

Conowingo Dam Public Hearing Testimony  
May 5, 2014

Maryland Department of Natural Resources (DNR), Secretary Joseph P. Gill

I want to thank Senator Cardin for organizing the Public Hearing on the Conowingo Dam, addressing the potential negative impacts of the Dam reaching “dynamic equilibrium” on the Chesapeake Bay water quality, habitat and living resources, fishing industry and recreation, and the Dam Relicensing effort.

I was appointed Secretary of the Maryland Department of Natural Resources in May 2013. I took over the agency’s leadership after having served 3 years as DNR’s Deputy Secretary and 14 years as the agency’s Principal Counsel.

Maryland’s Governor, DNR and Maryland Department of the Environment (MDE) are all concerned about the sediment and nutrients behind the Conowingo Dam and their potential impacts to the Chesapeake Bay. Protecting and restoring the Chesapeake Bay, to make it the most productive, vital ecosystem, with good water quality and habitat that supports the diversity of fish, shell fish and other aquatic organism, and safe for all recreational activities such as swimming, boating and fishing is our highest priority.

But Conowingo Dam is not the Bay’s only or even its main problem. Scour of sediments from behind the dam in a storm event adds only about 8% to 12% to the load from the watershed. Storm events and sediment and nutrient laden runoff come from every part of the watershed. Just like in the reservoir behind this dam, sediment and nutrients are trapped in every farm pond, stormwater pond and reservoir throughout the Bay and its tributary watersheds, and storm events carry trapped pollutants into local streams and rivers, just as they do in the Bay.

Everyone has seen the infamous satellite photo of the Susquehanna and Upper Bay after Tropical Storm Lee, but just look at the sediment plumes in the below satellite imagery of the James, Rappahannock and Potomac.



**February 18, 2013**

This Image is Available at  
Maryland DNR's  
[www.eyesonthebay.net](http://www.eyesonthebay.net)

Image courtesy of  
MODIS Rapid Response Project  
at NASA/GSFC  
250 meter resolution  
<http://lance-modis.eosdis.nasa.gov/imagery/subsets/?project=aeronet&subset=Wallops>

They look like a smaller version of the Susquehanna during Tropical Storm Lee and there are no dams in the lower part of these rivers. The key to restoring the Bay and its tributaries lies in reducing pollution from sources throughout each watershed – following our Watershed Implementation Plans. Over time, as the Bay watershed is cleaned up and historic deposits behind Conowingo Dam and in other ponds and reservoirs diminish, storms will have less impact and the Bay will be healthier and more resilient.

The Watershed Implementation Plans (WIP) are proven, science-based blueprints already in place that outline pollution reduction strategies needed to improve water quality in our local tributaries and the Chesapeake Bay. Their implementation is critical to a successful Bay restoration. We know that the Conowingo Dam has an impact of meeting our water quality standards, but if we do not meet our watershed implementation plans, we will fail in restoring the Bay. Continued implementation of existing watershed plans is essential for Bay health.

Maryland DNR and MDE are in negotiations with Exelon, the Conowingo Dam operator, on the Conowingo Dam Relicensing process and have been since 2009. The Relicensing participants include the Federal Energy Regulatory Commission (FERC), Exelon, Pennsylvania Department of Environmental Protection and Fish and Boating Commission, USFWS/NOAA Fisheries and other agencies and NGOs such as the National Park Service, the Susquehanna River Basin Commission, The Nature Conservancy and the Lower Susquehanna Riverkeeper.

In 2009, FERC approved 32 environmental and socio-economic studies to be conducted by Exelon covering issues ranging from “Downstream Fish Passage Effectiveness Study” to “Sediment Introduction and Transport (Sediment and Nutrient Loading)” to help inform the relicensing process. These studies are critical in assessing the wide range of topics that must be addressed during the Relicensing process.

The Relicensing issues under consideration are sediment management, fish passage, flow management, water quality, recreation, debris management, freshwater mussels, Rare, Threatened and Endangered species and land conservation. Maryland wants to accomplish efficient and cost effective management of sediment, improved fish passage with an American Shad goal of 2 million fish above York Haven Dam and an American Eel goal of 8.2 million within 10 years. We want to restore freshwater mussels due to their impact on water quality through their filtration capabilities. We need to enhance flow conditions that will improve downstream habitat and reduce fish stranding. All these issues will be addressed before a new license can be approved for Conowingo Dam.

