

---

# **Pennsylvania Animal Agriculture Program Assessment**

Final

---

Prepared by:  
U.S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

February 2015

---

## **Acknowledgement**

EPA thanks the Pennsylvania Department of Environmental Protection (PADEP), the Pennsylvania Department of Agriculture (PDA), the State Conservation Commission (SCC), and the other agencies in the Commonwealth of Pennsylvania for their cooperation and participation in this program review process. In particular, EPA thanks the PADEP North-Central Regional Office (NCRO), the PADEP South-Central Regional Office (SCRO), the Lancaster County Conservation District (CCD), the Lebanon CCD, the Snyder CCD, and the Union CCD.

This project was conducted by the United States Environmental Protection Agency (EPA) with technical support from EPA's contractor, Tetra Tech.

---

## Contents

Acronyms and Abbreviations .....	iii
1.0 Executive Summary.....	1
2.0 Introduction .....	8
2.1 Purpose of Assessment .....	8
2.2 Program Review Approach .....	9
3.0 Pennsylvania Animal Agriculture Regulatory Overview .....	13
4.0 Commonwealth Agencies involved with Animal Agriculture Programs .....	14
4.1 Agency Funding.....	14
4.2 Pennsylvania Department of Environmental Protection .....	15
4.3 Pennsylvania Department of Agriculture.....	16
4.4 Pennsylvania State Conservation Commission .....	16
4.5 County Conservation Districts.....	17
5.0 Pennsylvania and the Chesapeake Bay TMDL .....	18
6.0 Pennsylvania’s Animal Agriculture WIP BMPs .....	22
6.1 Pennsylvania’s Animal Agriculture WIP BMPs– Observations.....	25
7.0 Agriculture Erosion and Sediment Control Program .....	26
7.1 Facility Universe .....	27
7.2 Resources Allocated.....	28
7.3 Data Systems.....	28
7.4 Compliance and Enforcement.....	28
7.5 WIP Implementation Goals .....	28
7.6 Agriculture Erosion and Sediment Control Program – Observations .....	29
8.0 Manure Management Program .....	30
8.1 Facility Universe .....	31
8.2 Resources Allocated.....	31
8.3 Data Systems.....	32
8.4 Compliance and Enforcement.....	32
8.5 WIP Implementation Goals .....	33
8.6 Manure Management Program – Observations.....	34

---

9.0	Pennsylvania Nutrient Management Program .....	35
9.1	Facility Universe .....	38
9.2	Resources Allocated.....	39
9.3	Data Systems.....	39
9.4	Compliance and Enforcement.....	39
9.5	WIP Implementation Goals .....	41
9.6	Nutrient Management Program – Observations .....	42
10.0	NPDES CAFO Program .....	43
10.1	Facility Universe .....	48
10.2	Resources Allocated.....	49
10.3	Data Systems.....	49
10.4	Compliance and Enforcement.....	50
10.5	WIP Implementation Goals .....	54
10.6	NPDES CAFO Program – Observations.....	55
11.0	Commercial Manure Hauler and Broker Certification Program .....	56
11.1	Certified Manure Hauler and Broker Universe .....	56
11.2	Resources Allocated.....	57
11.3	Data Systems.....	57
11.4	Compliance and Enforcement.....	57
11.5	WIP Implementation Goals .....	58
11.6	Commercial Manure Hauler and Broker Certification Program – Observations .....	58
12.0	Summary .....	59
	References .....	62
	Appendix A: Letter from PA NRCS to EPA	
	Appendix B: Chapter 102 Delegated County Conservation Districts	

