

**Attachment I-3:
Press Releases**

Attachment I-3: Press Releases

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Press Release

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Study on Sediment behind Conowingo Dam Launched *Lower Susquehanna River Watershed Assessment to address sediment accumulation, potential for storms to affect water quality, aquatic life in Chesapeake Bay*

BALTIMORE, MD (September 27, 2011) – Governor Martin O’Malley and Col. Dave Anderson, Commander of the U.S. Army Corps of Engineers, Baltimore District, today announced the launch of a study of strategies to protect the Chesapeake Bay from sediment and other pollutants from the lower Susquehanna River watershed, including those that accumulate behind the Conowingo Dam.

“We must do everything we can to protect the health of our Bay for our children and theirs,” said Governor O’Malley. “We are pleased to announce this series of studies to assess how a strong storm could affect our ability to protect the Bay from sediment and other pollutants. Tropical Storm Lee provided a vivid demonstration of the need to take steps to head off what could be a catastrophic event causing immediate and enormous damage to our restoration processes. The time to address this threat is now.”

The Lower Susquehanna River Watershed Assessment – Phase I will provide critical information to address concerns that a strong storm could scour vast amounts of the Susquehanna sediments and negate progress made in restoring the Chesapeake Bay.

The storm surge from Tropical Storm Lee earlier this month delivered an estimated 4 million tons of scoured sediment from the lower Susquehanna River watershed to the Bay, along with excess nutrients, nitrogen and phosphorus. The last high-flow event of this magnitude was Tropical Storm Agnes in 1972, which devastated the Bay by smothering underwater grasses and oyster beds.

Experts from the Maryland Departments of the Environment and Natural Resources, the Corps, the Susquehanna River Basin Commission, and the Nature Conservancy will team up for the new study. The study will evaluate the millions of tons of lower Susquehanna River sediment stored behind the Conowingo Dam and three other hydroelectric dams on the Susquehanna River. It will also assess strategies to manage and reduce sediment from the lower Susquehanna mainstem watershed. The watershed implementation plans for Maryland and Pennsylvania that are being developed to meet the Chesapeake Bay “pollution diet” will be integrated into the assessment.

Experts from the Corps’ Baltimore District and their Engineer Research and Development Center will use cutting-edge modeling techniques to simulate sediment transport and

deposition through the river and Bay system, with the goal of evaluating structural and nonstructural strategies for sediment management.

“The Chesapeake Bay is one of the world's most important estuaries. This study demonstrates the commitment of our partnership to develop coordinated solutions across multiple stakeholders that will help protect the Bay,” said Colonel Anderson.

U.S. Environmental Protection Agency water quality standards established for Chesapeake Bay assume that upstream storage in the Susquehanna watershed will continue to trap substantial amounts of sediment and pollutants through at least 2025. If that is not possible, the States in the Susquehanna Basin (New York, Pennsylvania, and Maryland) will be required to identify and implement other pollution control measures to meet the EPA-imposed standards.

Of the dams on the Susquehanna River that are in the study area, only the Conowingo Dam has any remaining capacity for storing sediment. The Conowingo Dam, which is the closest of the dams to the entrance to the Chesapeake Bay, can trap about 2 million tons of sediment out of the approximately 3 million tons that reach its pool area yearly. But it is estimated that the reservoir's capacity to store sediments will be reached in 15 to 20 years under current conditions. At that time, sediment and nutrient inputs to the Bay would increase dramatically, threatening efforts to improve Bay water quality and increase the health of aquatic life.

The assessment will develop broad, planning-level strategies and anticipated impacts and benefits to the Chesapeake Bay. While the study will not result in a single, recommended plan, it will provide essential information to be further evaluated by the States and federal government.

The assessment will cost \$1.4 million over the three-year period. The \$344,000 non-federal share of the project will be met in services provided by the Maryland Departments of the Environment and Natural Resources, the Susquehanna River Basin Commission and the Nature Conservancy.

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Lower Susquehanna River Watershed Assessment Team Statement on USGS Report on Conowingo Scouring and Susquehanna River Nutrient and Sediment Delivery

August 7, 2012

The Lower Susquehanna River Watershed Assessment (LSRWA) team held its quarterly meeting on August 7, 2012, at the Maryland Department of the Environment in Baltimore, MD.

