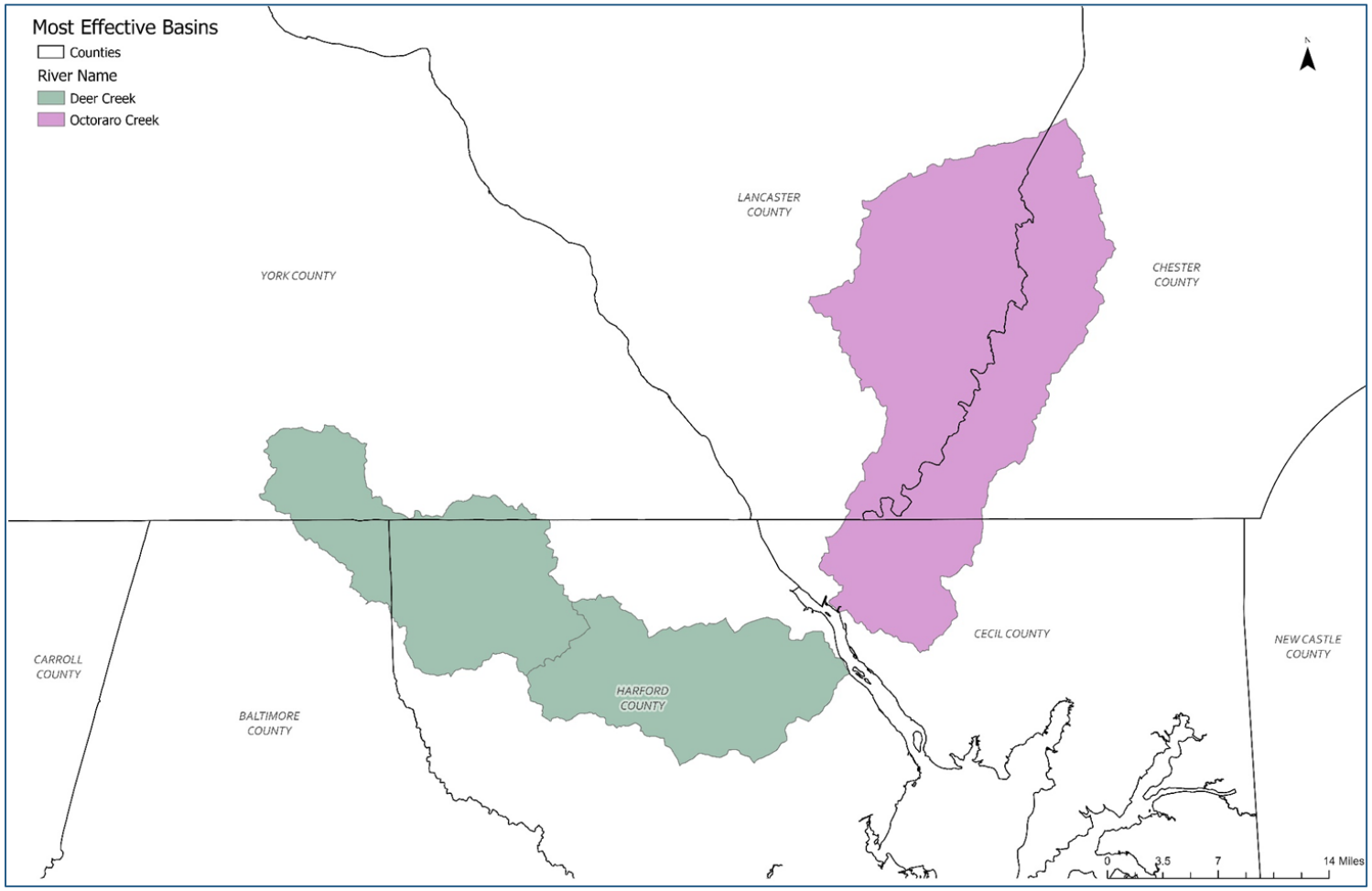
Targeted BMPs Implemented across entire geography

