

# FREQUENTLY ASKED QUESTIONS

## CONOWINGO WATERSHED IMPLEMENTATION PLAN (WIP)



The Chesapeake Bay Watershed

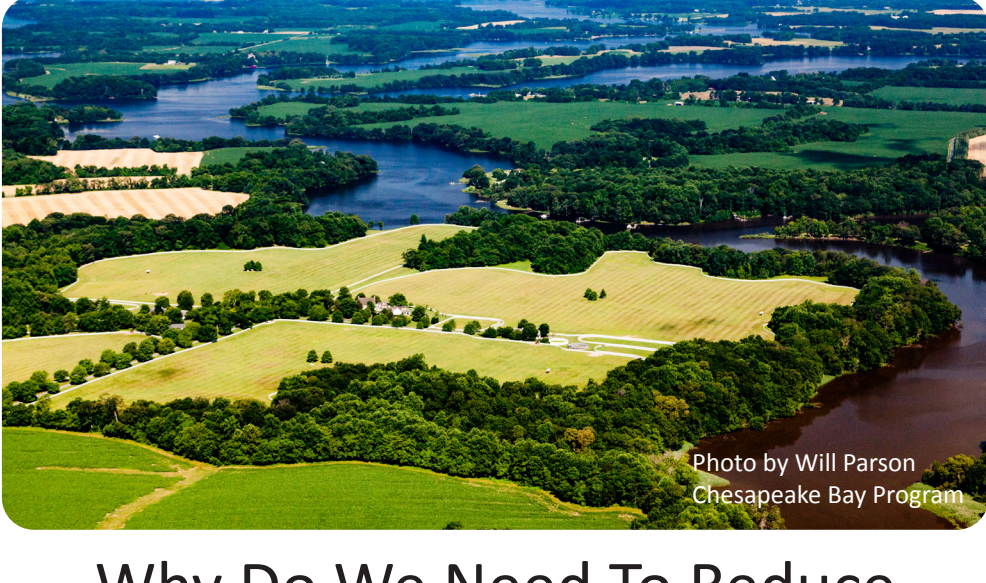


Photo by Will Parson  
Chesapeake Bay Program

## Why Do We Need To Reduce Pollution In The Chesapeake Bay?

The Chesapeake Bay is in poor health due to pollution from a variety of sources, including stormwater runoff, air emissions, wastewater, agriculture, development and more. For many years, pollution that flowed into the streams and rivers of the Chesapeake Bay was not managed to meet water quality standards. At the same time, the population in the 64,000-square mile watershed increased significantly – rising 43% between 1980 and 2017, from 12.7 million people to 18.2 million people. All of this has harmed water quality in the watershed.



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*Science. Restoration. Partnership.*

*Since 1983, the Chesapeake Bay Program has led and directed the restoration of the Chesapeake Bay. Bay Program partners include federal and state agencies, local governments, non-profit organizations and academic institutions. Staff members work at our offices in Annapolis, Maryland, and at partner organizations throughout the watershed.*

In 2010, the U.S. Environmental Protection Agency (EPA) established the Chesapeake Bay Total Maximum Daily Load (Bay TMDL), which set nitrogen, phosphorous and sediment reduction goals so that all practices would be in place by 2025 to meet the Bay’s water quality standards. Sediment can smother aquatic life and pollutants such as nitrogen and phosphorus cause algae to grow in local waterways and the Chesapeake Bay that rob the waters of oxygen when they begin to die off and decompose. To meet these goals, the seven jurisdictions (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia) that drain to the Bay developed Watershed Implementation Plans to help guide their Chesapeake Bay clean-up efforts. The entire 27,500-square mile Susquehanna River – the largest single source of freshwater to the Chesapeake Bay – drains to the Conowingo Reservoir.