In addition to updated reports on the continuing technical studies, Dr. Robert Hirsch, a senior research hydrologist from the U.S. Geological Survey (USGS), presented preliminary findings from his research on the impact of recent high flow events on the Susquehanna River to the Chesapeake Bay. Results from his analysis indicate an acceleration of scouring activity in the Conowingo Reservoir that is causing greater discharge of sediments and nutrients to the Chesapeake Bay. Dr. Hirsch's report, which was recently released by the USGS (<http://pubs.usgs.gov/sir/2012/5185/>) notes that Conowingo's sediment storage capacity is currently about 90% filled, is further diminishing and moving toward a more steady state (sediment output will equal sediment input). Consequently, we are seeing higher sediment and nutrient loads to the Bay quicker than previously expected. Dr. Hirsch's analysis indicates that this trend will continue and even increase with Susquehanna River flows less than 400,000 cubic feet per second, which had been previously thought to be the trigger level for storm scouring activity. Dr. Hirsch emphasized that this accelerated scouring should be of more relevance to managers than simply trying to estimate when Conowingo will be filled to capacity (at steady state) as we are already experiencing greater sediment and nutrient loads that will continue unless appropriate actions are taken. Excessive sediment and nutrient loads carried past the dam to the Chesapeake Bay can limit water clarity and deplete dissolved oxygen, harming aquatic life and create problems for recreation and navigation.

Dr. Hirsch's message highlighted the importance of the LSRWA team's work. For the past year, LSRWA modelers have been developing a series of models to link incoming sediment and associated nutrient projections to the system of hydroelectric dams (including Conowingo) in the lower Susquehanna River and forecast impacts to living resources in the Chesapeake Bay. For the LSRWA's next major component, a workgroup of the team will convene in September to identify and evaluate potential strategies to manage incoming sediment from the watershed and extend the sediment-holding capacity behind Conowingo Dam.



Increased Sediment and Nutrients Delivered to Bay as Susquehanna Reservoirs Near Sediment Capacity

Released: 8/30/2012 9:00:00 AM

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This USGS report can be found [online](#).

Reservoirs near the mouth of the Susquehanna River just above Chesapeake Bay are nearly at capacity in their ability to trap sediment. As a result, large storms are already delivering increasingly more suspended sediment and nutrients to the Bay, which may negatively impact restoration efforts.

Too many nutrients rob the Bay of oxygen needed for fish and, along with sediment, cloud the waters, disturbing the habitat of underwater plants crucial for aquatic life and waterfowl.

"The upstream reservoirs have served previously to help reduce nutrient pollutant loads to the Chesapeake Bay by trapping sediment and the pollutants attached to them behind dams," explained USGS Director Marcia McNutt. "Now that these reservoirs are filling to capacity with sediment, they have become much less effective at preventing nutrient-rich sediments from reaching the Bay. Further progress in meeting the goals for improving water quality in the Chesapeake will be more difficult to achieve as a result."

"It has been understood for many years that as the reservoirs on the Lower

Susquehanna River fill with sediment, there will be a substantial decrease in their ability to limit the influx of sediment and nutrients, especially phosphorus, to the Chesapeake Bay," said Bob Hirsch, research hydrologist and author of the report. "Analysis of USGS water quality data from the Susquehanna River, particularly the data from Tropical Storm Lee in September 2011, provides evidence that the increases in nutrient and sediment delivery are not just a theoretical issue for future consideration, but are already underway."

According to a new USGS report, the Susquehanna River delivered more phosphorus and sediment to the Bay during 2011 than from than any other year since monitoring began in 1978. Flooding from Tropical Storm Lee made up a large fraction of the Susquehanna River's inputs to the Bay for both 2011 and over the last decade. During the flooding the Susquehanna River delivered about 2 percent of total water to the Bay for the last decade; however, it delivered 5 percent of the nitrogen, 22 percent of the phosphorus, and 39 percent of the suspended sediment.

According to the report, from 1996-2011 total phosphorus moving into the Bay has increased by 55 percent, and suspended sediment has increased by 97 percent. Over this time period, total nitrogen decreased by about 3 percent overall, but showed increases during large events.

These results represent the combined effects of the changes in sediment within the reservoirs, as well as changes in the sources of these constituents upstream. Another recent USGS study reported about a 25 percent reduction in nutrients and sediment concentrations just upstream of the reservoirs, reflecting the benefit of actions to improve water quality in the upper portion of the Susquehanna River watershed.

"Progress on reducing loadings of these pollutants from the Susquehanna River Basin depends on efforts made to limit the loadings in the watershed, as well as the effects of the downstream reservoirs," said Hirsch. "In general, the changes we have observed in the reservoirs and the resulting greater impact of storms are already overshadowing the ongoing progress being made in the watershed to reduce the amount of nutrients and sediments entering the Bay."