Practice	Duration	Unit	TN (lbs)
Agricultural Practices			
Nutrient Application Management Core Nitrogen	annual	Acres	223,000
Nutrient Application Management Rate Nitrogen	annual	Acres	624,000
Nutrient Application Management Placement Nitrogen	annual	Acres	207,000
Nutrient Application Management Timing Nitrogen	annual	Acres	626,000
Conservation Tillage	annual	Acres	216,000
High Residue Tillage	annual	Acres	48,000
Low Residue Tillage	annual	Acres	10,000
Prescribed Grazing	cumulative	Acres	84,000
Forest Buffers	cumulative	Acres in Buffers	20,000
Wetland Restoration	cumulative	Acres	12,000
Grass Buffers	cumulative	Acres in Buffers	21,000
Soil and Water Conservation Plan	cumulative	Acres	113,000
Manure Incorporation	annual	Acres	189,000
Barnyard Runoff Control	cumulative	Acres	600
Urban Practices			
Urban Forest Planting	cumulative	Acres	49,000
Urban Forest Buffers	cumulative	Acres	17,000

Implementation Framework



Implementation Geography: Target watersheds



Octoraro Watershed:

- Cecil County, MD
- Chester County, PA
- Lancaster County, PA

Funding Opportunities

PENNVEST
PENNSYLVANIA INFRASTRUCTURE INVESTMENT AUTHORITY

Pennsylvania Clean Water Procurement Program

- Robert Boos, PENNVEST

Maryland Department of Environment (MDE) Pay for Success Program

ENVIRONMENTAL POLICY INNOVATION CENTER

Maryland Department of the Environment

Agenda:

- Background
- Funding Details
- Application Considerations
- Timeline
- Location

Background:

- Maryland's (MD) Load for the **Conowingo Watershed Implementation Plan (CWIP)** allocates a reduction of 0.18 M lbs/year of nitrogen and 0.003 M lbs/year of phosphorus coming from the Conowingo Reservoir.
- The **Pay for Performance** financing is authorized under MD's Conservation Finance Act and was piloted in MD's Clean Water Commerce Act. Projects are paid upon delivery of verified environmental outcomes, in this case measured and validated nitrogen reductions (proposed cost/lb reduction in the application process).
- The MD General Assembly **appropriated $25 million** to purchase "environmental outcomes" using the pay for performance procurement strategy.
- The **Susquehanna River Basin Commission** is administering the financing and related procurement process for MD's CWIP Implementation.
- The **Environmental Policy Innovation Center** is providing technical guidance.

Funding Details:

- **$25 million Total Funding.**
- **Funds Obligated by December 31st, 2025.** Pay for Performance contracts will have terms that expire after December 31st, 2025.
- **Purchase of nitrogen only.** Phosphorus/sediment reductions will be counted toward MD CWIP, but not considered for project selection.

Application Considerations:

The **most cost-effective proposals** illustrating the lowest cost per pound of nitrogen removed will be given the highest consideration.

Load reductions will be **quantified** using the Chesapeake Assessment Scenario Tool (CAST) and **verified** using the Chesapeake Bay Program's Best Management Verification Guidance.

Consideration given to projects involving **dredging** in the Conowingo Reservoir.

Proposals will also be ranked based on **location** of load reductions.