## Acronyms and Abbreviations

<b>ACA</b>	Animal Concentration Area	<b>MMM</b>	Manure Management Manual
<b>ACT</b>	Agriculture Conservation Technician	<b>MMP</b>	Manure Management Plan
<b>AEU</b>	Animal Equivalent Unit	<b>NASS</b>	United States Department of Agriculture National Agricultural Statistics Service
<b>AFO</b>	Animal Feeding Operation	<b>NCRO</b>	North-central Regional Office
<b>Ag E&amp;S</b>	Agricultural Erosion and Sediment	<b>NMAB</b>	Nutrient Management Advisory Board
<b>AHUA</b>	Animal Heavy Use Area	<b>NMP</b>	Nutrient Management Plan
<b>BMP</b>	Best Management Practice	<b>NOV</b>	Notice of Violation
<b>CAFO</b>	Concentrated Animal Feeding Operation	<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>CAO</b>	Concentrated Animal Operation	<b>PADEP</b>	Pennsylvania Department of Environmental Protection
<b>CAST</b>	Chesapeake Assessment Scenario Tool	<b>PAG-12</b>	General Permit for Concentrated Animal Feeding Operations
<b>CBF</b>	Chesapeake Bay Foundation	<b>PDA</b>	Pennsylvania Department of Agriculture
<b>CBIG</b>	Chesapeake Bay Implementation Grant	<b>PDG</b>	Permit Decision Guarantee
<b>CBRAP</b>	Chesapeake Bay Regulatory and Accountability Program	<b>PENNVEST</b>	Pennsylvania Infrastructure Investment Authority
<b>CBP</b>	Chesapeake Bay Program	<b>RAWAPI</b>	Regional Agriculture Watershed Assessment Program Initiative
<b>CBWI</b>	Chesapeake Bay Watershed Initiative	<b>REAP</b>	Resource Enhancement and Protection Program
<b>CCD</b>	County Conservation District	<b>RO</b>	Regional Office
<b>CEC</b>	Continuing Education Credit	<b>SCC</b>	State Conservation Commission
<b>CFR</b>	Code of Federal Regulations	<b>SCRO</b>	South-central Regional Office
<b>CO</b>	Central Office	<b>TMDL</b>	Total Maximum Daily Load
<b>CNMP</b>	Comprehensive Nutrient Management Plan	<b>USDA-NRCS</b>	United States Department of Agriculture Natural Resources Conservation Service
<b>CWA</b>	Clean Water Act	<b>VAO</b>	Voluntary Agricultural Operation
<b>eFACTS</b>	Environment Facility Application Compliance Tracking System	<b>W&amp;W</b>	Bureau of Waterways, Engineering, and Wetlands (within a PADEP Regional Office)
<b>EPA</b>	U.S. Environmental Protection Agency	<b>WIP</b>	Watershed Implementation Plan
<b>EQIP</b>	Environmental Quality Incentives Program	<b>WQMP</b>	Water Quality Management Permit
<b>FBC</b>	Pennsylvania Fish and Boat Commission		
<b>FTE</b>	Full-time Equivalent		
<b>GIS</b>	Geographic Information System		

## 1.0 Executive Summary

The U.S. Environmental Protection Agency (EPA) conducts periodic reviews of certain state programs as part of its oversight responsibilities under the Clean Water Act (CWA). Previously, EPA's program reviews have not focused exclusively on animal agriculture regulations and programs. EPA decided to conduct assessments of animal agriculture programs in the six Chesapeake Bay jurisdictions as part of its oversight responsibilities under the Chesapeake Bay Total Maximum Daily Load (TMDL) and National Pollutant Discharge Elimination System (NPDES) Permit Program. This review also satisfies certain EPA commitments made in the settlement agreement that resolved the lawsuit [Fowler et al. v. EPA](#), No. 1:09-cv-0005-CKK (D.D.C.). The Pennsylvania review is one of six animal agriculture program reviews that will be completed by 2015.

EPA completed its assessment of the Commonwealth of Pennsylvania's animal agriculture regulations and programs in February 2015. The goals of the assessment are to determine whether the state programs are consistent with Clean Water Act requirements and are implemented effectively to achieve Pennsylvania's animal agriculture Watershed Implementation Plan (WIP) commitments to reduce nitrogen, phosphorus, and sediment under the Chesapeake Bay TMDL. This assessment identifies successes and challenges within the Commonwealth's animal agriculture programs and regulations; evaluates the programs that are available to support Pennsylvania's agricultural pollutant load reduction commitments set forth in Pennsylvania's WIP to achieve the allocations set forth in the Chesapeake Bay TMDL; and evaluates Pennsylvania's NPDES permit program (including its implementation) for concentrated animal feeding operations (CAFO) with federal NPDES requirements.

