Fertilizer Expert Group (FEG) Workplan

Background:

The Chesapeake Bay program partnership is concerned with the quality of fertilizer data used to inform the Chesapeake Assessment Scenario Tool (CAST) and the PSC reached consensus on August 29th PSC to evaluate new data sources for the current version of CAST. However, there is no formal group prepared to examine both the urban and agricultural fertilizer data. Therefore, we propose using an existing informally established team to support the PSC's request to examine the fertilizer inputs in the current and future versions of CAST. This group will be referred to as the Fertilizer Expert Group (FEG).

Team's task:

- Create a formal 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.

Scoping questions driving the work:

- Are there other data sources that can inform Phase 6 nutrient application rates?
- At what scale are inorganic fertilizer data available?
- What is the feasibility of collecting more relevant jurisdictional level data?
- Are there streamlined methods of tracking and reporting without undue burden on the local and jurisdictional agencies?
- What improvements in nutrient data and application can we recommend for Phase 7?

Team participants:

Membership includes representatives and fertilizer experts from each of the jurisdictions within the watershed, Washington D.C., the fertilizer industry, and several federal agencies (Table 1.). Jurisdictional representatives act as a point of contact that ensures relevant information is disseminated to their jurisdictions. Jurisdictional fertilizer experts are the people who handle the states fertilizer tonnage collection as well as other sources of fertilizer data from within the state. Additional members such as the Federal government and industry members will provide relevant experience pertaining to fertilizer data.

Table 1. Current Fertilizer Expert Group Membership.

Role	POC	Role	POC	Role	POC
MD Jurisdictional Representative	Alisha Mulkey	PA Fertilizer Expert	David Dressler	The Fertilizer Institute (Industry)	Leanna Leverich Nigon
PA Jurisdictional Representative	Frank Schneider	NY Fertilizer Expert	Jan Morawski	International Plant Nutrition Institute (Industry)	Tom Bruulsema
NY Jurisdictional Representative	Cassie Davis	VA Fertilizer Expert	David Gianino	USDA -NRCS	Lisa Duriancik
NY Jurisdictional Representative	Greg Albrecht	DE Fertilizer Expert	Justin Lontz	USDA - NRCS	Candiss Williams
VA Jurisdictional Representative	Seth Mullins	WVA Fertilizer Expert	Chad Linton	USDA - NRCS	Leon Tillman
DE Jurisdictional Representative	Clint Gill	DC Fertilizer Expert	Cecilia Lane	USDA - NASS	Tony Dorn
WVA Jurisdictional Representative	Dave Montali	DOD Fertilizer Expert	Jessica Rodriguez	USDA -ARS	Tamie Veith
DC Jurisdictional Representative	Jonathan Champion	NPS Fertilizer Expert	Rene Senos	USDA - ARS	Curtis Dell
DOD Jurisdictional Representative	Kevin DuBois	CBC Representative	Marel King		
MD Fertilizer Expert	Philip Davidson	USGS	Alex Soroka		

In addition to the jurisdictional representatives the Chesapeake Bay Program Office (CBPO) has compiled a support staff (Table 2.) to assist jurisdictional representatives and experts. These experts will provide technical expertise on CAST in addition to technical analytical support to ensure that the current fertilizer data needs of CAST will be met. CBPO staff will also provide the Agricultural Modeling Team coordinator to coordinate this group.

Table 2. Current Chesapeake Bay Program Advisory Team members.

Role	POC
Coordinator	Tom Butler
Agriculture	Mark Dubin
CAST	Olivia Devereux, Jessica Rigelman
Watershed Technical Workgroup	Ruth Cassilly, Jeff Sweeney
Modeling Workgroup	Gary Shenk
Urban Stormwater Workgroup	David Wood

Fertilizer Expert Group Workplan/timeline:

1) The informal team has completed introductory meetings with jurisdictional representatives and fertilizer experts. Each meeting to date has been with an individual jurisdiction to establish a baseline for each jurisdiction's data reporting and management.
2) The Chesapeake Bay Partnership advisory team has begun to examine state reported data and AAPFCO reported fertilizer sales tonnage data sets. This examination will determine if more recent state reported data could be utilized in the current Phase 6 model. – ***Expected completion date: February 28th, 2023***
3) Convene the first full group meeting to discuss potential sources of fertilizer data. This will entail discussion about the current fertilizer data set and other potential data sets for implementation into CAST. - ***Expected completion date: March 1st, 2023,*** *the objectives of this meeting are as follows:*
    - Assist in determining what data is available for use to supplement the current AAPFCO fertilizer data in the short term (Phase 6).
    - Determine the best method to collect potential data sources for examination by the Agricultural Modeling Team (AMT) for Phase 7 model development.
4) Review data preprocessing methods and agricultural inputs. ***– Expected completion date April 1st, 2023,*** *this objective will entail*:
    a. The review of the data preprocessing methods
    b. Any changes made to the original data by CBPO, or the data provider should be clearly documented in a Quality Assurance Project Plan (QAPP).
5) USDA presentation – E***xpected completion date April 30, 2023***,
    a. USDA will be invited to provide at least one presentation to Ag Workgroup and Water Quality GIT to describe Agrichemical Application survey.
6) Analyze the compatibility of new data sources with CAST including potential USDA-NASS data. Itemize and characterize known sources for recommendation to additional workgroups. ***– Expected completion date April 30, 2023.***
    a. This review will also include identification and compilation of data, gaps in data, and costs to fill those gaps.
7) Provide briefing to MB: Provide recommendations to move forward in both Phase 6 (short term) and Phase 7 (long term) versions of CAST. ***– Expected completion date April Management Board Meeting***
    a. Enumerate possible data sources
    b. Describe funding/policy changes necessary to acquire or supplement new data.
    c. Collaborate with AMT and STAC.
    d. Create briefing for April MB meeting.
8) Provide briefing to the PSC: Provide a summary of research results and recommendations including a timeline for data review and implementation to the Principals Staff Committee. **–** ***Expected completion date June 2023*** – ***Expected completion date December 2025***