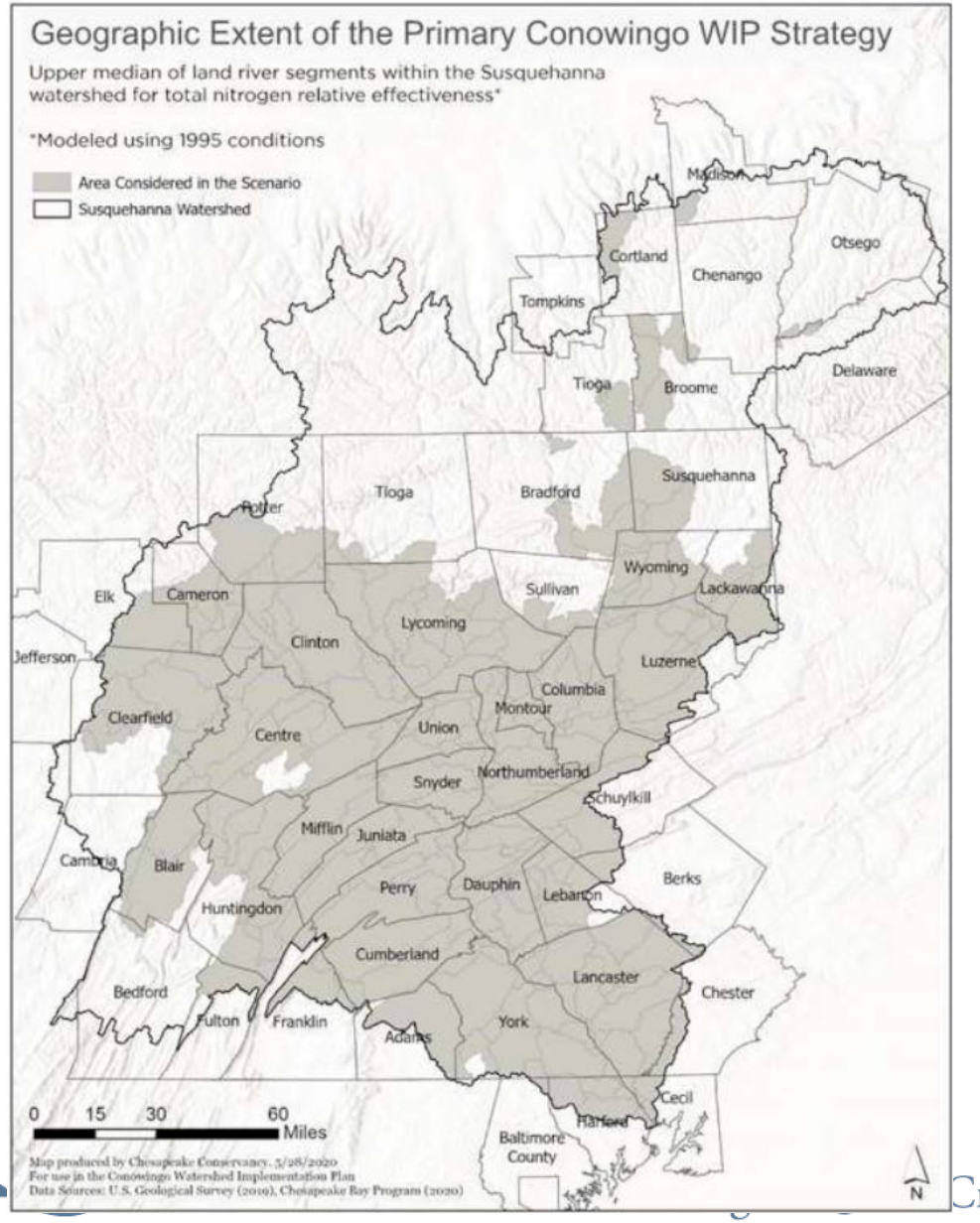
Timeline:

Anticipated release of the Request for Proposals is **October 2023.**

Location

Proposals given primary considerations:

- Located in the Susquehanna River watershed in Maryland Counties: Harford and Cecil. *(Highest)*
- Located in Maryland subwatersheds within the Susquehanna Basin whose headwaters originate in Pennsylvania.
- Located in a most effective basin developed by the CWIP planning committee and approved by the Bay Principal Staff Committee (See adjacent Figure)



Questions?

ENVIRONMENTAL POLICY INNOVATION CENTER

Maryland Department of the Environment

Other Innovations

- Freshwater Mussel Partnership – Tyler Shenk, SRBC
- Dredging – Matt Rowe, MDE

Chesapeake Bay Watershed Freshwater Mussel Partnership

Webinar Wednesday- CWIP

September 6th 2023

Partnership Formation

- Chesapeake Bay Program's Science & Technical Advisory Committee workshop (March 5-6, 2020)
- NFWF and State of MD workshop (April 13, 2022)
  - Two Workgroup meetings in February 2023
  - Workshop to Broaden and Enhance Regional Freshwater Mussel Partnership
- In 2023, staff from SRBC transitioned to the role of coordinators for the Regional Freshwater Mussel Partnership.
  - Larger Partnership meeting in May
  - Steering Committee Meeting in July

Partners

- MDNR
- MDE
- PA DEP
- PA Fish and Boat
- NYSDEC
- DNREC
- WV DNR
- VA DEQ
- VA Dept. of Wildlife Resources
- USGS
- USEPA CBPO
- NY DOT
- USDA NRCS
- Ches Bay Foundation
- SRBC
- National Fish and Wildlife Foundation
- USFWS
- Lock Haven University
- Bucknell University
- Partnership for the Delaware Estuary
- Potomac Riverkeeper Network
- Western PA Conservancy
- Prince William County VA
- Washington Suburban Sanitary Commission
- UMCES

Two Primary Goals-

- Advance and promote Conservation and Restoration
- Evaluate Water Quality best management practices (BMPs) to lessen excess nutrients and sediment in tributaries to the Chesapeake Bay.

