

AgWVG Ag Data Input Concerns

July 15, 2021

CAST-21 Workplan (Working Draft)

Approved data and method changes need to be finalized through the WQGIT by Sept. 1, 2021

Questions/
Comments?

KEY ACTION	STATUS
Task 1: Updates to data & methods that typically occur every 2 years.	<ul style="list-style-type: none"> On-going CAST Data Update Frequency
Task 2: Investigate alternative forecasting methods for ag land uses & animals ✓	<ul style="list-style-type: none"> Nov 19 AgWG: CBPO presentation on 4 methods of forecasting Feb AgWG; See Mar AgWG decision
Task 3: Investigate 2012-2017 Ag Census change for fallow/idle acres ✓	<ul style="list-style-type: none"> AgWG Sept 17; NASS consulted; no new information; No further action; See Jan AgWG decision
Task 4: Investigate use of latest landcover & LiDAR imagery to better define changes in total ag (& other land use) acres ✓	<ul style="list-style-type: none"> Oct; Jan; Feb; Apr; New methodology approved, see May AgWG decision
Task 5: Investigate alternatives for double-crop acre estimates ✓	<ul style="list-style-type: none"> Oct 15 AgWG; NASS consulted- no new information; no recommended change to methodology, see May AgWG decision
Task 6: Consider supplemental NM for soybeans ✓	<ul style="list-style-type: none"> Dec/Jan/Mar/Apr Ad Hoc Updates Jan/Feb/Mar/Apr/May; See June AgWG decision
Task 7: QA/QC'd historic & current layer pop. data for Hillandale Farms (PA)	<ul style="list-style-type: none"> In process Feb Ad Hoc- general discussion; July 1 WTWG; Aug 5 WTWG
Task 8: Build-in Verification Ad Hoc Team products TODAY →	<ul style="list-style-type: none"> In process; July AgWG Update

Reminder - CAST 21 Schedule:

- Sept 1, 2021 - All data and methods approved
- Nov 1, 2021 - CAST-21 Beta release
- Jan 1, 2022 - Final CAST-21 release

Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

July 1 Watershed Technical Workgroup

- **Hillandale Farms, Inc.**
 - CAFO layer facilities in Adams & York Counties are not accounted for in CAST.
 - Hillandale Farms is the largest CAFO in PA.
- **How do we know this?**
 - 2017 Ag (5-year) Census data does not indicate farm counts or population data that would indicate CAFOs of this size at the county or state scales.
- **The solution?**
 - 1) Collect data from all available sources
 - 2) Develop a methodology to incorporate the Hillandale Layer population into the Adams and York County datasets.

Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

Why is this being brought to the WTWG?

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Task 7 on the CAST-21 Workplan – AgWG and WTWG

We will need the WTWG's input on:

Approving a methodology

Developing SOPs for future incorporation of additional sources of animal population data into CAST.

Today we will cover:

The scale of the problem and what we know.

Additional data sources available to us to account for this layer operation and other commercial layer facilities in Adams and York Counties.

Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

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The Scale of the Problem

- For Adams County (# of layers)

2019 Progress CAST	2017 Ag Census	Hillandale Facility (2019)
127,004	210,832	4,735,085

For York County (# of layers)

2019 Progress CAST	2017 Ag Census	Hillandale Facility (2019)
246,996	274,531	1,220,184

374,000 Layers (CAST 2019 Progress) vs 5,955,269 Layers (Hillandale Facility)

Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

Available Layer Population Data Sources

1. 2017 NASS (National Agricultural Statistics Survey) **Census of Agriculture**
2. **NASS Annual Statistical Survey**
3. Hillandale Farms **Facility Layer Inventory Data**
4. Nutrient Management Plans (**NMPs**)
5. **CAFO** (Concentrated Animal Feeding Operation) Permits
6. Pennsylvania Manure Management Plans (**MMPs**)

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Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

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Summary of Comments:

- ❖ Why Isn't Hillandale Represented in Ag Census?
 - ❖ *What else could be missing from the Ag Census?*
- ❖ Effect of Data Incorporation on Calibration Years for Phase 6?
- ❖ Wait to Make Change in Phase 7?
- ❖ Can This be Completed & Approved in Time for CAST-21?
- ❖ Impact on Loads for Other Jurisdictions?
- ❖ Parity Across Jurisdictions
- ❖ New Precedent for Data Incorporation in CAST.
- ❖ Hillandale manure currently transported. Will incorporating layer significantly change nutrient mass balance?
 - ❖ *Crop nutrient need is met regardless.*

Task 7: Accommodate with CAST21 QA/QC'd historic and current layer population data for Hillandale Farms, Spring Grove, PA

Next Steps:

Data Collection Still in Progress

Methodology Options Under Consideration

Next Discussion

[Watershed Technical Workgroup Aug 5th, 10 AM-12 PM](#)

CBPO- NASS
annual dairy
surveys

Animal Data

Animal Populations: explore other estimating
options (MD/NY; Task 1)

AgWG June
Data Updates

Crop Production/Acres

Crop Production Acres: improve annual estimates
(MD; Task 1)

Nutrient Applications/Assumptions

Fertilizer Sales and Use Data (MD; Task 1)

MD Working w/
State Chemist

BMP Tracking & Reporting

Dairy Precision Feeding (PA)

June 17 AgWG;
follow-up
forthcoming

BMP Effectiveness/Modeling

Winter Crop (NY/PA)

Manure Transport / Manure Treatment Technologies (PA)

Forthcoming
Discussions

Future Discussions with
Modeling Team (Phase 7)

Prioritizing Concerns (post CAST-21)

- AgWG Home Page

https://www.chesapeakebay.net/who/group/agriculture_workgroup

Projects and Resources





Agriculture Workgroup Chesapeake Assessment Scenario Tool (CAST) Issues Tracker

The below Chesapeake Assessment Scenario Tool (CAST) Issues Tracker records concerns that have been raised by jurisdictions in relation to agricultural data inputs. The tracker is a living document and will be updated regularly as progress is made on the issues or new issues are raised.

CAST Issue Tracker 02.15.2021 (15.21 KB)

Agriculture Workgroup Governance Protocol & Membership

Governance Protocol (Approved 3/15/18) (491.87 KB) 

AgWG At- Large Membership, Feb. 2021 (88.8 KB) 

AgWG Signatory Membership, Mar 2021 (35.06 KB) 

Resources for Virtual Meetings

Ad Hoc November Recommendation: Create a tracking mechanism for jurisdictions' wish list for 2-year CAST updates & the next model phase.

Improving Ag Data? (TASK 1)

Crop Acreage Data

Alternative methods to account for fitting Ag Census data to CBP needs?

- Adjusting methods for estimating crop acres (e.g. double crops)

Alternative/supplemental data sets

- Other data sets at the state or federal level?

Crop
Application
Goal



Animal Population Data

Additional NASS Annual Survey Data may be available to inform population trends between census years (incorporated every two years)

- Dairy, Beef Cattle, Layers, Swine...

Direct from industry data can inform animal population trends between census years.

- Requires careful cooperation
- Legal, privacy assurances

Manure Generated

Other Data Issues (new data incorporation every 2 years)

Soil P data

- Gary Shenk [Sept 2018 presentation](#) to AgWG on data set incorporated into the CBWM
- **Additional soil P data is welcome and encouraged (NY & WV have made inquiries)**

Manure Nutrient Concentration Data

- Changes in management may result in changes in nutrient concentrations
- **Additional manure concentration data is welcome and encouraged**

Fertilizer Data

- More accurate allocation of fertilizer within the CBW?
 - **Jurisdictions working with state chemists**