Sediment and nutrient loadings from the Susquehanna River are crucial to understanding the status and progress of water quality in the Chesapeake Bay. On average, the Susquehanna River contributes nearly 41 percent of the nitrogen, 25 percent of the phosphorus, and 27 percent of the sediment load to the Bay.

"The findings of this USGS study increase the urgency of identifying and implementing effective management options for addressing the filling reservoirs," said Bruce Michael, director, Resource Assessment Service for the Maryland Department of Natural Resources. "The Lower Susquehanna River Watershed Assessment study, a 3-year partnership of federal, state, private sector, and non-governmental organizations, is developing potential management options for extending the sediment-holding capacity of the reservoirs. The USGS information is critical for guiding the strategies undertaken by the [Chesapeake Bay Program](#) to assure that the actions taken in the watershed will serve to meet restoration goals."

The lower reaches of the Susquehanna River, just upstream from Chesapeake Bay, include three reservoirs: Safe Harbor Dam and Holtwood Dam in Pennsylvania and Conowingo Dam in Maryland. Over the past several decades these reservoirs have been gradually filling with sediment.

While the reservoirs are filling, they are a trap for sediment and the nutrients attached to that sediment. As a reservoir approaches its sediment storage capacity, it can't hold as much sediment. When reservoirs are near capacity, significant flow events, such as flooding from Tropical Storm Lee, have greater potential to cause scour, or the sudden removal of large amounts of sediment, allowing that sediment and attached nutrients to flow out of the reservoirs and into the Bay.

Additionally, as the reservoir becomes filled, the channel that water flows through gets smaller. As a result, for any given amount of flow, the water moves through the channel faster, further increasing the likelihood of scour. Higher velocities also result in lower rates of settling, decreasing the amount of sediment that will be deposited.

This new report is based on 34 years of monitoring streamflow and water quality for the Susquehanna River by the USGS and its state and local partners. The report compares nutrients and sediment behavior during high flow events, such as the flood after Tropical Storm Lee in September of 2011, the high flows of March 2011, and Hurricane Ivan in 2004, with high flow conditions of the past.

This research was conducted as part of The USGS National Research Program in Water Resources and the USGS Chesapeake Bay Ecosystems Program. The report, 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*, can be found [online](#).

Information about the Lower Susquehanna River Watershed Assessment is available [online](#).

Results of monitoring in the Chesapeake Bay watershed are available [online](#).



Press Release

U.S. ARMY CORPS OF ENGINEERS

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For Immediate Release:
Date: Nov. 13, 2014

Contact: Sarah Gross
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New report released for public comment analyzes sediment and pollution flow impacts to Chesapeake Bay from watershed, Conowingo Dam – names watershed-wide reduction strategies as key

The [Lower Susquehanna River Watershed Assessment \(LSRWA\) report](#) released for public comment, Nov. 13, 2014, indicates that the reservoir behind the Conowingo Dam is trapping smaller amounts of sediment and has essentially reached its limit to trap in the long term. However, a large majority of the pollution to the Chesapeake Bay from the Susquehanna River comes from runoff from pollution sources from the upstream drainage area or watershed, as opposed to the sediment and associated nutrients collected behind the dam.

The inter-agency draft report was released by the U.S. Army Corps of Engineers (USACE) and non-federal sponsor the Maryland Department of the Environment (MDE).

Another major finding of the draft report indicates that nutrients that enter the river upstream of the dams and attach to particles of sediment and then flow downstream to the Bay have a bigger impact on water quality than the sediment, itself. Nutrient pollution has a lingering effect that leads to algae blooms and dead zones that have the potential to suffocate and stress marine life. The report includes consideration of management strategies, and recommendations for future opportunities. View the executive summary, full report with appendices, and associated graphics, and information on how to make a comment at <http://bit.ly/LSRWA>.

Modeling in the report shows that managing sediment through dredging, bypassing or dam operational changes, alone, do not effectively offset the adverse impacts to water quality from the loss of capacity for the dam to trap sediment in the long term. The report suggests that strategies to reduce nutrient pollution at its source from throughout the Bay drainage area are more effective at addressing impacts to the Bay.

The report underwent multiple peer reviews, including an independent, scientific peer review sponsored by the Chesapeake Bay Program partnership's Scientific and Technical Advisory Committee.

