



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

Bureau of Watershed Restoration  
and Nonpoint Source Management



# ***Land Application of Manure, a supplement to Manure Management for Environmental Protection (361-0300-002) Substantive Revision***

Water Resources Advisory Committee

July 18, 2024

Josh Shapiro, Governor

Jessica Shirley, Acting Secretary

# Manure Management Manual (MMM) Revision Agenda

- Background
- Progress to date
  - Timeline
  - Stakeholder Engagement
- Summary of Revisions
- Education, Outreach, Tools, and Resources
  - Timeline
- Additional Implications for Agricultural Operations

# Background

## **AUTHORITY**

Section 5(b)(1) and Section 402 of the Pennsylvania Clean Streams Law, 35 P.S. Sections 691.5(b)(1) and 691.402; Section 1920 A of the Administrative Code of 1929, 71 P.S. Section 510 20, and 25 Pa. Code Section 91.36(b).

# Background

## 25 Pa. Code Section 91.36(b)

(1) The land application of animal manures and agricultural process wastewater requires a permit or approval from the Department unless the operator can demonstrate that the land application meets one of the following:

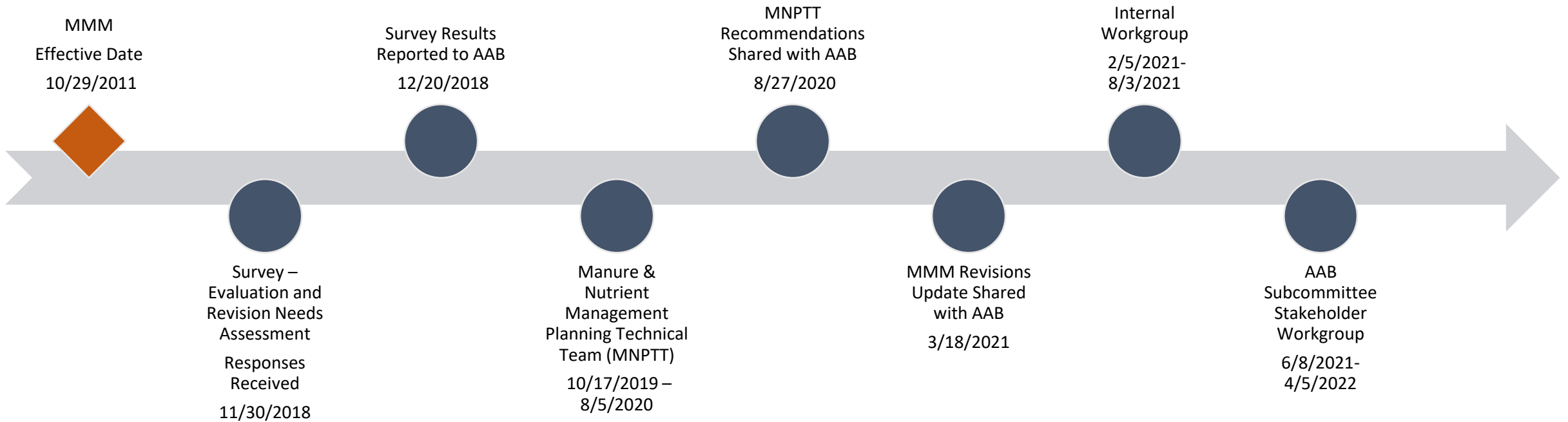
(i) The land application follows current standards for development and implementation of a plan to manage nutrients for water quality protection, including soil and manure testing and calculation of proper levels and methods of nitrogen and phosphorus application. **The Manure Management Manual contains current standards for development and implementation of a plan to manage nutrients for water quality protection which can be used to comply with the requirements in paragraph (1).**

# Background

## PURPOSE

- The PURPOSE of these revisions is to **address the diverse planning needs of the regulated community** and maintain or improve the feasibility of planning, verification, and implementation of Manure Management Plans developed in accordance with the standards set forth in the Manure Management Manual.

