



**Maryland**  
Department of  
the Environment

# Overview of Maryland's Water Quality Certification for the Conowingo Dam

Presentation to the  
Chesapeake Bay Commission

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# Key Takeaways

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1. We have a once-in-a-generation opportunity to get this right.
2. There is a sound scientific and legal basis for the Conowingo water quality certificate.
3. We remain optimistic about a constructive resolution.

# Different Perspectives

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**“A homeowner on a river is not responsible for trash that floats past the homeowner’s property...**

**I don’t believe there is any verifiable basis for a finding that the dam causes a harm to the Bay ... the principal effect of the dam has been to actually improve water quality.”**

*- Exelon counsel, transcript of MDE reconsideration meeting, 10/19/2018*

- Conowingo is not just a riverfront home – it’s a 4,000’ wide, 10-story dam
- It has fundamentally altered the ecosystems of the River and the Bay, resulting in negative impacts on water quality and ability to attain water quality standards
- Impounded sediment is like a loaded cannon pointed at the Bay
- Environmental benefit of renewable energy must be weighed against detrimental environmental impact
  - Dam does not qualify for Tier 1 renewable energy credits

# Introduction

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- Section 401 of the Clean Water Act
  - To obtain a federal license for an activity that may result in a discharge into waters of the United States, the applicant must provide the federal agency with a water quality certification (WQC)
  - WQC is a state certification that the discharge will comply with state water quality standards
  - State has 12 months to grant (with or without conditions) or deny a WQC
  - 401 is an important tool in states' efforts to protect their waters
  - Industry has repeatedly lobbied to curtail states' authority
- Conowingo Relicensing
  - Exelon applied to FERC for a new 46-year license in August 2012
  - Exelon's first request for a WQC from Maryland was made in 2013, followed by three withdraw-and-resubmit cycles
- Conowingo Water Quality Certificate
  - MDE issued a WQC with conditions to Exelon in April 2018
  - Conditions address the many ways the dam impacts the River and Bay
  - Exelon is challenging the WQC via administrative and judicial appeals

# Highlights of WQC Conditions

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- Dissolved Oxygen in the Bay (Nutrients)
  - Exelon must eliminate 6,000,000 lbs. of N and 260,000 lbs. of P annually
  - “Any combination of corrective strategies”, including optional fee-in-lieu
  - Credit for reductions achieved by other Bay jurisdictions (e.g., C-WIP)
- Flow Regime – Aquatic Life and Migratory Fish
  - Immediately: Implement flow regime proposed by Exelon
  - 10 years later: Implement more protective flow regime, unless Exelon demonstrates an alternate flow regime would have equal/greater benefits
- Fish Passage – Restoring Migratory Fish and Mussels
  - Compliance with Settlement Agreement between Exelon and USFWS
  - Additional plans to address invasive species and improved eel passage
- Trash and Debris
  - Builds on Exelon’s historical practice of trash and debris removal, requiring more frequent clamming and skimming

# Highlights of WQC Conditions (cont.)

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- Chlorophyll-A
  - Elevated chlorophyll-A levels could impact Baltimore drinking water supply
  - Exelon must monitor, and if elevated, submit a plan of correction
  - Exelon must reimburse City of Baltimore for additional treatment costs
- Impacts on Aquatic Habitat
  - Mussels
  - Turtles
  - Waterfowl
  - Sturgeon
  - etc.

# Once-in-a-Generation Opportunity

- Exelon is seeking a 46 year FERC license
- Environmental progress at Conowingo has historically been slow

**1928**

Dam built

**1908**

As a condition to granting eminent domain power, the Maryland General Assembly required the dam owner to “*construct and maintain sufficient fish ways or fish ladders to permit the passage of fish*”

– 1908 Md. Laws, Chap. 268

**1972**

First fish lift built  
(experimental)

# Consequences of Slow Environmental Progress

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- Almost 50 years with no required minimum flow
  - Most weekends, flow stopped entirely for 8-48 hours, leading to fish mortality and eliminating stretches of a major artery to the Bay for healthy aquatic life
  - Dam owner could literally “turn the river off”
- 60+ years with no real fishlift
  - American Shad, River Herring and American Eel fisheries decimated
  - Loss of freshwater mussel population means loss of pollution filtration
- 90 years without addressing accumulated sediment
  - Large storm events now trigger massive releases of accumulated materials and associated nutrients during a short timeframe
- 90 years without regular downstream movement of coarse sediment
  - River and upper Bay are starved of coarse sediment, harming aquatic habitat and SAV establishment
  - Less resilience to storm events