"We worked with a team of inter-agency experts, using current scientific information and the best modeling tools available in order to understand the complex relationship between river flow and sediment and ecological resources," said Col. Trey Jordan, USACE Baltimore District commander. "Our partners undertaking ongoing efforts to restore the Chesapeake Bay and its surrounding watershed are now armed with better science to make decisions to protect water quality, habitat and aquatic life."

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<http://www.youtube.com/user/USACEBaltimore>

The study area consists of the Lower Susquehanna River Watershed from Sunbury, Penn., to the confluence with the Chesapeake Bay and includes the Holtwood, Safe Harbor, and Conowingo hydroelectric dams located on the lower Susquehanna River. Much of the modeling efforts were focused on the Conowingo Dam, as it is the largest dam and reservoir closest to the Chesapeake Bay with remaining capacity left to trap sediment.

"This study shows that while the build up of sediment behind the Conowingo Dam does impact water quality in the Bay, following through on the blueprint to clean up the Chesapeake Bay and its tributaries will have a much greater and longer-lasting effect on water quality than addressing the Conowingo Dam problem alone," said Robert M. Summers, MDE secretary. "Addressing the sediment behind the dams is part of the complete solution needed to restore the Bay and its tributaries, as is the work that upstream states are doing to reduce pollution in the first place. But we will not meet our Bay restoration goals without following through on our efforts to control pollution from Maryland and the rest of the watershed as well."

Major recommendations in the report include quantifying the full impact on Chesapeake Bay water quality and living resources based on new understandings in the report; integrating findings from the report into ongoing analyses and development of watershed implementation plans as part of the Chesapeake Bay Total Maximum Daily Loads assessments; developing and implementing management options that offset impacts to the upper Chesapeake Bay ecosystem from increased sediment-associated nutrient loads; and committing to enhanced long-term monitoring and analysis of sediment and nutrient processes in the watersheds to promote adaptive management into the future.

A public comment period on the draft report is now open until Jan. 9, 2015. Interested parties can submit comments via:

- E-mail to LSRWAcComments@usace.army.mil.
- Letter postmarked by Jan 9, 2015, to: U.S. Army Corps of Engineers, Baltimore District, Attn: Anna Compton , P.O. Box 1715, Baltimore, MD 21203.
- A public meeting and webinar held Dec. 9 at Harford Community College in Bel Air, Md., from 7 – 9 p.m. Details on the public meeting and log-in information for the webinar will be posted on the website, as well as other meeting materials.

Once the comment period closes and comments have been addressed, as appropriate, a final report anticipated for summer 2015 will be published to better inform stakeholders undertaking efforts to restore the Chesapeake Bay.

The LSRWA inter-agency team is comprised of the USACE Engineering Research and Development Center, U.S. Geological Survey, Susquehanna River Basin Commission, Nature Conservancy, Chesapeake Bay Program, Maryland Department of Natural Resources, and Maryland Geological Survey.

The intent of this report was to analyze the movement of sediment and associated nutrient loads and impacts within the lower Susquehanna watershed to the upper Chesapeake Bay.

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LSRWA directly contributes to Executive Order 13508 goals to restore clean water, recover habitat, and sustain fish and wildlife; and was authorized by Section 729 of the Water Resources Development Act of 1986, as amended. The total cost of the study is approximately \$1.38 million. Funding was received in 2009, and after scoping and partnership agreements laid the groundwork, the assessment began in 2011.

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http://www.army.mil/article/138370/Army_Corps_partners_release_report_that_analyzes_sediment_flow_impacts_to_Chesapeake_Bay/

Army Corps, partners, release report that analyzes sediment flow impacts to Chesapeake Bay

November 14, 2014

By Sarah Gross



Sediment plumes traveling down to Chesapeake Bay, NASA satellite image, Sept. 12, 2011.

With startling imagery of sediment plumes making their way to the Chesapeake Bay from upstream sources after major storms, great focus has centered around where this pollution comes from and what steps can be taken to manage it.

Shortly after Tropical Storm Lee hit the East Coast in 2011, the groundwork was laid to begin analyzing the movement of sediment, and associated nutrient loads, and impacts within the 26,000-

square-mile Lower Susquehanna River Watershed to the upper Chesapeake Bay.

"We worked with a team of inter-agency experts, using current scientific information and the best modeling tools available in order to understand the complex relationship between river flow and sediment, and ecological resources," said Col. Trey Jordan, U.S. Army Corps of Engineers (USACE), Baltimore District commander. "Our partners undertaking ongoing efforts to restore the Chesapeake Bay and its surrounding watershed are now armed with better science to make decisions to protect water quality, habitat and aquatic life."