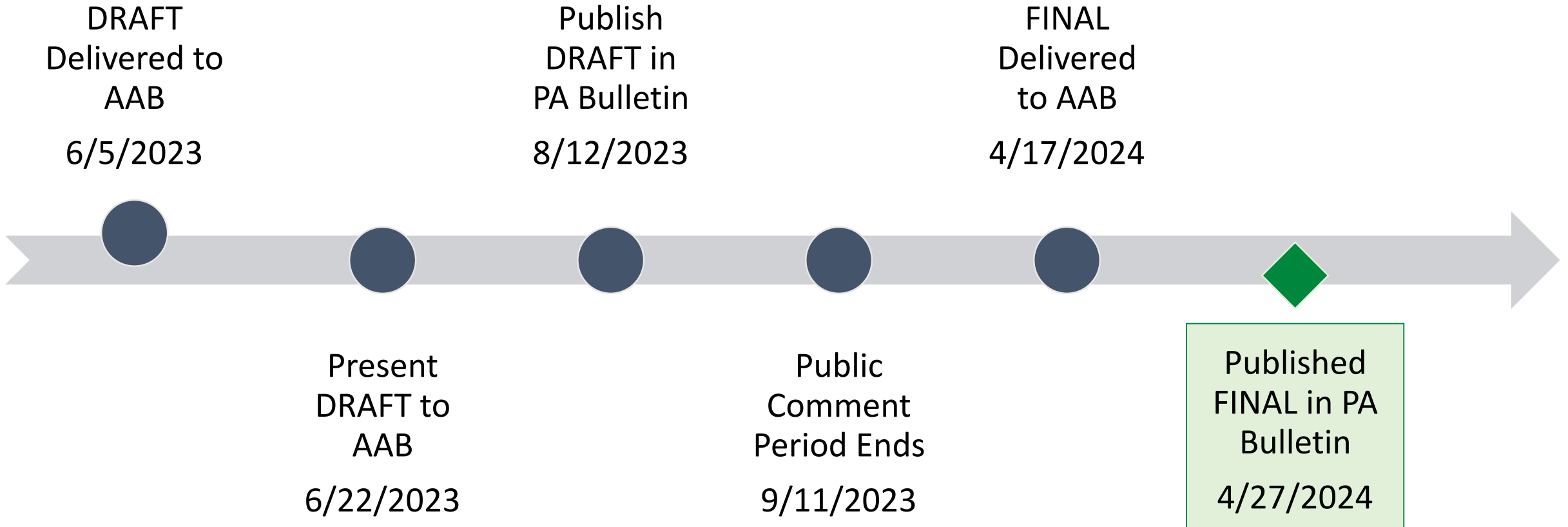
# Timeline



# Stakeholder Engagement

FORUM	DATES ENGAGED	STAKEHOLDER GROUPS REPRESENTED	
Survey	10/29/2018 - 11/30/2018	County Conservation Districts Certified Commercial NM Specialists Hauler/Brokers	Federal Agencies Agricultural Operators Penn State University
MNPTT	10/17/2019 - 8/5/2020	Chesapeake Bay Foundation PA Farm Bureau Penn State University	PennAg. Industries Association SCC
Internal Wkgroup	2/5/2021 - 8-3/2021	Clearfield CCD Lancaster CCD NRCS Penn State Extension	Farm Bureau DEP Regional Staff SCC
AAB Subcommittee – Stakeholder Wkgroup	6/8/2021 - 4/5/2022	PennAg Industries PA Farm Bureau Sen. Elder Vogel’s Office Perry CCD	Chesapeake Bay Foundation Penn State University PDA

# Timeline (Continued)



# Summary of Revisions

- New Planning Option
  - MMP Short Form
- New Worksheets in the MMP Workbook
- Revised Worksheets in the MMP Workbook
- Revised Appendix 1
  - Application Rate Tables
- New Appendices
  - Agronomy Facts 54 – AEU Calculation
  - Agronomy Facts 68 – Manure Spreader Calibration

# Summary of Revisions

## Planning options for Non-CAOs, Non-CAFOs meeting the requirements under 91.36(b)

- In the draft technical guidance document
  - Manure Management Plan Short Form
  - Manure Management Plan Workbook
- Act 38 NMP
- NRCS 590
- PA OneStop Manure Management Plan Workbook Template

*The operator must obtain independent approval for any other planning format*

# Summary of Revisions

## **A list was added in the Manure Management Planning Options section to summarize the requirements for an operation to use the Short Form**

**The Manure Management Short Form may be used if an operation meets all the following criteria:**

- Will continue to maintain less than 8,000lbs combined weight of livestock and poultry
- For every 1,000lbs of livestock and poultry on the operation, it will maintain at least one acre of land receiving manure (pasture, garden, or crop).
- Currently and will continue to import less than 3,000lbs of manure for personal use.
- Manure that is mechanically applied will be spread evenly across all acreage receiving manure.
- Operation will maintain at least 100-foot setbacks from all environmentally sensitive areas.
- Operation will not apply manure between December 15<sup>th</sup> and February 28<sup>th</sup> or anytime the ground is frozen at least 4 inches deep or snow-covered.
- Operation does not and will not generate or apply liquid or semisolid manure or store manure in a liquid or semisolid manure storage facility.
- All solid manure is currently and will continue to be stored under roof or cover and on a permanent, improved, stabilized and compact surface with runoff controls to prevent pollution.
- Manure that is transported off-site is currently and will continue to be land applied according to a site-specific Manure or Nutrient Management Plan or transported to a permitted waste disposal site.
- Currently and will continue to maintain all pastures to maintain at least 3 inches of vegetation and 70% perennial vegetative cover when animals are present on pasture.
- There are no barnyards, feedlots, loafing areas, exercise lots or other animal confinement areas prohibiting the growth of pasture.