Exelon submitted their application for a Clean Water Act, Section 401 Water Quality Certification (WQC) to the Maryland Department of the Environment (MDE) on January 30, 2014. MDE has one year or until January 29, 2015 to render a decision on the application. FERC’s draft Environmental Impact Statement (EIS) is scheduled for release on July 30, 2014. The existing Conowingo Dam license expires on September 1, 2014. FERC will issue a temporary license until EIS is finalized and the State makes a decision on the WQC.

The State's WQC authority has been interpreted broadly by courts. It includes authority to condition the license as necessary to ensure compliance with State water quality standards. The courts have upheld a broad range of requirements based on WQC conditions related to fish passage, habitat, minimum flows, and recreation. FERC cannot grant its license without issuance of a WQC from Maryland. In addition, FERC has little to no authority to reject or modify the State's WQC conditions. We are working very closely with the Maryland Department of the Environment, Exelon and our Chesapeake Bay Program partners to help develop appropriate conditions, and to gather the necessary information and studies that will ensure that all conditions of the WQC are met in a timely fashion to protect all Maryland's waters and the great resources of the Chesapeake Bay.

Understanding the accumulated sediments and nutrients behind Conowingo Dam has been a long-term issue for Maryland and the Chesapeake Bay Program partnership, from the late 1990s with The Susquehanna River Basin Commission's (SRBC), appointment of a special Sediment Task Force to assess the potential increase in sediment delivery by the Susquehanna river to the Bay ([http://www.chesapeake.org/stac/Pubs/Sediment\\_Report.pdf](http://www.chesapeake.org/stac/Pubs/Sediment_Report.pdf)) and the Sediment Task Force recommendations in June 2002 ([http://www.srbc.net/programs/docs/Sedi\\_task\\_force\\_rec221.pdf](http://www.srbc.net/programs/docs/Sedi_task_force_rec221.pdf)) to the ongoing Lower Susquehanna River Watershed Assessment (LSRWA) Study. To that end, we continue working with all our Chesapeake Bay Program partners through the Chesapeake 2017 Mid Point Assessment of the 2010 Bay Total Maximum Daily Load (TMDL), the Conowingo Dam Relicensing effort with Exelon, and Army Corps of Engineers/Maryland Lower Susquehanna River Watershed Assessment study to develop the best science and management solutions to efficiently and cost effectively mitigate for the potential negative impacts from excess sediments and nutrients from the Dam reaching "dynamic equilibrium".

That is why, as part of creating the model for the TMDL, 10 years of data was used – including major and lower level storm events, to determine the pollution reduction targets. And as we study this issue, determine the best strategies for mitigating potential negative impacts and address all of the issues related to the Dam reaching "dynamic equilibrium" during the relicensing process, we are also increasing our monitoring and including all of this data as part of our 2017 mid-point assessment with the Chesapeake Bay Program.

Even during large storm events such as Tropical Storm Lee in 2011, 80% of the sediment load comes from the watershed. This means we have to control the sources of sediment and nutrient inputs before it reaches our tributaries. This is the case for all of the Bay's rivers such as the Potomac, Patuxent, Choptank, Rappahannock, James, and York, not just the Susquehanna.

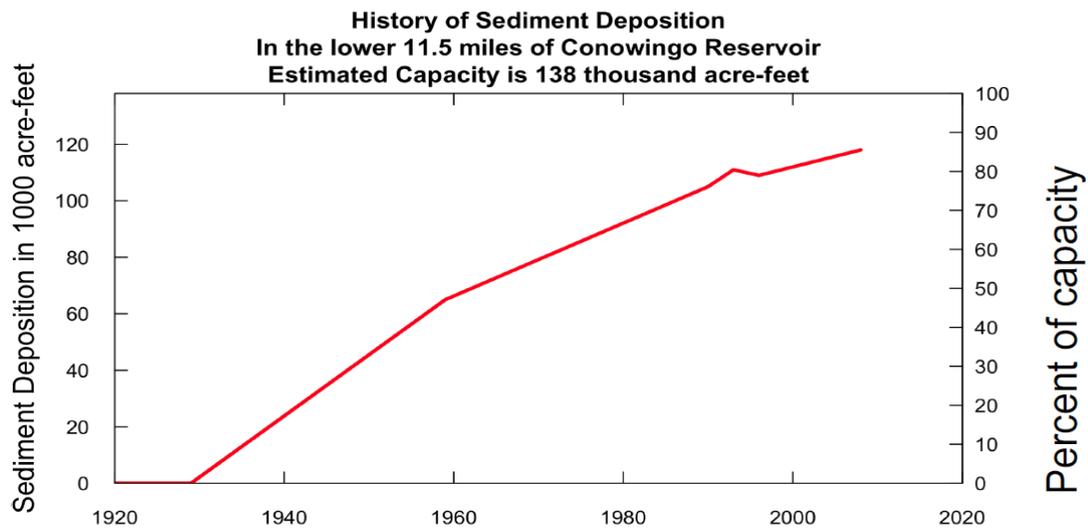
Maryland Governor, Martin O'Malley is Chair of the Chesapeake Executive Council (EC). As Maryland holds the Chair of the EC, the DNR Secretary Chairs the Principals'