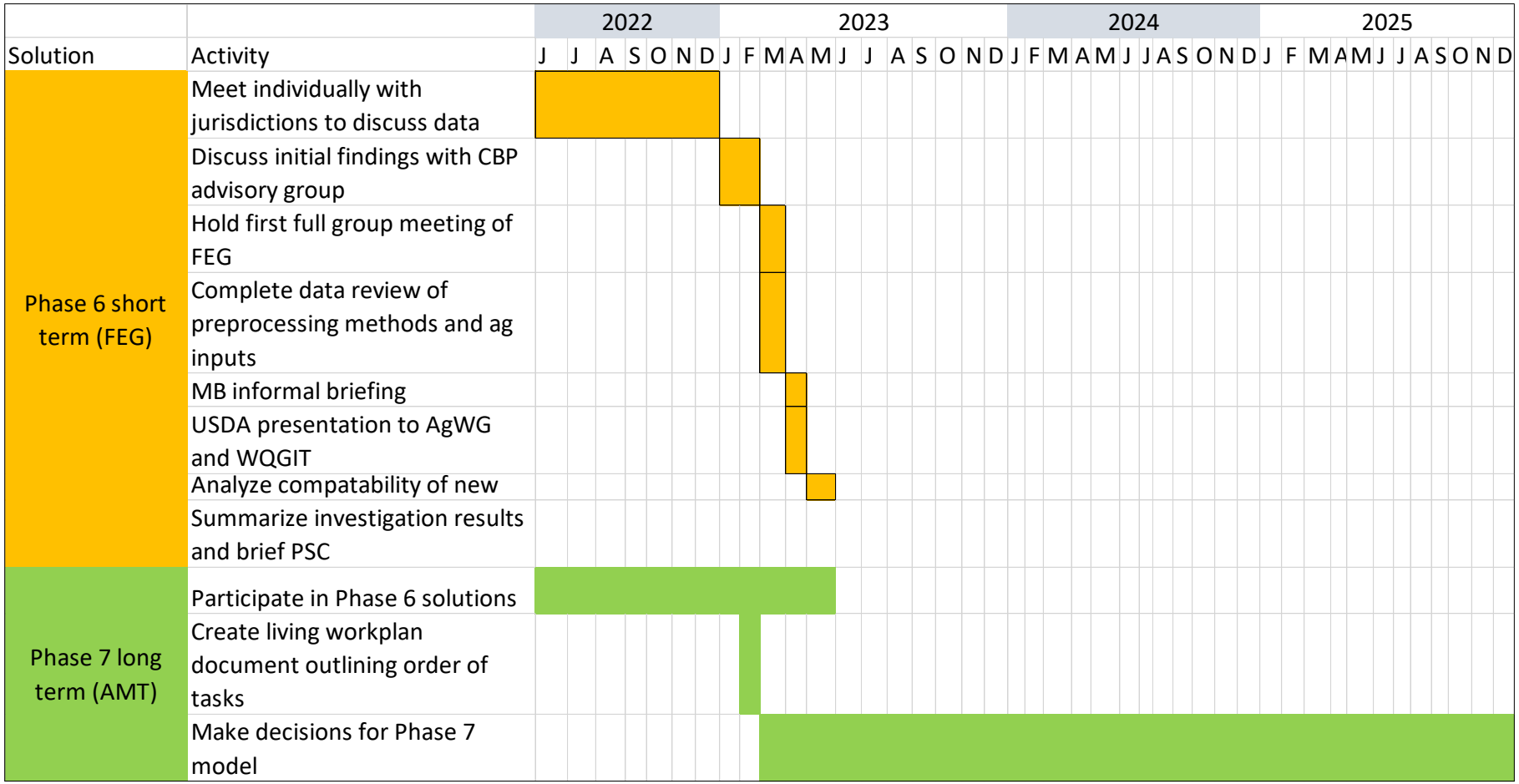
A visual representation of the timelines for these proposed activities is presented in figure 1.

Deliverables:

As a result of this investigation, we will provide potential:

- Datasets and or methods to directly use or inform Phase 6 inorganic farm fertilizer usage.
- New data sets and or methods for discussion by the AMT for Phase 7 model development.

Figure 1. Outline for the examination of alternative fertilizer data sources.



*NOTE This document is subject to change at the behest of the MB or PSC.