A draft report was released Nov. 13, 2014, by USACE and non-federal sponsor the Maryland Department of the Environment (MDE).

The team looked at impacts from the lower Susquehanna watershed from Sunbury, Pennsylvania, to the confluence with the Chesapeake Bay, including three hydroelectric dams located on the lower Susquehanna River - Holtwood, Safe Harbor, and Conowingo.

Since their construction, the reservoirs behind these dams have been capturing sediment flowing down the Susquehanna River, reducing nitrogen and phosphorous from entering the Chesapeake Bay. Recent studies, however, have questioned the capacity left for these reservoirs to continue to act as "pollution gates."

The new report confirmed that during periods of low-water flow, or non-storm events, the three reservoirs actually act as sediment traps and aid in the health of the Bay until the next high-flow or storm event occurs.

This report also indicates that although these reservoirs are trapping smaller amounts of sediment and have essentially reached their limit to capture these associated pollutants in the long term, the large majority of the pollution to the Chesapeake Bay during large storm events comes from runoff from pollution sources from the upstream drainage area, as opposed to from behind the dams.

For example, between 2008 and 2011, this study estimated that 13 percent of the Susquehanna River's sediment load came from the reservoir behind the Conowingo Dam -- the largest dam and reservoir closest to the Chesapeake Bay. The remaining 87 percent originated from the broader watershed -- runoff from land, floodplain, and streams. These estimates include sediment loads from Tropical Storm Lee.

"Addressing the sediment behind the dams is part of the complete solution needed to restore the Bay and its tributaries, as is the work that upstream states are doing to reduce pollution in the first place,"

said Robert M. Summers, MDE secretary. "But, we will not meet our Bay restoration goals without following through on our efforts to control pollution from Maryland and the rest of the watershed as well."

The team identified and evaluated 38 different sediment management strategies as part of the assessment, beyond pre-existing watershed implementation plans that Bay jurisdictional partners are executing. Strategies evaluated include large-scale dredging efforts to remove sediment from the reservoirs, and routing sediment around or through the reservoirs by making modifications to the operation of the dams.

"Our modeling indicates that dredging the sediment yields minimal, short-lived water quality improvements due to the constant deposition of sediment and associated nutrients that come from the watershed," said Anna Compton, USACE biologist and study manager. "Dredging would entail simply keeping up with this deposition."

The report also indicates that while these sediment plumes are alarming, it is actually the nutrients that attach to the sediments that lead to algae blooms and dead zones, which may suffocate marine life. Therefore, it is recommended that management opportunities in the watershed that reduce nutrient delivery to the Bay as opposed to sediment only are likely more effective at reducing impacts to water quality, low dissolved oxygen, and aquatic life from high-flow events.

"The assessment produced numerous products that are available now to assist in future watershed planning and management efforts," said Compton.

Major recommendations include quantifying the full impact on Chesapeake Bay water quality and living resources based on new understandings in the report; integrating findings from the report into ongoing analyses and development of watershed implementation plans as part of the Chesapeake Bay Total Maximum Daily Loads assessments; developing and implementing management options that offset impacts to the upper Chesapeake Bay ecosystem from increased sediment-associated nutrient loads; and committing to enhanced long-term monitoring and analysis of sediment and nutrient processes in the watersheds to promote adaptive management into the future.

The draft peer-reviewed report is now open to public comment until Jan. 9, 2015. A public meeting will be held Dec. 9 in Maryland. Once comments are incorporated, the final report is anticipated for release in summer 2015.

The Lower Susquehanna River Watershed Assessment team is also comprised of the USACE Engineering Research and Development Center, U.S. Geological Survey, Susquehanna River Basin

Commission, Nature Conservancy, Chesapeake Bay Program, Maryland Department of Natural Resources, and Maryland Geological Survey.

<http://news.maryland.gov/mde/2014/11/18/department-of-the-environment-solicits-comment-schedules-public-hearing-on-water-quality-certification-application-for-proposed-conowingo-dam-relicensing/>



Department of the Environment solicits comment, schedules public hearing on Water Quality Certification application for proposed Conowingo Dam relicensing

Posted by Jesse McKinney

November 18, 2014 in Chesapeake Bay, Clean Water, Press releases

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FOR IMMEDIATE RELEASE:

Department of the Environment solicits comment, schedules public hearing on Water Quality Certification application for proposed Conowingo Dam relicensing

Applicant must show project will comply with State water quality standards; MDE states intention to deny application due to insufficient information

Baltimore, MD (November 18, 2014) -

The Maryland Department of the Environment has issued public notice of the Proposed Relicensing of the Conowingo Hydroelectric Project Application for Water Quality Certification. The purpose of the notice is to solicit comments from the public and to announce the scheduling of a public hearing.

