**Brief History of Conowingo Dam and CAC involvement**

*Briefing Document for CAC February 25, 2022 Conowingo Dam Panel*

**Where and what is the Conowingo Dam?**

The Conowingo Dam is a hydroelectric plant located in upper Maryland (Cecil and Howard Counties) on the Susquehanna River. It is operated by Exelon Corporation through a license issued by the Federal Energy Regulatory Commission (FERC). The Susquehanna River flows through NY, PA and MD and provides 55% of the freshwater flowing into the Chesapeake Bay.

**Why does the Conowingo Dam Matter? What is at Stake?**

The Dam has trapped pollutants behind the Conowingo reservoir for the past 80+ years.This has benefited the water quality of the Bay. It has also benefited jurisdictions to varying degrees by lessening load reduction responsibilities in the watershed TMDL. No reservoir maintenance to restore trapping capacity has occurred over the life of the dam. The reservoir is now near full capacity to store sediment that has flowed from upstream and the Dam’s trapping benefits are greatly diminished. When there are large storm events, the dam opens its “floodgates” to release water downstream. Along with that water is nutrient pollution, sediment and debris.

The Conowingo Dam pollution influences whether the Chesapeake Bay will be fishable and swimmable. The TMDL Watershed Implementation Plans (WIPs) are based on getting all the practices in place by 2025 that will lead to water quality standards to support aquatic life and healthy water recreation for humans.

The estimated 6 Million pounds of nitrogen pollution from the Dam was not originally accounted for in the TMDL clean-up, so it represents additional pollution reduction required to meet healthy water quality standards.

● To put 6 Million pounds into context, Phase III TMDL planning targets (caps to meet and maintain) for nitrogen are:

○ PA: 73.18 Million pounds

○ MD: 45.78 Million pounds

○ VA: 55.73 Million pounds

**What the CAC Conowingo Dam Panel aims to uncover:**

● What is the best understanding of the Dam’s impact of the nitrogen and sediment on the Bay system?

● What is the best path forward to address that impact?

○ Is dredging the sediment from behind the Dam a necessary or efficient option or are we better served to implement BMPs upstream?

● Who should pay for the impacts of the Dam and what is the best approach?

Some Opinions from the CAC Water Quality Subcommittee:

Why Does the Conowingo Dam matter and what is at stake?

● I’ve always thought the discussion was overblown given that the material tends to move in high flow events – but the details of that movement and its impacts are important. I think the key issue for me is that it is far more cost effective to reduce the loads to the estuary by improving land management and implementing BMPs on the landscape, instead of using public dollars to dredge sediment from behind the Dam. The questions being discussed

1

regarding the impact of the resuspended sediment on the bay ecology are critical. If there is no significantly outsized or disproportionate impact, there’s not much point to dredging, given the price tag.

● Regardless of the potential to trap nutrients, the Dam’s function to trap sediment is unquestioned. In days of increasing information on unusual storm events, the Program must develop incremental and immediate steps to address its potential for serious downstream damage. The survival of fish that must migrate up (AND down) the River is at risk due to “casual” management of the Dam’s fish ladder. In addition to downstream damage and lost ecosystem services relating to fisheries and habitat, what is also at stake is the credibility of the Bay Program to actually develop a real plan for addressing this problem, instead of passing the buck and endorsing flawed financing strategies. EPA’s recent letter about the CWIP is one of the highpoints of the last 8 years of Bay Program management.

● Conowingo holds back the largest amount of sediments poised/pointed at the Chesapeake Bay, which if mobilized would destroy decades of work on Bay restoration. What’s at stake is the ability to capture sediments in the future.

**How does the Conowingo Dam impact the local level?**

*Living Resources, Public Recreation:* The nitrogen and sediment pollution flowing downstream degrades water conditions making it difficult for underwater grasses, fish and shellfish to survive. Additionally, the debris (trees, trash) caught behind the dam flows downstream and poses a safety risk to residents recreating and fishing in the water.