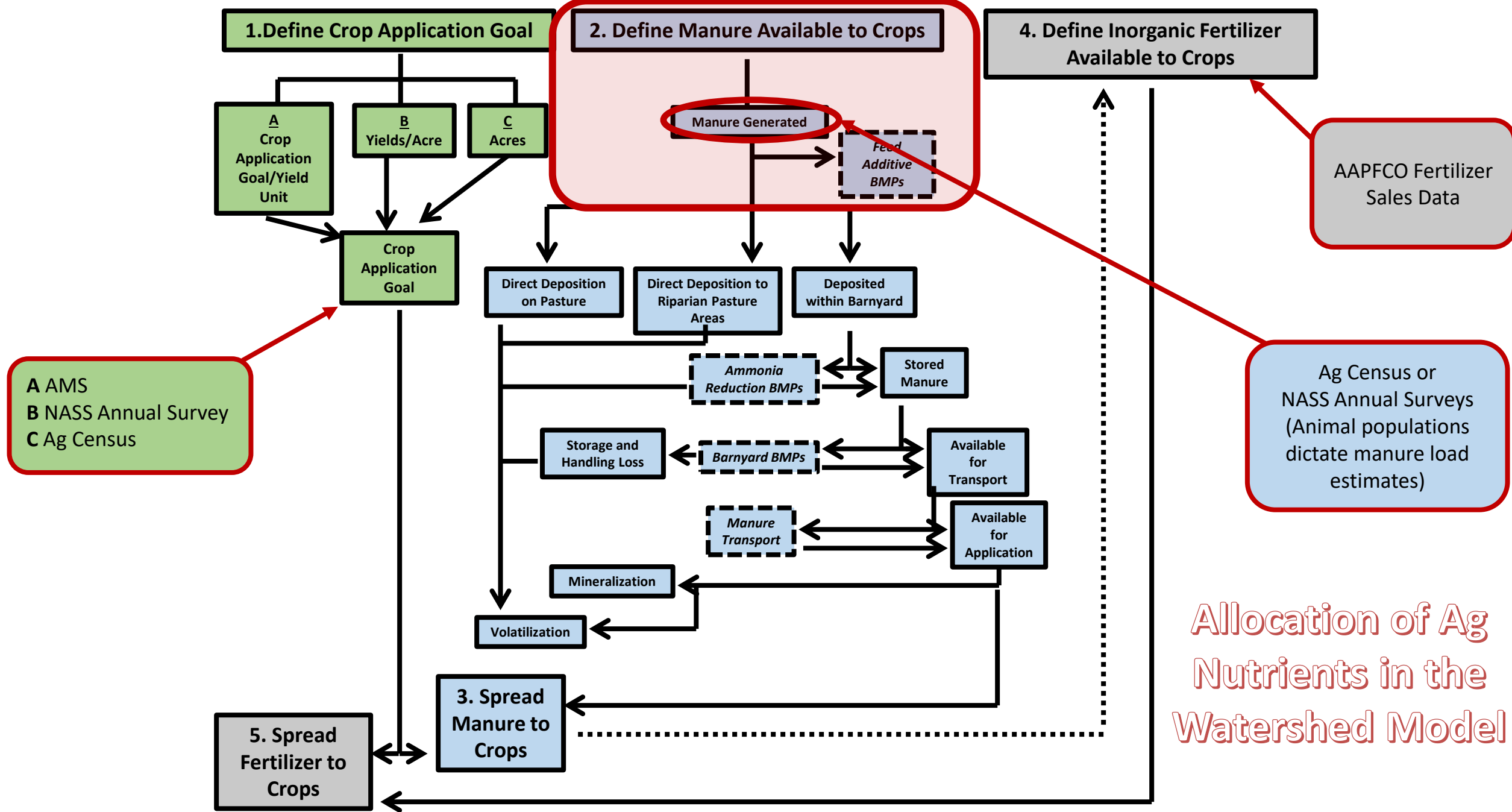
4. Define Inorganic Fertilizer
Available to Crops

CRITICAL CONCEPT:

To maintain integrity of CBWM there are two options for new data sets:

- Provide data all the way back through 1985.
- OR
- Use the trend in new data sets for the years available.

CBWM= Chesapeake Bay Watershed Model





July AgWG CAST Concerns Ad Hoc

- Winter BMP discussion

August/September AgWG

- Prioritizing needs for Phase 7 Watershed Model