The Federal Energy Regulatory Commission (FERC) has issued a one-year extension of the current license for the operation of the Conowingo Dam. Under federal law and as part of FERC's relicensing process, Exelon is required to obtain a Clean Water Act, Section 401 Water Quality Certification from MDE for the continued operation of the facility. Issuance of a Water Quality Certification is contingent upon the applicant demonstrating to MDE that the project will comply with State water quality standards. At this time, although no final determination has been made MDE intends to deny the application due to insufficient information provided by the applicant regarding the impacts of the activity on State water quality standards.

The insufficiency of information is reflected in the draft Lower Susquehanna River Watershed Assessment report. The draft report found that the loss of long-term sediment trapping capacity at the Conowingo Dam is causing impacts to the health of the

Chesapeake Bay ecosystem. It also found that additional nutrient pollution associated with these changed conditions in the lower Susquehanna River system could result in Maryland not being able to meet Chesapeake Bay water quality standards, even with full implementation of Watershed Implementation Plans by 2025, in some of the Bay's deeper northern waters. The draft report recommends additional study to quantify the full impact on Bay water quality caused by conditions at the Conowingo Dam. Enhanced monitoring is planned over the next two years.

If it is ultimately determined that the project cannot comply with State water quality standards, the applicant could be required to mitigate the impacts to water quality through, for example, actions taken at the facility or by offsetting the facility's impacts with pollution reduction activities at other locations in the watershed.

Exelon filed its Water Quality Certification application on January 31, 2014. The State must act within one year of receipt of the application or it waives its right to make a decision. Notice of the application, solicitation of public comments and the scheduling of a public hearing were published in the Maryland Register. A public hearing on this application is scheduled for January 7, 2015, at MDE's Baltimore headquarters. Written comments may also be submitted. All comments must be received by the close of business on January 7, 2015.

Information on the notice, including information on submitting written comments, is on MDE's website at <http://bit.ly/MDEConowingowqc>.



Media Advisory

U.S. ARMY CORPS OF ENGINEERS

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For Immediate Release:

Date: Dec. 4, 2014

RSVP to: Sarah Gross

410-962-9015 or Sarah.d.gross@usace.army.mil

Public Meeting: Report on sediment and pollution flow impacts to Chesapeake Bay from watershed, Conowingo Dam

What: Public meeting and webinar to discuss and to provide the opportunity to comment on the Nov. 13 release of the inter-agency Lower Susquehanna River Watershed Assessment (LSRWA) draft report.

Who:

- Rich Batiuk, Chesapeake Bay Program Office – U.S. Environmental Protection Agency, Associate Director for Science, Analysis and Implementation;
- Mark Bryer, The Nature Conservancy, Chesapeake Bay Program Director;
- Anna Compton, U.S. Army Corps of Engineers, Biologist and LSRWA Study Manager;
- Mike Langland, U.S. Geological Survey, Scientist;
- Bruce Michael, Maryland Department of Natural Resources, Resource Assessment Service Director and LSRWA Study Team Maryland State Representative;
- Matthew Rowe, Maryland Department of the Environment, Deputy Director of Science Services Administration

Detail: The draft LSRWA report indicates that the reservoir behind the Conowingo Dam is trapping smaller amounts of sediment and has essentially reached its limit to trap in the long term. However, a large majority of the pollution to the Chesapeake Bay from the Susquehanna River comes from runoff from pollution sources from the upstream watershed, as opposed to behind the dam. Nutrient pollution, not the sediment, has a lingering effect that leads to algae blooms and dead zones. Modeling in the report shows that managing sediment through dredging, bypassing or dam operational changes, alone, do not effectively offset the adverse impacts to water quality from the loss of capacity for the dam to trap sediment in the long term. The report suggests that strategies to reduce nutrient pollution at its source from throughout the Bay drainage area are more effective at addressing impacts to the Bay.

When: Dec. 9, 2014, 7 – 9 p.m.

Where: Harford Community College, Chesapeake Center: 401 Thomas Run Rd, Bel Air, MD 21015

If attending via webinar, details can be found online at <http://bit.ly/LSRWA>.