# Summary of Revisions

## Manure Management Plan Short Form Guidelines

- Maximum combined weight of livestock and poultry
- Maximum animal density
- Maximum amount of imported manure
- Manure is evenly spread across all acres

# Summary of Revisions

## Manure Management Plan Short Form Guidelines (cont.)

- Minimum 100' setbacks from environmentally sensitive areas
- No winter spreading
- No liquid or semi-solid manure generated or stored on site
- Solid manure storage to prevent pollutional discharge
- Exported manure is applied according to a NMP or MMP or transported to a permitted waste disposal site.

# Summary of Revisions

## Manure Management Plan Short Form Guidelines (cont.)

- Pastures maintain at least 3” of vegetation height and 70% perennial vegetative cover when animals are on pasture.
- No Animal Concentration Areas (ACAs) on site

# Summary of Revisions

## Manure Management Plan Workbook – New Worksheets

- Animals Worksheet – AEU Calculation
- Agricultural Process Wastewater Worksheet
- Separated “Planned Implementation Date” from “Implemented on Date” and formatted as two separate lines.

# Summary of Revisions

## Manure Management Plan Workbook – Revised Worksheets

- Operation Information
  - To reflect new and revised worksheets later in the MMP Workbook
  - Manure Spreader Calibration – New check item verifying that the manure spreader will be calibrated according the recommendations in Agronomy Facts 68 prior to manure application.
    - Removed the option of “No”; must answer “Yes” or “N/A”

# Summary of Revisions

## Manure Management Plan Workbook – Revised Worksheets

- Environmentally Sensitive Areas Worksheet
  - Included springs for clarification
- Winter Spreading Worksheet
  - Minor revisions to heading language
  - Option to plan to the P removal rates of the coming year's crops has been removed.

# Summary of Revisions

## Manure Management Plan Workbook – Revised Worksheets

- Manure Management Plan Summary
  - New check box identifying that soils tests taken in the last 3 years indicated phosphorous levels are less than 200 ppm.
  - Clarification language indicating that no single manure application can exceed 9,000 gallons per acre unless it is applied in accordance with §83.294(e).

# Summary of Revisions

## Manure Management Plan Workbook – Revised Worksheets

- Operation Map (Formerly Farm Map)
  - New blank page inserted to facilitate hand drawing and/or remind the planner to include a map.
- Manure Storage and Stacking Worksheet (Formerly Manure Storage Facilities Worksheet)
  - Facilitates planning for stacking and stockpiling of manure.
  - Facilitates consideration and documentation of the PE certification for the design and construction of liquid and semi-solid manure storage facilities as required under § 91.36(a)(2).

# Summary of Revisions

## Manure Management Plan Workbook – Revised Worksheets

- Pasture Management Worksheet
  - Clarification of vegetation requirements needed to maintain pasture.
    - Maintain at least 3” of vegetation height and 70% perennial vegetative cover when animals are on pasture.
    - If any fields are overgrazed, then they must be reestablished in the next growing season or those fields should be managed as an Animal Concentration Area (See the Animal Concentration Areas Worksheet).
  - Added installation quantities and dates to obtain the necessary information to report pasture BMPs in MMPs toward Chesapeake Bay WIP implementation.

# Summary of Revisions

## **Manure Management Plan Workbook – Revised Worksheets**

- Animal Concentration Area Worksheet
  - Added installation quantities and dates to obtain the necessary information to report pasture BMPs in MMPs toward Chesapeake Bay WIP implementation.

# Summary of Revisions

## Revised Appendix

- Appendix 1: Manure Application Rate Tables
  - Simplified rate tables to include only application rates for Phosphorus removal of common crops and manure types in the Commonwealth of PA.

