

## **INCORPORATING SOIL PHOSPHORUS IN THE PHASE 6 MODEL**

### ***Recommended Path Forward***

#### **Management Board Recommendation**

#### **Adopted September 21, 2017**

The Partnership, under the advice of its Scientific and Technical Advisory Committee, specifically decided to incorporate soil phosphorus transport in to the Phase 6 Model. Near-term actions have been taken to adjust the Phase 6 to better represent phosphorus dynamics in the Bay watershed. However, mid- and long-term actions are needed to improve the quality and representativeness of the soil phosphorus input data. Working through the Water Quality Goal Implementation Team (and its technical workgroups) and the Modeling Workgroup, the Chesapeake Bay Program Partnership commits to the following to improve the quality, quantity and representativeness of the soil phosphorus data:

- 1) Working through EPA, develop and implement a contract/grant to conduct a comprehensive statistical analysis of all the states' existing soil phosphorus data to better understand the statistical validity, viability, and confidence interval of the existing data and to support the development of a suite of expectations for future data collection efforts. This analysis would include, but not be limited to determining: sample size, confidence intervals, geographic domain, representativeness, data extrapolation and land uses. The results will also be used to prioritize future data collection efforts to address data gaps.
- 2) Informed by the contractor's/grantee's work from number 1 above, and with the support of the Partnership's Agriculture Workgroup and the Scientific and Technical Advisory Committee, the Partnership will cooperatively develop regional standards for a comparable and consistent suite of soil phosphorus sample collection methods, sample data recording, and laboratory analysis methods. These new regional standards would be proposed for mutual adoption and implementation across all state, land grant, and private laboratories which provide analytical services for agricultural operations within the six Chesapeake Bay watershed states. These would guide the Partnership for future reporting of soil phosphorus data during each two-year milestone period.
- 3) Identify and implement opportunities to ensure the collection of more representative soil phosphorus data into the future by building from existing state nutrient management and permitting requirements for soil phosphorus data collection.
- 4) Establish a quality assurance system to prevent future concerns about soil phosphorus data comparability within and across jurisdictions. This quality assurance system will utilize the Partnership's existing quality assurance structure (e.g., CBP Quality Assurance Coordinator), infrastructure (e.g., CBP Data Integrity Workgroup), and verification program plans.

- 5) Informed by the contractor's/grantee's work from number 1 above, develop a verified reference soil phosphorus sub-dataset for each state by obtaining soil samples and associated data using standardized collection methods.
- 6) Ask the Partnership's Scientific and Technical Advisory Committee to sponsor a workshop to investigate the impact of and appropriate model representation of soil phosphorus levels of urban and other non-agricultural land uses for future use by the Partnership.
- 7) With the support of the Partnership's Agriculture Workgroup, the Scientific and Technical Advisory Committee, regional land grant universities and private laboratories, develop and implement a regional structure and process for the biennial collection, synthesis, and reporting of soil phosphorus analysis data by land use at an aggregated county-scale for inclusion in the Phase 6 Chesapeake Bay Watershed Modeling tools during future two-year milestone periods.