

# COUNTY COUNCIL OF DORCHESTER COUNTY

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September 25, 2012

Robert M. Summers, Ph.D.  
Secretary  
Maryland Department of the Environment  
1800 Washington Blvd, Suite 415  
Baltimore, Maryland, 21230-1708

Re: Chesapeake Bay TMDL  
Phase II WIP Process  
FERC Permit - Conowingo Hydroelectric Dam

Dear Secretary Summers:

I am writing on behalf of the County Council of Dorchester County regarding the interrelated matters referenced above. We are keenly aware that there is growing concern among the counties about the efficacy of the Phase II Watershed Implementation Plan ("WIP") program and the costs associated with that program. In a fiscal environment of contracting revenues, local governments cannot afford to spend millions and millions of dollars to remove small amounts of nutrients and sediments that may be moving toward the Chesapeake Bay while there is little focus and nothing spent to address the largest source of nutrient and sediment loading to the Bay.

We believe that the Chesapeake Bay TMDL established by the United States Environmental Protection Agency ("EPA") is fatally flawed because it neglects to take into account the largest contributing source to the nutrient loading of the Bay: the water and the sediment flowing through the Conowingo Dam during major storm events and on a day-to-day basis. The loading from this source eclipses the loading from all Maryland sources. The models used by EPA to establish the Chesapeake Bay TMDL and applied by the Bay states in establishing Phase I WIP allocations failed to account for such loading.

The U.S. Department of the Interior, U.S. Geological Survey report prepared by Robert M. Hirsch and titled, *Flux of Nitrogen, Phosphorus, and Suspended Sediment from the Susquehanna River Basin to the Chesapeake Bay during Tropical Storm Lee, September 2011*, as

*an Indicator of the Effects of Reservoir Sedimentation on Water Quality* – Report 2012-5185 (the “Report”), details the magnitude of this loading. The Report was published on August 30, 2012.

The Report discusses the series of hydroelectric dams from the Conowingo Dam upstream through the Conowingo Reservoir. For the past 30 years, the assumption with respect to such dams and the Conowingo Reservoir has been that they allow nutrient laden sediments to settle and trap such sediments, thereby reducing the influx of nutrients and sediments from the Susquehanna River that flow into the Bay.<sup>1</sup> Indeed, nutrient laden sediments have accumulated on the upstream side of such dams to the point where no additional sediments can physically settle and accumulate behind such dams. This situation impacts the Chesapeake Bay TMDL established by the EPA. The modeling performed by EPA fails to account for actually observed conditions. More specifically, EPA’s Chesapeake Bay TMDL and the Phase I WIPs established by the states whose flows contribute to the nutrient loading of the Bay are deficient in light of the following:

1. Nutrient laden sediments, primarily from Pennsylvania and perhaps to a lesser degree New York, no longer settle behind the hydroelectric dams and in the Conowingo Reservoir as assumed in the EPA modeling.
2. The depth of the reservoirs behind the dams in the Susquehanna Rivers has diminished and they no longer slow the water flow of the river and tributaries and allow nutrients or sediments to be absorbed or to settle in the reservoirs before flowing into the Bay; again contrary to the assumptions underpinning EPA modeling used to establish the Chesapeake Bay TMDL and the Phase I WIP allocations.
3. During storm events, the storm surge scours nutrient laden sediments from the floor of the reservoirs and flushes those additional nutrients and sediments into the Bay. This significant source of nutrient and sediment loading was not accounted for at all in the EPA modeling used to establish the Chesapeake Bay TMDL and the Phase I WIP allocations.
4. Pennsylvania and New York contribute a much larger percentage of the annual nutrient loading to the Bay because they now contribute not only what flows into the river by way of source and non-point source discharges, but also the nutrients and sediments that have accumulated in the reservoirs for the past 30 years.

