

INORGANIC FERTILIZER ACTION AND ACCOUNTING REPORT FRAMEWORK TO THE CHESAPEAKE
ASSESSMENT SCENARIO TOOL (CAST)
January 11, 2023

General Statement of Purpose:

This inorganic Fertilizer Action and Accounting Report Framework (Action Plan) is a plan for fulfilment of [Decision 2](#) made by the Principals' Staff Committee during their August 29, 2022 special meeting on CAST.

“The partnership will convene a committee to develop short-term, interim resolutions to fertilizer data concerns before moving forward with CAST 2021 as well as long-term resolutions for Phase 7 model. The committee will report out on progress towards this action at the next PSC meeting.”

The purpose of the Action Plan is to ensure that the Chesapeake Bay Program Partnership, including but not limited to signatory members, demonstrate commitment to ensuring that CAST includes the most current and defensible data reflective of land application of inorganic fertilizer. The Action Plan* will be updated on a monthly basis by the Fertilizer Expert Group coordinator, with monthly progress documented for each Action Item, reported by Chesapeake Bay Program Office (CBPO) staff and/or Management Board representative(s) to the Principals Staff Committee (PSC), quarterly, at a minimum.

Items contained in the Action Plan are subject to modification as decided by the Management Board, upon consensus. The Action Plan Schedule is subject to change, as appropriate. Documentation of any changes to the items and / or schedule will be recorded in the monthly progress report.

Responsibilities of the Fertilizer Expert Group:

Incorporation: Data stewards, State Chemists (or their proxies), USDA employees and members of the Agriculture Modeling Team (AMT) and Scientific and Technical Advisory Committee (STAC) should be invited to serve as experts and participants on the Fertilizer Expert Group. CBPO Staff will support the group which will be coordinated by the AMT coordinator. The Fertilizer Expert Group will be convened by March 1, 2023. Additionally, CBPO and the AMT will review data preprocessing methods and agricultural inputs to ensure that CAST-23 and Phase 7 Watershed Model (WSM) utilizes the best available information to reflect agricultural conditions in the watershed and how conditions change through time. Any changes made to the original data by CBPO or the data provider should be clearly documented in a Quality Assurance Project Plan (QAPP). The review of the data preprocessing methods will be complete by April 1, 2023.

Identify potential sources: The Fertilizer Expert Group will conduct thorough review and research of alternative data sources of fertilizer application, including but not limited to USDA-NASS annual agrichemical application surveys and other national and state sources of fertilizer application. This review will also include identification and compilation of data, gaps in data, and costs to fill those gaps. The Fertilizer Expert Group will report regularly to the AMT, Ag Workgroup, and Water Quality Goal Implementation Team (WQGIT) and coordinate with USDA agencies to identify model structures, analysis methods, and agricultural databases. Coordination with USDA should commence no later than March 1, 2023; ongoing coordination is expected, with the potential for USDA agencies, such as USDA-NASS, to be actively engaged with the Fertilizer Expert Group and AMT. USDA will be invited to provide at least one presentation to Ag Workgroup and Water Quality GIT to describe Agrichemical Application survey, no later than April 2023.

Analyze Sources: New sources of data, raw AAPFCO data, and CBPO processed fertilizer data will be compared for geographic and temporal consistency. Any changes made to the original data by CBPO or the data provider should be clearly documented. Not all jurisdictions can or will supply the same fertilizer data sources. These sources should also be analyzed with respect to annual cropland acreage

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and crop yield changes and adjusted for estimated annual land applied manure. This should also include comparison of fertilizer quantities, temporal lag or data timeliness, geographic specificity, and land use/crop specificity. The Fertilizer Expert Group will work with USDA-NASS to determine costs and feasibility for regular (e.g. biennial) agrichemical application surveys. Itemization and characterization of known sources should be available no later than April 30, 2023.

Recommendations: A recommended path forward on Phase 6 and Phase 7 fertilizer data sources will be developed by the Fertilizer Expert Group. Additional funding or policy changes and recommendations necessary to fill gaps should be discussed. This discussion should include the AMT and STAC as appropriate to inform implementation. This analysis should be completed with enough detail for a CBPO briefing to the Management Board as an informational item in April 2023.

A summary of the discussion and resulting proposed path forward in the near and long term should be presented by the CBPO staff and / or Management Board representative(s) to the PSC by June 2023. A schedule of review and approval would be established by or before June 2023. Outcomes should include any recommended changes in data analysis to complete and approve CAST-21 and CAST-23 on existing data sources followed by a recommended framework for Phase 7.

- CAST-21 and CAST-23 recommendations will be provided to the Ag Workgroup and AMT no later than May 2023 and June 2023 for information and July 2023 for decision. Ag Workgroup decision will be presented to the WQGIT by August 2023. CAST-21 and CAST-23 recommendations will include: a comparison between AAPFCO provided data through 2015-2016 (used in CAST-21) and the most current state-provided fertilizer sales data; identification of new data sources to compare against fertilizer sales data; and pros and cons, based on the AMT expertise, to use state-derived fertilizer sales data only, or with multiple data sources.
- Phase 7 recommendations will be provided to the Ag Workgroup and to the AMT no later than May 2025 and June 2025 for information and August 2025 for decision. Phase 7 recommendations will include: a comparison between fertilizer sales data and other sources of fertilizer application data; identification of the different data sources that the AMT considered that are currently available and for which state(s); and pros and cons, based on the AMT expertise, to select one or more data sources of fertilizer application and to review of the current method of fertilizer distribution within the model, providing recommendations for distribution of materials identified in the newer data sources.

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Action Item	Responsible Party	Deadline	Progress/Notes

**The Action Plan will be updated monthly with progress documented for each Action Item, by no later than the 30th of the month, with the updated plan published to the Chesapeake Bay Agricultural Modeling Team webpage no later than the 1st of the following month.*