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<http://www.nab.usace.army.mil/>

<http://www.facebook.com/USACEBaltimore>

<http://www.youtube.com/user/USACEBaltimore>

I-3-17

Why:

This report outlines potential ways to better protect water quality, habitat and aquatic life in the lower Susquehanna River and Chesapeake Bay and offers information to better inform decision makers and stakeholders undertaking ongoing efforts to restore the Chesapeake Bay and its surrounding watershed. Public comment period is open until Jan. 9, 2015. A final report is anticipated for release in summer 2015.

NOTE: Media, please RSVP to Sarah Gross by Dec. 8 to ensure adequate space and equipment is set aside in the meeting area. Should there be inclement weather, please call 443-412-2322 to ensure the college is open. Should the college be closed, the meeting will be rescheduled for the following day, Dec. 10.

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<http://news.maryland.gov/mde/2014/12/08/water-quality-certification-application-for-proposed-conowingo-dam-relicensing-withdrawn-january-7-water-quality-certification-public-hearing-canceled-exelon-agrees-to-fund-additional-study/>



Water Quality Certification application for proposed Conowingo Dam relicensing withdrawn, January 7 Water Quality Certification public hearing canceled, Exelon agrees to fund additional study

Posted by Jesse McKinney on December 8, 2014 in Conowingo Dam, Press releases

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Water Quality Certification application for proposed Conowingo Dam relicensing withdrawn, January 7 Water Quality Certification public hearing canceled, Exelon agrees to fund additional study

Exelon agrees to provide up to \$3.5 million for additional study of effects of Conowingo Dam on Chesapeake Bay water quality; previously scheduled public hearing on company's application canceled, company says it must refile application within 90 days

BALTIMORE, MD (December 8, 2014) –

Recognizing the Maryland Department of the Environment's position that more information on the effects of the Conowingo Dam is needed before it can be determined whether the facility complies with State water quality standards, Exelon Corporation has withdrawn its application for the Water Quality Certification that is required as part of the relicensing process for the dam and has agreed to fund additional study of the issue.

MDE had stated its intention to deny the Proposed Relicensing of the Conowingo Hydroelectric Project Application for Water Quality Certification application due to insufficient information provided by the applicant. The company said it will work with MDE to coordinate the refile of its application within 90 days. It has also agreed to provide up to \$3.5 million to study the effects of sediment related to the Dam on water quality in the Susquehanna River and the Chesapeake Bay.

MDE had scheduled a public hearing on Exelon's application for Water Quality Certification for Jan. 7, 2015, at the Department's Baltimore headquarters. Due to the withdrawal of the application by Exelon, the hearing on the application is canceled. This action does not affect the scheduled public meeting on the Lower Susquehanna River Watershed Assessment draft report. The public meeting on that draft report will still be held at 7 p.m. tomorrow, Dec. 9, at Harford Community College.

The Federal Energy Regulatory Commission (FERC) has issued a one-year extension of the current license for the operation of the Conowingo Dam. Under federal law and as part of FERC's relicensing process, Exelon is required to obtain a Clean Water Act, Section 401 Water Quality Certification from MDE for the continued operation of the facility. Issuance of a Water Quality Certification is contingent upon the applicant demonstrating to MDE that the project will comply with State water quality standards. In issuing notice of the application, solicitation of public comments and scheduling of a public hearing, MDE stated the Department's intent to deny the application due to insufficient information provided by the applicant regarding the impacts of the activity on State water quality standards.

The insufficiency of information is reflected in the draft Lower Susquehanna River Watershed Assessment report. The draft report found that the loss of long-term sediment trapping capacity at the Conowingo Dam is causing impacts to the health of the Chesapeake Bay ecosystem. It also found that additional nutrient pollution associated with these changed conditions in the lower Susquehanna River system could result in Maryland not being able to meet Chesapeake Bay water quality standards, even with full implementation of Watershed Implementation Plans by 2025, in some of the Bay's deeper northern waters. The draft report recommends additional study to quantify the full impact on Bay water quality caused by conditions at the Conowingo Dam.

Exelon has agreed to provide up to \$3.5 million for additional study. A study plan has been prepared with input by MDE, Exelon, the Maryland Department of Natural Resources, the U.S. Geological Survey, the University of Maryland Center for Environmental Science, the U.S. Environmental Protection Agency Chesapeake Bay Program and the U.S. Army Corps of Engineers. Enhanced monitoring is planned over the next two years.

Exelon cited its understanding of FERC policy requiring that an applicant resubmit its request for Water Quality Certification within 90 days of date of withdrawal in stating its intention to refile an application within that time period. It is possible that a refiled application or applications might also be withdrawn, followed by the resubmission of applications.