The Conowingo Dam and reservoir were built in 1928 and are owned and operated by Exelon Corporation. The Conowingo Dam and other dams in the Lower Susquehanna have historically trapped and stored sediment. A 2015 study by U.S. Army Corps of Engineers and the Maryland Department of the Environment concluded the reservoir has reached approximately 92% capacity, no longer trapping sediment and associated nutrients. In December 2017, the Chesapeake Bay Program agreed to a separate Conowingo Planning Target and to collectively develop a separate Conowingo WIP. All Chesapeake Bay Program Principals’ Staff Committee (PSC) jurisdictional members agreed to pool resources and to identify a process to fund and implement the Conowingo WIP.

## How Does A Watershed Implementation Plan Work?

Watershed Implementation Plans (WIP) identify pollutant sources and methods to address those pollutants.

**This is done across three general tracks:**

**First:** They identify local pollution sources by category, such as urban, agriculture, wastewater treatment plants and septic systems.

**Second:** They identify the partners and resources that can help reduce pollution.

**Third:** They identify the best strategies to reduce pollution to meet the 2025 goals.



Photo by Edwin Rensberg  
University of Maryland

## How Much Additional Nitrogen Coming from the Conowingo Dam Will Need To Be Reduced?

Current estimates are that six million pounds of nitrogen need to be reduced as part of the Conowingo WIP. To meet this target, the Chesapeake Bay Program targeted areas where reducing nitrogen locally will have the greatest impact on increasing dissolved oxygen in the Bay.

Based on the amount of pollutant loads being delivered to the Bay and planned restoration efforts, some watersheds downstream of the dam could offer restoration opportunities that deliver benefits to the Chesapeake Bay comparable to restoration opportunities located upstream of the dam.

These cost-effective downstream restoration opportunities could also be included in the WIP if the cost per pound of nitrogen reduced is similar or better than reductions associated with projects upstream of the dam.

## How Will Jurisdictions’ WIPs Work in Tandem With the Conowingo WIP?

The Conowingo WIP process is intended to integrate with ongoing efforts to implement best management practices (BMPs) but seeks to go above and beyond what is identified in existing WIPs.

Watershed jurisdictions are NOT being asked to develop a second WIP document for the Conowingo. Instead, EPA has contracted with the Center for Watershed Protection, the Chesapeake Conservancy, the University of Maryland Sea Grant Program and the Harry R. Hughes Center for Agro-Ecology to develop, write and implement the Conowingo WIP or perform outreach.

The Conowingo WIP team will bring additional resources to identify, fund and ultimately implement projects that are identified as part of the Conowingo WIP. Projects identified and funded through the Conowingo WIP will be reported directly to the jurisdiction which will report the project and corresponding Conowingo WIP load reductions to the EPA.



Photo by Will Parson  
Chesapeake Bay Program

## How Were “Priority” Watersheds In The Conowingo WIP Identified?

The priority watersheds are located within the “most effective basins” and were identified based on a combination of modeling, monitoring data, GIS analysis and communication with state agencies.

**Criteria used to identify “priority” watersheds include:**

- Watershed modeling and monitoring data related to the delivery of nitrogen to the Chesapeake Bay;
- A BMP opportunity analysis using GIS data to determine where there may be opportunity for both Chesapeake Bay WIP and Conowingo WIP projects;
- Input from steering committee members on each jurisdiction’s available and needed resources for implementation.

## How Will The Conowingo WIP Be Created?

To assist in the development of the Conowingo WIP, the most up-to-date data, modeling and technology will be used to target and track restoration practices where they will have the most strategic impact.

The EPA contracted with the Center for Watershed Protection, Chesapeake Bay Trust and Chesapeake Conservancy to assist in overseeing various tasks including coordination, project identification and developing a financing strategy to reduce the total amount of nitrogen delivered to the Chesapeake Bay.

## Is The Conowingo WIP Independent From WIPs Currently In Development In Other Jurisdictions?

Yes. When complete, the Conowingo WIP will be its own plan, independent of the individual WIPs currently being developed by each of the Bay jurisdictions.