# Sound Scientific and Legal Basis

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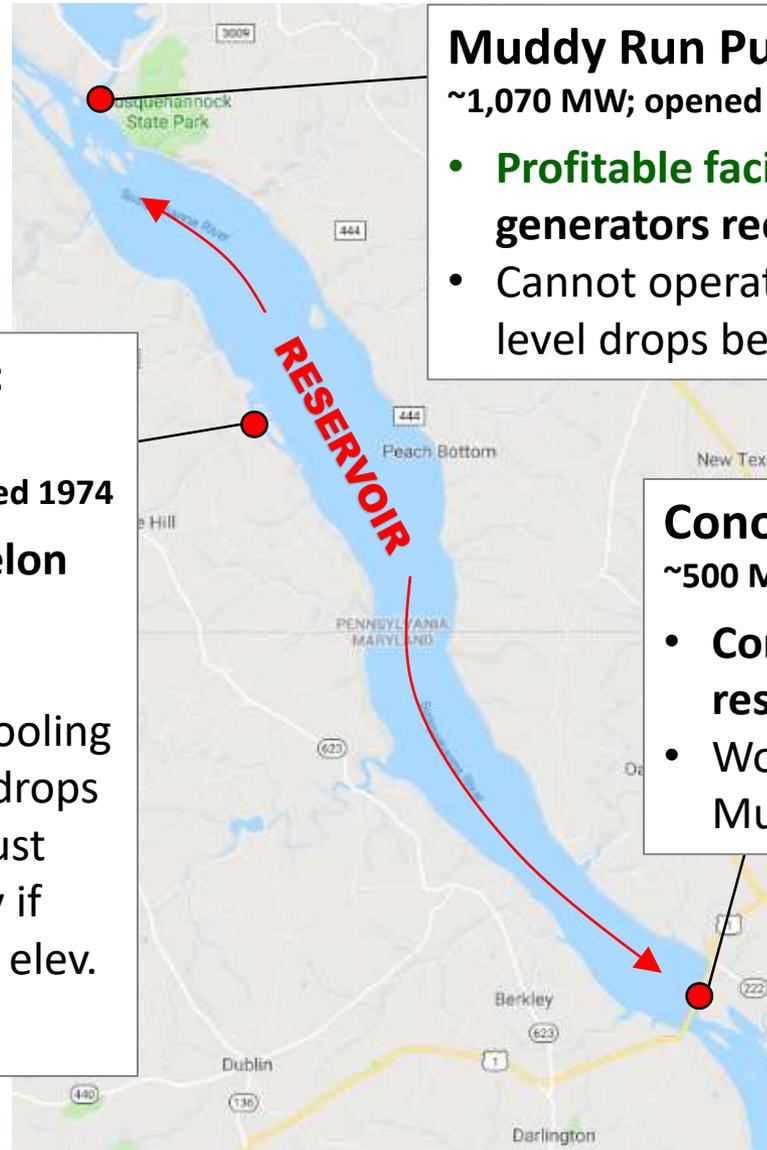
- The dam has fundamentally altered the ecosystems of the River and the Bay; its discharge has negative impacts on water quality and the ability to attain water quality standards
- Legal Basis
  - Plain language of 401 and several Supreme Court cases support Maryland's actions in the Conowingo WQC
  - Industry efforts to weaken 401 actually highlight what a powerful tool it is
- Scientific Basis
  - Science shows the linkage between the WQC conditions and the dam's discharge
  - Not just using Conowingo as a scapegoat to solve a problem in the TMDL model, as has been alleged

# Economic Reality

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- For 90 years, the dam has generated profits for its owner
- Only a very small portion of those profits have been reinvested in environmental mitigation, and only under pressure to do so
- Meanwhile, environmental challenges have continued to compound, and now the challenges are big
- The fee-in-lieu is a reasonable estimate of the cost of solving the 6,000,000 lb. N / 260,000 lb. P problem caused by the dam

# Conowingo in Economic Context



## Muddy Run Pumped Storage Facility

~1,070 MW; opened 1966

- **Profitable facility**; turbines and generators recently refurbished
- Cannot operate its pumps if reservoir level drops below elev. 104.7'

## Peach Bottom Atomic Power Station

~2,770 MW; units commissioned 1974

- **Profitable facility**; Exelon recently invested \$87 million in upgrades
- Begins experiencing cooling problems if reservoir drops to elev. 104.2', and must shut down completely if reservoir drops below elev. 99.2'

## Conowingo Dam

~500 MW; opened 1928

- **Controls the level in the reservoir**
- Workforce shared with Muddy Run

# Path Forward

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- We remain optimistic about a constructive, environmentally-beneficial resolution
- The WQC
  - The strict 12-month timeline under 401, plus the burden of crafting a 46-year solution, necessitated decisive action on the WQC in April 2018
  - We are confident that the WQC will be upheld on appeal
  - But, the Bay is probably better served by a collaborative approach instead of an adversarial approach
  - MDE's door is always open
- The Conowingo WIP
  - In 2017, recognizing the TMDL requirement to account for the 6 million/260,000 pound nutrient problem caused by the dam, the Bay Partnership developed the CWIP framework
  - “Credit” provision in the WQC makes the CWIP and WQC work together
  - Going forward, the CWIP will be an important part of the multi-jurisdictional strategy to address the dam's impacts