Next Steps

- SRBC hosting website for the partnership-
  - https://www.srbc.net/our-work/what-we-do/chesapeake-bay-freshwater-mussel-partnership.html
- Full Partnership Meeting three times per year
- Annual Symposium winter/spring 2024

Contact Info-

Tyler Shenk- tshenk@srbc.gov

Jamie Shallenberger- jshallenberger@srbc.gov

Other Innovations

- Dredging – Matt Rowe, MDE

BMP Opportunity Analysis

Conowingo BMP Web Viewer

View by BMP opportunity

All parcels with opportunities
Annual Cropland Practices
Prescribed Grazing
Barnyard Runoff
Urban Forest Planting

Conowingo Parcels with BMP Opportunities

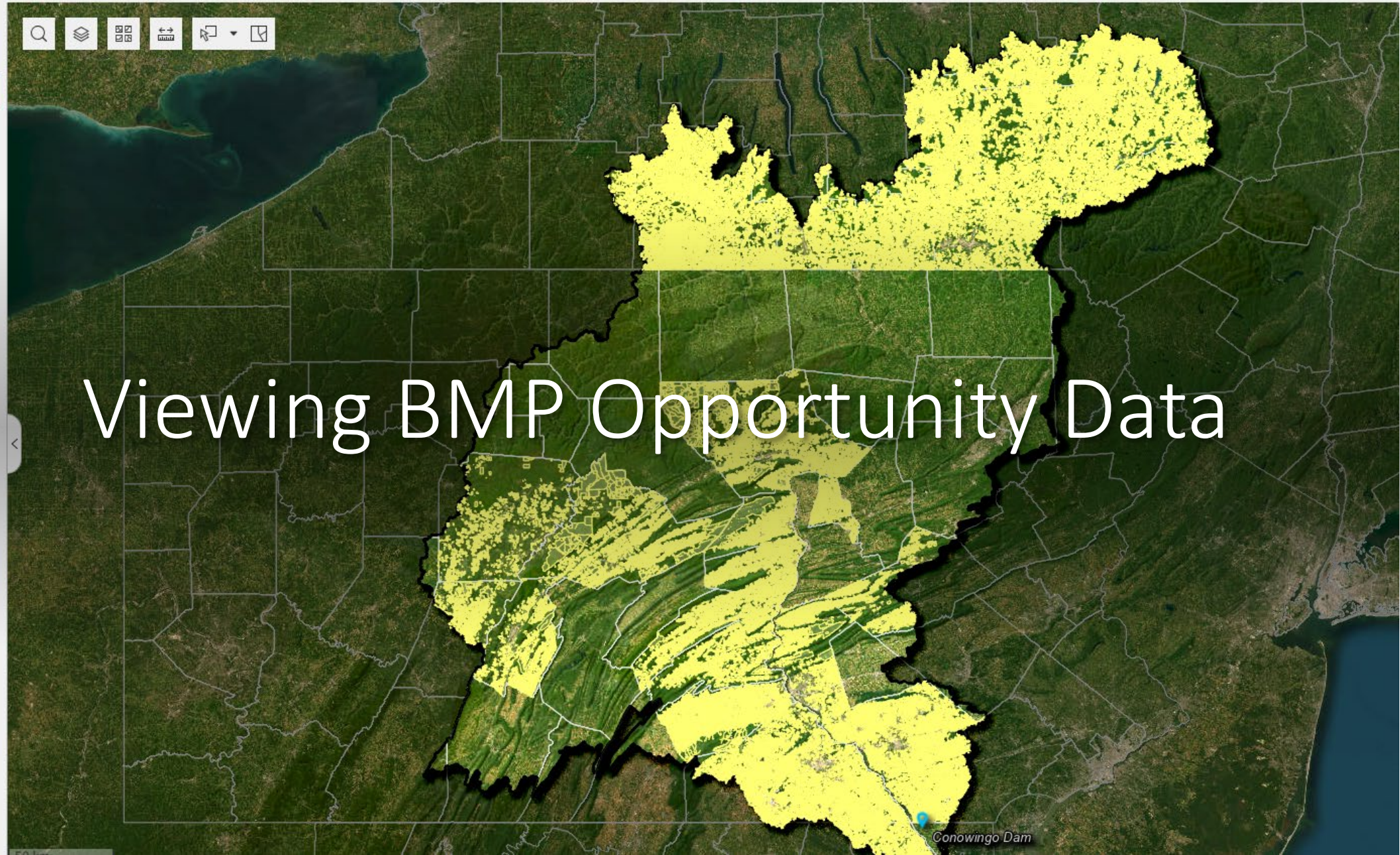
Conowingo WIP BMP Parcels

USA Counties

THIS VIEWER IS CURRENTLY A DRAFT FOR REVIEW PURPOSES

Background

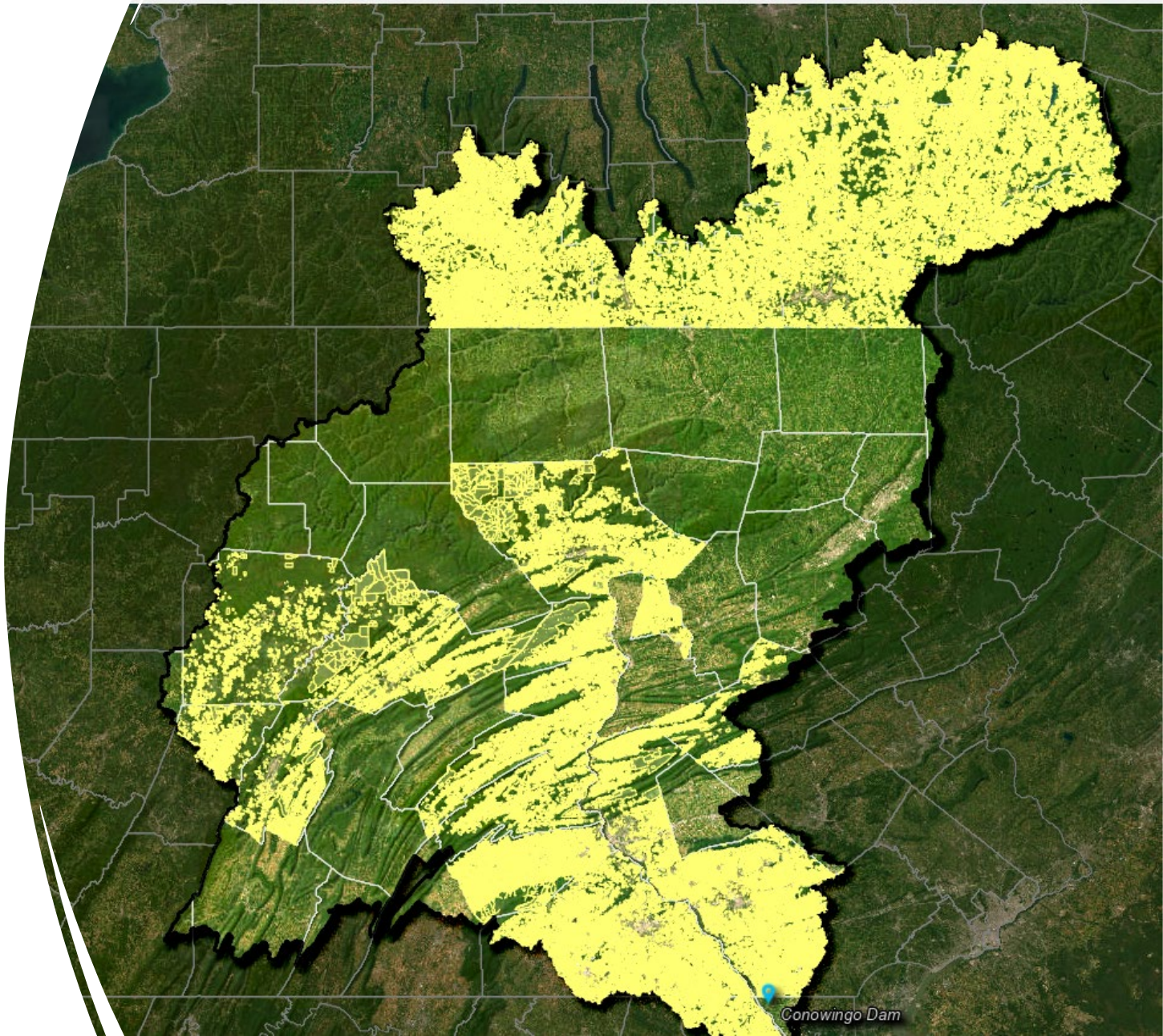
Welcome to the Conowingo Watershed Implementation Plan (CWIP) Best Management Practice (BMP) Opportunity Analysis web viewer. The CWIP provides a first phase adaptive strategy that will build upon implementation successes, challenges, and innovations. The CWIP accelerates the pace of restoration, recognizing the need for cost-effective water quality and