## Why Is This WIP Focusing On The Conowingo Dam?

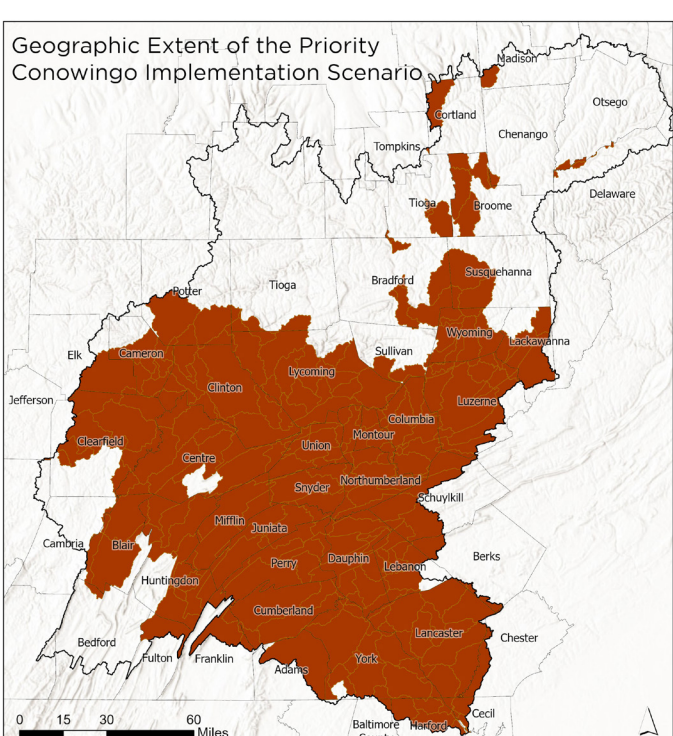
Jurisdictions throughout the Chesapeake Bay watershed have made progress in reducing pollution since the Bay TMDL was established in 2010. However, recent scientific studies have shown that the dam’s reservoir is nearing “dynamic equilibrium” which means it will no longer serve as a sufficient sink for sediment and other pollutants, and what flows in above the dam will eventually flow out.

The Phase III WIPs did not account for the Conowingo Dam’s reduced ability to trap upstream pollution. To address this problem, the Chesapeake Bay Program has been working since December 2017 to develop a WIP specific to the Conowingo Dam.



Photo by Will Parson  
Chesapeake Bay Program

## Primary Conowingo WIP Geography



- ☐ Susquehanna Watershed
- ☐ County Boundaries
- ☒ Areas Considered in the Scenario

## How Will Implementation Occur?

The Conowingo WIP proposes to utilize flexible and cost-effective mechanisms to deliver nitrogen reductions. Implementation of the Conowingo WIP is structured to dovetail and work in tandem with financing institutions and existing state or grant programs to maximize the capacity and deploy implementation funds in the most efficient way possible while providing thorough review and oversight of the project implementation.

The Conowingo WIP also is set up to utilize performance-based contracting to leverage private sector capacity to develop and propose cost-effective BMPs to reduce the most nitrogen entering the Chesapeake Bay.

## Who Will Pay For The Practices In The Conowingo WIP?

New financing methods are being developed that will be designed to help expedite progress toward restoration of the Chesapeake Bay. To accomplish this, a team of financial experts is looking at ways to reduce costs, improve scale and ensure implementation over the long term.

Map produced by Chesapeake Conservancy. 8/12/2020  
For use in the Conowingo Watershed Implementation Plan.  
Data sources: U.S. Geological Survey (2019), Chesapeake Bay Program (2020)



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**Project partners include:**

Center for Watershed Protection | Chesapeake Conservancy  
Chesapeake Commons | Harry R. Hughes Center for Agro-Ecology  
University of Maryland Sea Grant Extension | Chesapeake Bay Trust