Some Opinions from the CAC Water Quality Subcommittee:

How does it impact the local level?

● From a river system standpoint the dominant impact is the existence of the reservoir, which will not change. BMPs on the landscape would have a large impact, dredging the reservoir will not.

● The socio-economic status of many of the cities immediately downstream make the Program’s inability to address the potential disaster of tons of sediment released by the Dam an environmental injustice of significant proportions.

● Locally, those communities downstream of Conowingo live under the threat of the next “Sandy” superstorm which would mobilize tons of sediment.

Some Opinions from the CAC Water Quality Subcommittee:

What additional learning can the panel reveal?

● What is or should be the role of Exelon and the FERC license in the TMDL?

● A clear understanding of the roles that various public and private parties are currently playing and the potential for each to advance solutions. This includes the potential that litigation will force Exelon to pay its fair share. Understand the importance of action underway by the current Administration

2

to fix unprecedented attacks on the Clean Water Act which were used as rationale for removing a major source of funding for Conowingo remediation.

● The panel could help to uncover potential beneficial use products from the dredge material.

**Background on Bay Program Conowingo Dam policy**

**2010 TMDL created to reduce pollution for water quality**

● Pollution loading targets are assigned to each State and DC

● All practices must be in place to achieve the water quality goals by 2025 ● The scientific understanding at the time was that the Conowingo Dam would continue to trap nutrients and sediment until 2025.

**2015 Lower Susquehanna River Watershed Assessment**

● Study about the causes and potential solutions to the Conowingo's sediment problem ● Estimated dredging costs: $48 to $267 million (every year)

○ to remove 3 million cubic yards (about 2.4 million tons)

● Upstream BMPs: $1.5 to $3.5 billion (one time cost)

○ would prevent approximately 117,000 cubic yards (an estimated 95,000 tons) of pollution from reaching the bay each year

**2017 Midway to the TMDL, a policy decision leads to a separate Conowingo Dam WIP** ● Phase III WIPs are developed: Does the monitored water quality data show that the states have met 60% of the pollution reduction goals? *No, not all jurisdictions met their goals.*

● Data reveals: the Dam's sediment trapping capacity is full. Upstream water continues to bring sediment downstream to the Dam and then it fills up again and is released again. Scientists call this cycle "dynamic equilibrium".

o The Bay Model estimates that approximately 6 million additional pounds of nitrogen and 260,000 additional pounds of phosphorus a year are reaching the Bay.

o **Big Policy Question**: how does this pollution get divided up among the states for the last phase (Phase III) of the TMDL clean-up?

o **Answer:** The Principals Staff Committee (PSC) decided (1) to **create a separate WIP for the Conowingo Dam** and (2) agreed that the Bay jurisdictions will pool their resources and identify a process to fund and implement the CWIP

o MD will seek contributions from Dam owner, Exelon Corporation.

**2019 MD initiates a pilot project to dredge behind the Dam**

● 1,000 cubic yards of sediment will be mechanically dredged, dewatered on a barge, and then reused

● Permitting and approval delays stall the project until 2021

● (per Northgate Environmental Management / contractor) Costs are on schedule, with the exception of a $118,000 contract expansion change order request approved by the State for the prime contractor (the Northgate-Dutra Joint Venture), in order to meet property owner requests.

**2019 CWIP Development begins**

EPA issued a cooperative agreement for third party help with the Conowingo WIP. ● Activity 1: Conowingo WIP Development and Implementation

● Activity 2: Financing Strategy and Authority Development

● Activity 3: Conowingo WIP Tracking, Verifying, and Reporting MD Settlement with Exelon:

3

Agreement settles Exelon’s legal challenges to water quality certification issued by MD under Section 401 of the Clean Water Act. $200 Million invested in environmental projects and operational enhancements to improve water quality in the Lower Susquehanna and Chesapeake Bay**.**

**2021 the final CWIP is approved by the PSC**

● Financing Authority created to distribute funds across state lines and target BMPs

**2022 the EPA evaluates the CWIP**

● EPA has no confidence the nitrogen CWIP load reductions will be met ○ because there are no funding commitments from the jurisdictions to initiate the CWIP implementation

● EPA has the authority to redistribute those load reductions to the Susquehanna Rivers Basin states (NY, PA and MD).