Staff Committee (PSC). The PSC acts as the policy advisors to the Executive Council, accepting items for Council consideration and approval, and setting agendas for Council meetings ( [http://www.chesapeakebay.net/groups/group/principals\\_staff\\_committee](http://www.chesapeakebay.net/groups/group/principals_staff_committee) ). The partnership had the foresight to include assessing the Conowingo Dam impacts to the Bay as part of the original TMDL model and looking to the future as part of the 2017 Mid Point Assessment ( <http://www.epa.gov/chesapeakebaytmdl/> ).

As Chair of the PSC, I can assure you we are making every effort to assemble the most accurate, comprehensive and scientifically sound information on the status of the Dam, the conditions of the accumulated sediments and nutrients behind the Dam, and their ultimate impacts during various flow conditions from major storms such as Tropical Storm Lee in 2011, to the more frequent, but lesser high flow events that occur 2-3 times per year. All the information, including enhanced monitoring conducted by various partners above, at and below the Conowingo Dam will be assembled, analyzed, modeled and incorporated into the 2017 Mid- Point Assessment. This will allow the Chesapeake Bay Program partnership to determine the most efficient and cost effective sediment and nutrient manage strategies to ensure the protection of the Bay's water quality and habitat necessary to support abundant fish, oysters and crabs.

Maryland Departments of the Environment and Natural Resources, along with the Susquehanna River Basin Commission and The Nature Conservancy entered into an agreement with the US Army Corp of Engineers in September 2011 to conduct a 3-year, \$1.3 million LSRWA Study. The study was aimed at assessing the amount of sediment released from Conowingo Pond during extremely high flow (>400,000 cfs) storm events. The preliminary conclusion from the study is that the Dam has reached a "dynamic equilibrium" and that the dam's ability to trap the sediment and our understanding of its impact has changed.

At the time the study objectives were developed, it was generally believed that the Dam would not reach full storage capacity until sometime in the next 10 to 15 years (see figure below). However, it is now believed that the dam scouring events are occurring at much lower levels, potentially less than 300,000 cfs and therefore occur at more frequent intervals - than previously understood. The dam has reached a kind of "dynamic equilibrium," which means that it is expected to regularly scour during lower-level storm events and then trap sediment at normal flows, only to scour again. The LSRWA study was not designed to assess the impact to the Bay of these lower-level storm events.



Source: Langland, 2009  
<http://pubs.usgs.gov/sir/2009/5110/>

Addressing the sediments and nutrients behind Conowingo Dam is a technically and politically challenging problem. The solutions must be long-term and will have a high cost for implementation. The problem is that sediments and nutrients originate throughout the watershed and the Dam no longer has the capacity to trap a portion of those sediments. Also, during more frequent and smaller storm events, scoured sediments and nutrients stored behind the Dam are delivered to the Chesapeake Bay, likely causing water quality standard impairments. We will have to determine which entities have the resources, abilities, and purview to implement sediment and nutrient management strategies.

Maryland is working with all our State, federal, and Chesapeake Bay partners to develop and implement a suite of practices to mitigate the impacts of the Conowingo Dam reaching “dynamic equilibrium” on the Chesapeake Bay. This is one of Maryland’s highest priorities. Make no mistake: The key to restoring the Chesapeake Bay and her tributaries lies in reducing the input of pollution sources throughout the watershed. Over time, as the watershed is cleaned up and historic deposits of pollution like those found behind the Dam are diminished, storms will have less and less impact on a healthier and more resilient Bay.