# Summary of Revisions

## New Appendices

- Appendix 2: Agronomy Facts 54
  - To assist with completion of Animals Worksheet
  - Replaced with higher quality printing
- Appendix 3: Agronomy Facts 68
  - To assist with manure calibration
  - Replaced with higher quality printing

# ▶ Additional Revisions to Address Comments Received

- Preface – A list was added that explains when operator needs to update to their plan to remain consistent with the operation and manure management practices.
- Page 1 – Added wording to clarify that those operations that choose to utilize the nutrient management plan format, but are not a CAFO, or CAO, will voluntarily enter the Act 38 Nutrient Management Program as a Volunteer Animal Operation (VAO).
- Page 22 – Language was added to clarify that if the operator would like to utilize commercial fertilizers, biosolids, or food processing residuals must utilize the Nutrient Balance Sheet or Phosphorous Index when planning for Manure application rates and timing.

# ▶ Additional Revisions to Address Comments Received

- Page 24 – Language was added to reference that Soil Maps can be obtained using the NRCS Web Soil Survey website.
- Sinkholes – Throughout document, the term “sinkhole” was replaced with “open sinkhole” to bring better clarification and uniformity throughout the document.
- Glossary – the definition of Improved Stacking Pad was changed to offer better clarity.

# Education, Outreach, Tools, and Resources

- Penn State Manure Management Website
  - Planning Tools and Calculators
  - Educational materials to support the Planning Tools
- DEP Clean Water Academy (CWA)
  - Public CWA Course on completing the Planning Templates in the revised Technical Guidance Documents (TGD)
    - Linking to Planning Tools and Calculators
  - Train-the-Trainer CWA Course for CCD staff to put on in-person planning workshops
  - CWA Course on Plan verification for CCD and DEP staff
    - Resource: Engineer Report of Existing Manure Storage Facilities

# Education, Outreach, Tools, and Resources

- PA OneStop
  - Manure Management Plan Module
  - In-Application education materials to support the completion of a plan using PA OneStop
- Handouts for farmers (to be distributed by CCD and DEP Staff)
  - Requirements under the revised TGD
  - Tools available to meet those requirements
- Evaluation and Enhancement
  - Additional resources may be necessary moving forward, so we will continue to regularly reevaluate the needs and support the development, verification, and implementation of complete plans.

# Timeline Moving Forward (Education/Outreach)

Published FINAL  
in PA Bulletin  
4/27/2024

Updated  
Penn State  
Manure  
Management  
Website  
*June 2024*

2-Page  
Outreach  
Docs  
Complete  
*Tentative  
Summer-Fall  
2024*

Review and  
evaluate  
additional  
needs  
*Tentative  
Summer 2025*



PA OneStop  
Module Goes  
Live  
*Tentative  
June 2024*

Updated  
Train-the-  
Trainer on  
CWA  
*Tentative  
Summer-Fall  
2024*

Printed  
Copies of  
TGD (and  
stand-alone  
forms)  
Available  
*Tentative  
Fall 2024*

# Additional Implications for Agricultural Operations

**When is an operation that has a MMP written in the 2011 planning template required to update their plan to the new planning template?**

*The completed planning templates within the Land Application of Manure Supplement should be **reviewed annually** and updated to remain consistent with the operation and manure management practices. **A plan update will be necessary when the operator expects to or has changed any of the following:***

1. *A net increase of greater than 10% occurs in AEU's per acre.*
2. *A change in crop management that results in a reduction of greater than 20% in nitrogen necessary for realistic expected crop yields or the amount the crops will utilize for an individual crop year.*
3. *If calculations in the plan are in error.*
4. *If a BMP different than that called for in the approved plan, is proposed to address a manure management or stormwater management concern.*
5. *If, after the first 3 years of implementing the plan, actual yields are less than 80% of the expected crop yields used in the development of the plan.*
6. *If alternative organic nutrient sources will replace or augment nutrient sources described in the plan.*
7. *If additional lands are brought into the operation through purchase, lease or renting.*
8. *If there is a change in the manure management system that is expected to result in a different nutrient content that requires a change in manure application rates.*

***When an update is necessary due to changes in the operation or manure management practices, all updates should be consistent with this publication, and previous copies of the Land Application of Manure Supplement and the obsolete planning templates there within should be discarded. (Page ii)***

# Additional Implications for Agricultural Operations

**If the operation has manure types or crops that are not represented in the rate tables, what should they do?**

The operation will need to complete the application rate calculations using Nutrient Balance Sheets.

# Summary

- Background
- Progress to date
  - Timeline
  - Stakeholder Engagement
- Summary of Revisions
- Education, Outreach, Tools, and Resources
  - Timeline
- Additional Implications for Agricultural Operations

# Contact Information

**Kate Bresaw**

Environmental Group Manager

Bureau of Watershed Restoration and Nonpoint Source Management

Agriculture Compliance Section

[kbresaw@pa.gov](mailto:kbresaw@pa.gov)

717-772-5650