Viewing BMP Opportunity Data

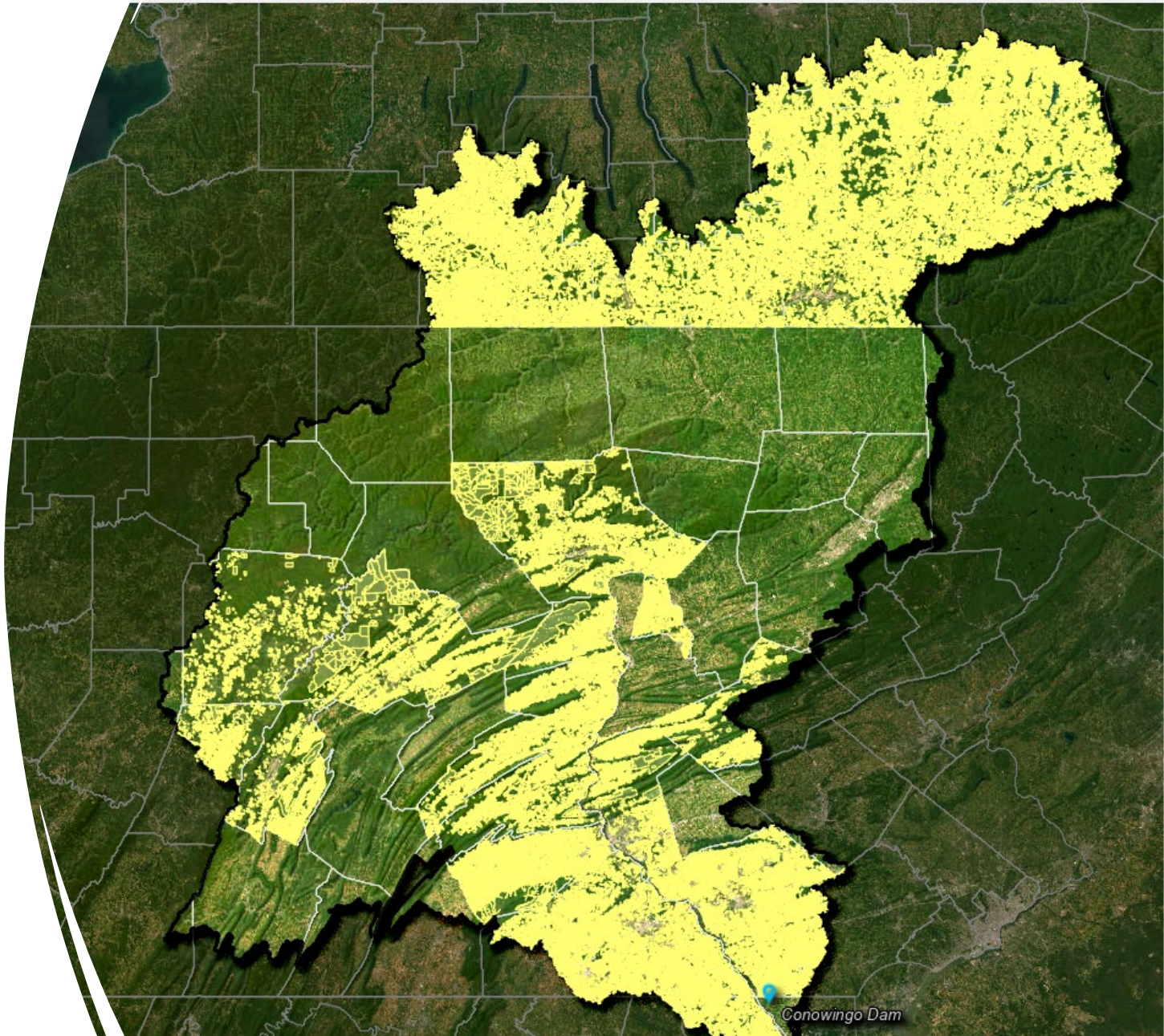
Next Steps

- Finalize QA and data hosting for two layers
  - Wetland opportunities
  - Vegetative buffer opportunities
- Finish transition from Esri WebApp Builder framework to Esri Experience Builder framework
  - Lack of long-term support for former framework
- Add requested external layers



Follow Up/ Contact Info

- Viewer to be live before the end of the month – link will be shared
- Amanda Pollack (CWP) ahp@cwp.org
- Katie Walker (CC) kwalker@chesapeakeconservancy.org



Tracking and Reporting

Questions?

CWIP Steering Committee Website