○ Redistribution would alleviate competition for resources (funding, technical support, etc...) between the CWIP and the state Phase 3 WIPs

○ States are asked to review federal and state funding sources to address this lack of commitment in **60 DAYS. (March 25, 2022)**

● Generally, the nitrogen reduction would come from 89% agricultural sources ● CBP has not approved dredging as a viable BMP nor determined appropriate efficiency values, so until and if that were to happen (through an expert panel process) the CWIP cannot rely on dredging to meet its reduction targets.

**2022 Maryland’s Capital Budget**

Governor Hogan proposes his budget which includes:

● $313 million for protecting the Chesapeake Bay

○ $31 million to lead efforts in addressing water quality issues related to the Conowingo Dam:

■ $25 million for improvements to the watershed and

■ $6 million for dredging

**Previous CAC positions on the Conowingo Dam**

**March 2021 CAC Email to CWIP Steering Committee**

Request to create a public comment period for the CWIP financing strategy (denied)

**January 2021 CAC Comments on draft CWIP**

To the Bay Program’s CWIP Steering Committee: CAC expressed concerns: (1) Funding- there is inadequate funding to implement the practices in the CWIP; (2) Feasibility: the CWIP creates competition with the existing states WIPs grappling with too few resources for technical support and available land for Best Management Practices (BMPs); (3) Sediment- the CWIP does not

adequately address the downstream threat of water quality, living resources, and public recreation posed by sediment and debris passing through the dam during heavy rain events.

**March 2020 CAC Letter**

To the Executive Council: expressed concerns about MD’s Sec 401 Water Quality Certification; CAC expressed concerns that the outcome of the October 2019 negotiated Conowingo Dam settlement agreement will diminish our region’s ability to practicably address the significant pollution and financial challenges required for living resources goals, the Chesapeake Bay TMDL

4

pollution reductions, and the Conowingo WIP. Recommend the Executive Council and Principals strategize and respond to the unanticipated funding gap the Conowingo Dam settlement poses.

**November 2018 CAC Panel in DC**

Nicki Kasi, PA DEP Co-Chair, Conowingo Steering Committee (via conference line); Betsy Nicholas, Executive Director, Waterkeepers Chesapeake; Beth McGee, Chesapeake Bay Foundation; Ted Evgeniadis, Lower Susquehanna Riverkeeper

**December 2012 CAC Letter**

Following a meeting at the Exelon Visitors Center (with presentations by Exelon’s General Manager, Senior Environmental Specialist, MD DNR Power Plant Research Program, Susquehanna River Basin Commission, U.S. Army Corps of Engineers, and the Lower Susquehanna Riverkeeper) CAC issued a letter to EPA Administrator Jackson to engage with the Federal Energy Regulatory Commission (FERC) in the process to relicense the Dam to Exelon for the next 50 years.

**Included in Annual Report of Recommendations to the EC:**

**2013**- Since it will not be in the new Chesapeake Bay Watershed Agreement, how will the sediment capacity behind the Dam be addressed?

● It was included in the Bay TMDL Appendix for addressing in the 2017 Midpoint Assessment and may be incorporated in the Phase III WIPs

**2012-** Consider the cost of inaction to addressing the sediment build-up behind the dam

**2010-** Include FERC on the Executive Order Federal Leadership Committee to talk about their role in the impacts of the dam; concern with potential scouring of sediment from large storm events

**2009**- Address the sediment build-up behind the Dam, consider cost of inaction

**2007-** EC Recommendations. “Katrina in our backyard” restoration progress is vulnerable, direct scientist and engineers to best course of action5