If it is ultimately determined that the project cannot comply with State water quality standards, the applicant could be required to mitigate the impacts to water quality through, for example, actions taken at the facility or by offsetting the facility's impacts with pollution reduction activities at other locations in the watershed.

<http://www.usgs.gov/newsroom/article.asp?ID=4129>



Conowingo Dam Above 90 Percent Capacity For Sediment Storage

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The Conowingo Dam on the Susquehanna River is at about 92 percent capacity for sediment storage according to new U.S. Geological Survey research.

Since the dam's construction in 1929, sediment and nutrients have been building up behind it, being released periodically downriver and into the Chesapeake Bay, especially during high flow events.

"Storage capacity in Conowingo Reservoir continues to decrease, and ultimately that means more nutrients and sediment will flow into the Bay," says Mike Langland, a USGS scientist and author of the study.

"Understanding the sediments and nutrients flowing into the Bay from the Susquehanna River is critical to monitoring and managing the health of the Bay."

Previous research has shown that having excess nutrients in the Bay depletes the water of oxygen needed to maintain healthy populations of fish, crabs, and oysters. Additionally, the nutrients, along with sediment, cloud the water, disturbing the habitat of underwater plants crucial for aquatic life and waterfowl.

At full sediment-storage capacity, the Conowingo Reservoir will be about one-half filled with sediment, with the remainder--about 49 billion gallons--flowing water. That amount of sediment could fill approximately 265,000 rail cars, which if lined up would stretch more than 4,000 miles.

The Susquehanna River is the largest tributary to Chesapeake Bay and transports about half of the total freshwater input to the Bay, along with substantial amounts of sediment, nitrogen and phosphorus.

Measuring the capacity of the dam to hold sediments and nutrients contributes to an improved understanding of factors that influence the health of the Chesapeake Bay.

Three hydroelectric dams and their associated reservoirs on the lower Susquehanna River have been impacting sediment and nutrient transport since construction in the early 1900's. Previous USGS studies have shown the two upstream reservoirs have reached their sediment storage capacity and the most downstream dam and reservoir, the Conowingo, was also losing its ability to trap nutrients and sediment from reaching the Chesapeake Bay. A [2012 USGS report](#) revealed that, even though the Conowingo reservoir had not yet reached its maximum storage capacity, it had begun to lose its phosphorus and sediment-trapping ability, with increasing amounts going into the Bay.

Due to the concerns about increasing nutrient and sediments loads flowing into the Bay, the U.S. Army Corps of Engineers, working with several partners, will soon be releasing the Lower Susquehanna River Watershed Assessment. The study suggests several sediment-management options for the reservoirs on the Lower Susquehanna River and indicated additional monitoring and research are needed to support management decisions.

The long-term analysis (1900-2012) conducted for this new USGS study reported here revealed how past practices affected sediment transport in the Susquehanna River Basin.

The USGS study, in addition to providing the current estimate of sediment capacity also provides a longer-term (100 years) analysis of sediment flowing into the reservoirs.

Sediment loads transported over the past 100 years in the Susquehanna River into the reservoirs have decreased from 8.7 million tons per year in the early part of the 20th century to the current level of about 3.5 million tons. The declines of sediment into the reservoirs since the 1950s are most likely related to introduction of soil conservation practices, land reverting

back to forest, and better management of stockpiled coal piles.

Since construction of Conowingo Dam was completed in 1929, an average 70 percent of the transported sediment reaching the upper Chesapeake Bay is from the Susquehanna watershed. The additional 30 percent of the sediment is being scoured, or removed from sediment deposited in the reservoirs.

From 1929 through 2012, approximately 470 million tons of sediment was transported down the Susquehanna River into the reservoir system. Of that number, approximately 290 million tons were trapped behind dams in the reservoirs, and approximately 180 million tons were transported to Chesapeake Bay. The reservoirs are continuously losing their ability to trap sediment and more is flowing into the Bay.

Information from this report and new partner studies will be used by the U.S. Environmental Protection Agency Chesapeake Bay Program and the state partners in considering options to reduce nutrient and sediment loads to help meet the requirements of the Chesapeake Bay Total Maximum Daily Load.

The study, [**Sediment Transport and Capacity Change in Three Reservoirs, Lower Susquehanna River Basin, Pennsylvania and Maryland, 1900–2012 Open-File Report 2014-1235**](#) is available online.

Additional information on [USGS Susquehanna results and Chesapeake Studies](#) can be found online.