Figures 1 and 2 below from the Report vividly capture the essence of the Report. Both photographs were taken in September 2011, shortly after Tropical Storm Lee passed through the Susquehanna River valley. Figure 2 shows nutrient laden sediments streaming through the Conowingo Dam at the rate of approximately 220,000 cubic feet per second.<sup>2</sup>

<sup>1</sup> In the mid-90s, USGS estimated that 2% of the nitrogen, 40% of the Phosphorus and 70% of the suspended sediments were trapped behind the dams before entering the Bay through the Conowingo Dam. (Report at 12.)

<sup>2</sup> The picture in Figure 2 was taken at 4:30 pm on September 12, 2011. The peak measured rate of flow through the Conowingo Dam from Tropical Storm Lee was 778,000 cubic feet per second at 4:00 am on September 9, 2011.

Figure 1

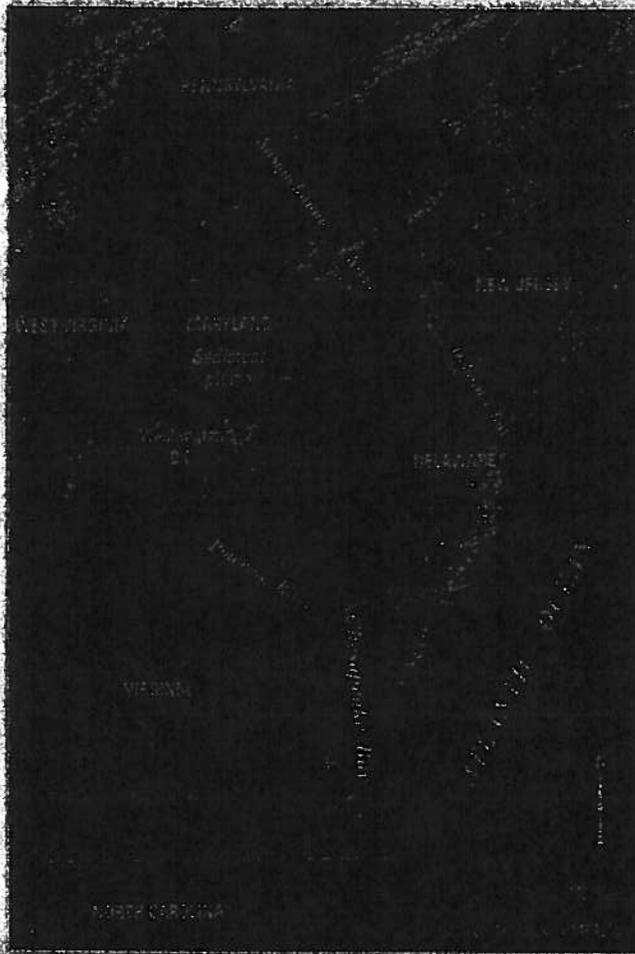


Figure 2

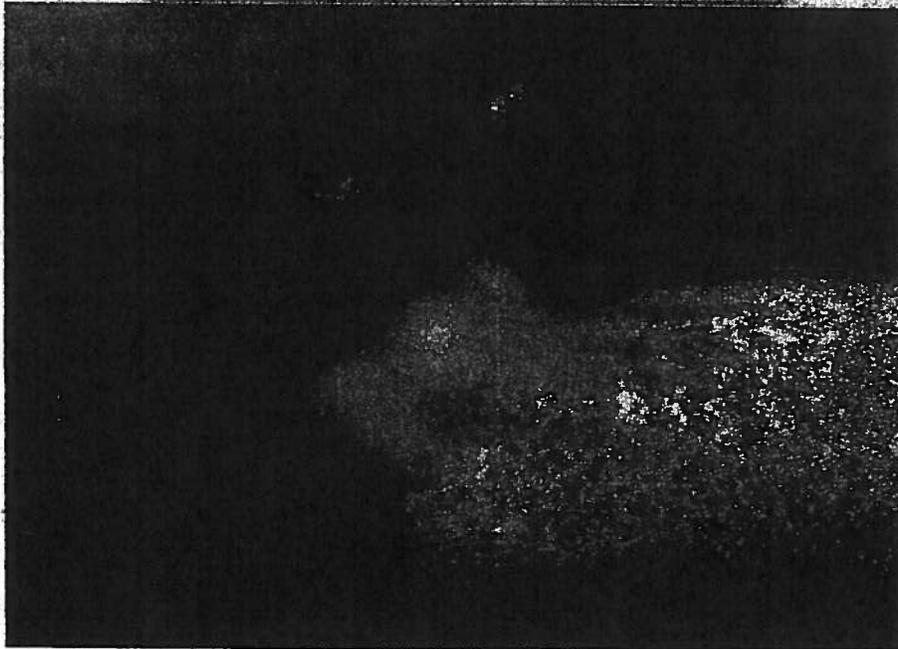


Figure 1 shows the nutrient laden sediments originating in the headwaters of the Susquehanna River on the northern border of Pennsylvania and flowing through the dam and over one hundred (100) miles south, all the way to the mouth of the Potomac River.<sup>3</sup> During the aftermath of Tropical Storm Lee, 31% of the nitrogen loading, 61% of the phosphorus loading and 78% of the sediment loading of the Bay for 2011 occurred and emanated from above the Conowingo Dam. Forty percent (40%) of the remaining nutrient and sediment loading in 2011 emanated from above the Conowingo Dam.

The Report scientifically demonstrates that nutrient and sediment laden waters flowing through the hydroelectric dams in the Chesapeake Reservoir (i.e., Muddy Run, Safe Harbor and Conowingo) deliver the vast majority of the nutrient loading to the Bay. A significant portion of such nutrient loading comes from the sediments that have accumulated in the reservoirs behind those dams. Yet to date, not one cent (\$.01) is budgeted to dredge and remove such nutrient laden sediments before they are flushed into the Bay.

In 2004, in the aftermath of Hurricane Ivan, the same kind of flushing observed after Tropical Storm Lee occurred.

