

Testimony of
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Good morning, Chairman Rowe and members of the Pennsylvania House Republican Policy Committee. On behalf of the Pennsylvania Department of Environmental Protection (DEP), I want to thank you for the opportunity to discuss the importance of water quality monitoring, data management, and reporting here in York County as well as throughout the Chesapeake Bay watershed and across the Commonwealth.

The Pennsylvania Water Quality Network (WQN) is a statewide, fixed station water quality sampling system operated by the DEP Bureau of Clean Water. DEP invests approximately \$4 million a year from the DEP Clean Water Fund (CWF) and DEP's share of the Environmental Stewardship Fund (ESF) in the statewide WQN. It is designed to assess both the quality of Pennsylvania's surface waters and the effectiveness of the water quality management program in major streams throughout the Commonwealth of Pennsylvania; selected reference waters; the major tributaries entering the Chesapeake Bay; and selected Pennsylvania lakes.

Data collection is a collaborative effort between the United States Geological Survey (USGS), Susquehanna River Basin Commission (SRBC), and DEP. The data collected at these stations can be viewed and downloaded from the Water Quality Portal. The water chemistry data collected at the Chesapeake Bay stations is also downloadable from the Chesapeake Bay Program (CBP) Water Quality Database. Reporting on WQN data can be found in the USGS Annual Data Reports, SRBC Technical Reports, the SRBC Sediment and Nutrient Assessment Program (SNAP) Reports, and in the DEP Integrated Water Quality Monitoring and Assessment Report (IWQR). WQN station locational information and descriptions of the physical, chemical, and biological data to be collected is published in Pennsylvania's Surface Water Quality Monitoring Network manual.

For a comprehensive look at water quality within the Chesapeake Bay watershed, DEP partners with multiple federal agencies, including the USGS, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), and the U.S. Environmental Protection Agency (EPA). DEP supports, in whole or in part, 36 Chesapeake Bay Nontidal Network (NTN) stations, including three in York County, as well as 42 additional WQN stations in the Chesapeake Bay watershed. This ongoing maintenance and support equates to approximately \$1.9 million in additional investment from the Chesapeake Bay Abatement Fund, DEP CWF, and DEP's share of the ESF, of which \$70,000 a year is invested in the York County NTN stations.

In recent years, due to the importance of and interest in water quality monitoring data, DEP has expanded the array of water quality monitoring stations, upgrading or enhancing existing stations and deploying new stations, to more accurately and effectively measure water quality trends and loads. For example, DEP has partnered with USGS to implement advanced data collection efforts at Marietta (Columbia/Wrightsville) to measure nitrogen, phosphorus, and sediment in real-time on the Susquehanna River. A similar effort is implemented at Conowingo below the reservoir as a River Input Monitoring (RIM) station. This will ultimately allow us to determine the nutrient and sediment loads coming from what was historically trapped in the reservoir as compared with what is coming from the watershed above it.

The water quality monitoring stations in York County are capturing and measuring approximately 92% of all waters flowing in their local streams. This is significant, because water quality monitoring provides direct measurements at the time it happens. Trends in the data, as well as nutrient and sediment load yields, can be measured, demonstrating short- and long-term water quality.

In addition to the WQN and the NTN, DEP's Surface Water Monitoring Programs implement watershed scale data collection efforts to assess protected uses. DEP invests approximately \$3 million per year to assess Pennsylvania surface waters. Every two years, DEP is required to submit the Integrated Water Quality Report (IWQR) to EPA as part of the Clean Water Act (CWA) reporting requirements. The monitoring and assessment data compiled over the previous two-year period is then reported, with opportunities to "delist", or remove stream segments and lakes from the CWA Section 303(d) impaired waters list. The local data collected and captured through biotic assessments (or assessments of living organisms), as well as the chemical and physical assessments, are then incorporated into the report to EPA. EPA must approve the report for waters to be removed from the impaired waters list.

When DEP worked with York County and other counties across the Chesapeake Bay watershed, nitrogen, phosphorus, and sediment loads (in pounds) were allocated as planning goals through the use of the EPA Chesapeake Bay Program Office Chesapeake Bay Watershed Model (CBWM), also known as the Chesapeake Assessment Scenario Tool (CAST). This suite of modeling tools is

what EPA uses to monitor and assess states' progress toward achieving the planning targets for nitrogen, phosphorus, and sediment for the Chesapeake Bay Total Maximum Daily Load (TMDL). As found in Section 11 of Pennsylvania's amended Phase 3 Watershed Implementation Plan (WIP), sediment loads and targets were calculated using the CAST modeling tools, in accordance with the CBP requirements. Nutrient and sediment loads are calculated based on the relevant inputs, including land use imagery, USDA Ag Census-reported animal numbers and cropland acres, Association of American Plant Food Control Officials (AAPFCO) fertilizer sales data, and local, state, and federal reported best management practices (BMPs). The sediment planning target was developed based on the BMPs included in the Phase 3 WIP, and the estimated outcome of the implementation of those BMPs.

Pennsylvania's Phase 3 WIP, compiled by DEP and submitted to EPA, also noted that there were, and continue to be, concerns with the accuracy of the CAST modeling tools as it relates to Pennsylvania's nutrient and sediment loads. For example, Pennsylvania, and other jurisdictions, must continuously verify, or re-inspect, BMPs that have been implemented. If BMPs are not verified on a routine basis (in one, five, or 10-year increments, based on the type of BMP), then those BMPs are no longer accounted for in the Chesapeake Bay CAST model. This means that every BMP that has been implemented and continues to function, if not re-inspected, no longer counts and no longer is provided nutrient and/or sediment reduction credit toward Pennsylvania's overall planning targets. DEP has worked tirelessly on resolving these inconsistencies, including the sharing of statistics and aggregate data and engagement on various CBP workgroups, committees, and goal teams. DEP continues to demonstrate through inspection of existing, implemented BMPs that, on average, they continue to function well-past their estimated model credit duration.

While the CAST modeling tools are imperfect, they do offer an immediate output based on what is reported to help predict and estimate future outcomes. Data management is important for tracking where and how public and private dollars are spent. These data also provide the connection between the real-time water quality monitoring data and the management actions and BMPs that are implemented on the ground, demonstrating how those BMPs are positively impacting the local watersheds, communities, the Chesapeake Bay, and furthering the importance of investing in those BMPs.

Pennsylvania, led by DEP, has been working with our partners in other states, interested stakeholders and non-governmental organizations, as well as local elected officials, over the course of the past two years on what we do as we move beyond 2025. The Chesapeake Bay TMDL will continue on well past 2025; even after all the practices and programs are implemented to meet the required water quality standards in the Chesapeake Bay, they will need to be maintained while implementing more, especially as landowners, land use, and

environmental conditions change over time. DEP has been a strong proponent that CBP progress assessments should not solely rest on the CAST model outputs, but rather incorporate multiple lines of evidence, including but not limited to water quality monitoring data, restored streams and stream delistings, and successful programs and policies. Modeled data, while important for planning and predicting potential future outcomes, must be in balance with measured data, which demonstrates long- and short-term water quality trends.

In closing, DEP remains committed to incorporating water quality monitoring data, in York County as well as across the Chesapeake Bay watershed and the Commonwealth, in our assessment of progress toward meeting local clean water goals.

Thank you for your interest and I look forward to answering any questions that you may have.