Department of Legislative Services

Maryland General Assembly
2015 Session

FISCAL AND POLICY NOTE
Revised

Senate Joint Resolution 1 (Senator Simonaire, *et al.*)
Education, Health, and Environmental Affairs Environment and Transportation

Susquehanna River Basin - Sediment and Nutrient Pollution (National Chesapeake Bay Preservation Act of 2015)

This joint resolution urges the U.S. Congress to authorize a review of studies related to the Susquehanna River Basin for the purpose of initiating and funding a project by the U.S. Army Corps of Engineers to address the transport of sediment and nutrients from the Susquehanna River Basin in order to minimize the pollutant load reaching the Chesapeake Bay from the Susquehanna River.

Fiscal Summary

State Effect: The joint resolution does not directly affect State finances.

Local Effect: None.

Small Business Effect: None.

Analysis

Current Law/Background: In November 2014, the U.S. Army Corps of Engineers and the Maryland Department of the Environment, in cooperation with other State and federal agencies, released its draft *Lower Susquehanna River Watershed Assessment*. After several years of study, the report found that the lower Susquehanna watershed continues to have a significant detrimental impact on the Chesapeake Bay, but that the impact of deposition of sediment from behind the Conowingo Dam is relatively minor compared with the adverse impact posed by excess nitrogen and phosphorus nutrients from the entire Susquehanna watershed. The report also developed a range of estimated costs of several potential measures that could be taken to address the sediment behind the dam. For more information about the Conowingo Dam and the *Lower Susquehanna River Watershed*

Assessment, see the **Appendix – Pollutants from the Conowingo Dam and Susquehanna River**.

In December 2010, the U.S. Environmental Protection Agency (EPA) established a Chesapeake Bay Total Maximum Daily Load that sets forth specific pollution reduction requirements for Maryland and other jurisdictions within the bay watershed. All reduction measures must be in place by 2025, with at least 60% of the actions completed by 2017. According to the EPA Phase 5.3 Chesapeake Bay Watershed Model, the Susquehanna River basin contributes about 46% of the nitrogen flows (largest source), 26% of the phosphorus flows (second largest source), and 33% of the sediment flows (largest source) into the Chesapeake Bay.

Additional Information

Prior Introductions: A similar joint resolution, SJ 4 of 2014, passed the Senate with amendments and received a hearing in the House Environmental Matters Committee, but no further action was taken. Its cross file, HJ 6, received a hearing in the House Environmental Matters Committee, but no further action was taken.

Cross File: None.

Information Source(s): *Lower Susquehanna River Watershed Assessment*, U.S. Environmental Protection Agency, Department of Legislative Services

Fiscal Note History: First Reader - January 30, 2015
min/lgc Revised - Senate Third Reader - March 19, 2015

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Appendix – Pollutants from the Conowingo Dam and Susquehanna River

The Conowingo Dam is a large hydroelectric dam in the lower Susquehanna River near the town of Conowingo, Maryland. The dam spans the border between Cecil and Harford counties, sits about 10 miles from the Chesapeake Bay, and is 5 miles south of the Pennsylvania border. It is the largest and southernmost dam among several on the Susquehanna River. The Conowingo Dam's current license to operate was to expire in September 2014, but the dam's owner, Exelon Corporation, received a one-year extension from the Federal Energy Regulatory Commission (FERC).

In recent years, significant attention has been given to the role of the Conowingo Dam as a source of sediment pollution to the Chesapeake Bay. For most of its history, the dam acted as a pollution mitigation instrument by trapping sediments flowing south in the Susquehanna River. However, as the reservoirs behind the Conowingo and other dams on the lower Susquehanna River filled to capacity, the dams' ability to prevent pollution from reaching the bay diminished. In fact, after major storm events, such as Tropical Storm Lee and Hurricane Irene (in 2011), enormous loads of built-up sediment are scoured from behind the dams and deposited in the bay. Thus, several organizations contend that any Chesapeake Bay restoration efforts should focus significantly – perhaps primarily – on reducing this sediment load. And because FERC requires that any potential environmental impacts associated with project relicensing be minimized, the State is considering whether and to what extent Exelon should be required to address this problem as a condition to issuance of the new license.

In November 2014, the U.S. Army Corps of Engineers and the Maryland Department of the Environment (MDE), in cooperation with other State and federal agencies, released its draft *Lower Susquehanna River Watershed Assessment*. After several years of study, the report found that the lower Susquehanna continues to have a significant detrimental impact on the Chesapeake Bay, which is periodically exacerbated by major scouring events. The study found that the Conowingo and other dams in this watershed have essentially reached the capacity to trap sediment, a state known as "dynamic equilibrium." In this state, the dams are neither a source of, nor a trap for, pollutants from the Susquehanna, when measured over the long term. Over shorter periods, however, the dam is part of a cyclical process in which scouring events cause sediment deposition in the bay, followed by a phase in which the newly-created capacity is able to once again trap sediment behind the dam.

The study also reached several other conclusions with important policy considerations. First, the authors found that the impact of sediment deposition on the health of the Chesapeake Bay is relatively minor compared with the adverse impact posed by excess nitrogen and phosphorus nutrients from the entire Susquehanna watershed. The impact of sediment deposition from any given scouring event also depends on timing – most scouring

events tend to occur outside of the annual seasons when submerged aquatic vegetation is most sensitive. Second, the study developed a range of estimated costs of several potential measures that could be taken to address the sediment behind the dam. The estimated sediment management strategy costs range from $5 to $90 per cubic yard of sediment removed, which equates to between $15 million and $270 million annually. The study noted that many of the lower-cost management strategies are already being pursued and that only higher-cost strategies remain.

The authors caution that additional study should be undertaken to evaluate the study's findings regarding the relative impact of sediment versus nutrient pollution on the Chesapeake Bay, as well as on the merits of pursuing additional management strategies to address the volume of accumulated sediment behind the dams' reservoirs. The authors also caution that, although sediment management measures may be costly, states must still act to address the impact that accumulated sediment may have on bay restoration efforts. Thus, shortly after the release of the report, MDE (one of the primary study participants) announced that it intends to deny the issuance of a water quality certification for the dam, which is needed for reissuance of the dam's license pending additional study of potential mitigation measures. In December 2015, Exelon announced that it will withdraw its pending relicensing application and begin work on a new application; the company also announced that it had committed $3.5 million to fund the additional study that the report indicated is needed.