One major storm event can flush enough nutrients and sediments into the Bay to nullify all of expenditures made by Maryland taxpayers to restore the Bay since the last major storm event. One major storm event smothers Bay grasses that have been planted and oyster beds that have been replenished. One major storm event expands the dead zone and eradicates flora and fauna that have been regenerating as a result of countless Maryland efforts to improve the water quality. Again, it makes no sense for the State or Maryland's local governments to invest millions and millions on Bay restoration initiatives when not one cent is being spent to remediate the deleterious impacts to water quality from the reservoirs.

In order to meaningfully improve Bay water quality, it is time to reprioritize and reallocate limited public resources and attention. We urge the State to intervene in *American Farm Bureau Federation, et al. v. U.S. EPA*, U.S. D. Ct. for the Middle District of Pennsylvania, Case No. 11-CV-0067 SHR and to challenge the Chesapeake Bay TMDL and the agreed upon allocations in light of the foregoing oversight. We urge the State to revise its WIP strategy in light of the science discussed in the Report. We urge the State to intervene in the license renewal proceedings being conducted by the Federal Energy Regulatory Commission for the Conowingo Hydroelectric Dam and other upstream hydroelectric dams to ensure meaningful Bay water quality improvement measures.

Should you wish to discuss how the concerns noted herein impact the WIP process in more detail, we would be happy to do so. If you are aware of programs that are being implemented to address such concerns, please share that information with us. Such issues affect

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<sup>3</sup> The satellite photograph in Figure 1 was taken on September 13, 2011 by the National Aeronautics and Space Administration Terra Satellite using Moderate Resolution Imaging Spectroradiometer imaging technology. Note that no sediments are observable in the waters from the Potapsco River, the West, South or Severn Rivers; the Bush, Sassafras and Bohemia Rivers; the Chester River, the Wye River, the Choptank River, the Nanticoke River, or the Pocomoke River.

Letter to MDE Secretary Robert M. Summers  
September 25, 2012  
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the Bay restoration process. We would likewise be pleased to discuss actions that could be pursued to make a meaningful difference in the water quality of the Bay.

Sincerely,

**Dorchester County Council**

A handwritten signature in black ink, appearing to read "Jay L. Newcomb". The signature is stylized with a large, sweeping initial "J" and "N".

Jay L. Newcomb  
President