To meet its overall TMDL allocations as detailed in their Phase I and II WIPs, Pennsylvania has committed to achieving approximately 75% of its necessary nutrient and sediment reductions from the agricultural sector. Controlling the agricultural load is not only essential to achieving Pennsylvania's portion of the Chesapeake Bay TMDL, but it is essential for the overall Bay restoration.

This assessment briefly summarizes Pennsylvania's environmental regulations applicable to animal agriculture operations and provides an overview of Pennsylvania agencies with regulatory and technical responsibilities for animal agriculture operations. The report also includes EPA's analysis of how Pennsylvania is implementing its animal agriculture programs. The specific programs assessed are the Agricultural Erosion and Sediment Control Program, Manure Management Program, Nutrient Management Program, NPDES CAFO Program, and the Commercial Manure Hauler and Broker Certification Program. These programs were compared to the goals outlined in Pennsylvania's WIP. Pennsylvania was forthcoming with a considerable amount of material and information to support this assessment.

This assessment is based on: Pennsylvania's response to an animal agriculture program questionnaire developed by EPA; information contained in 57 NPDES CAFO files provided by the Pennsylvania Department of Environmental Protection (PADEP) North-central and South-central Regional Offices (NCRO and SCRO) and 86 files from Snyder, Union, Lebanon, and Lancaster County Conservation Districts (CCDs); interviews with staff; and program information available from agency websites. EPA met with PADEP regional office staff and staff from four different CCDs as part of the assessment process. EPA acknowledges that Pennsylvania's program is complex, implemented across a number of

statutes, regulations, agencies, and entities. The observations outlined in this report provide a framework for Pennsylvania to strengthen implementation of their animal agriculture programs and work toward improved water quality within the Commonwealth and the Chesapeake Bay watershed.

According to the questionnaire submitted by Pennsylvania, there were 23,190 animal agriculture operations in 2007, with 13,782 animal agriculture operations located within the Chesapeake Bay watershed. According to the 2012 United States Department of Agriculture National Agricultural Statistics Service (NASS) Census of Agriculture (2012 Ag Census), Pennsylvania had 29,364 animal operations with sales (of animals or animal products) across the Commonwealth. While Chesapeake Bay watershed numbers were not available at the time of this assessment, the 2012 Ag Census indicates that approximately 21,757 animal operations were located within counties that share a border with Pennsylvania's portion of the watershed. EPA acknowledges that there may be administrative and operational challenges associated with implementing nutrient and sediment reduction-related programs for this number of animal agriculture operations.

PADEP, Pennsylvania Department of Agriculture (PDA), and the State Conservation Commission (SCC) have statutory and regulatory authority to manage animal agricultural programs in Pennsylvania. PADEP, PDA, and SCC rely on the CCDs for assistance in implementing various regulations.

### **Pennsylvania's Animal Agriculture Watershed Implementation Plan Goals**

Pennsylvania's Phase I and II WIPs detail how the Commonwealth plans to meet Chesapeake Bay TMDL loading allocations for nitrogen, phosphorus, and sediment. Pennsylvania submitted its Chesapeake Bay TMDL Phase I WIP on November 29, 2010 and the Phase II WIP on March 30, 2012.

In evaluating whether the Commonwealth's CAFO and AFO programs are aligned with meeting the Chesapeake Bay TMDL, EPA focused its assessment on the following five animal agriculture BMPs, which are identified in Pennsylvania's WIPs:

- Nutrient Management;
- Livestock and Poultry Waste Management Systems;
- Soil Conservation and Water Quality Control Plan;
- Barnyard Runoff Control; and
- Stream Access Control with Fencing (Pasture).

EPA refers to these BMPs in this document as "priority BMPs." EPA focused its assessment on these priority BMPs because they represent practices in Pennsylvania's WIPs that, when implemented, would reduce the nutrient and sediment loads from the animal agriculture sector needed to achieve the applicable TMDL allocations. Pennsylvania is relying on these five practices for reducing its agricultural nitrogen loads by approximately 20.8%, reducing its agricultural phosphorus loads by approximately 41.0%, and reducing its agricultural sediment loads by approximately 10.5%.

Based on EPA's file review, CAFOs and concentrated animal operations (CAOs) are required by the NPDES CAFO and Nutrient Management programs to implement many of the five priority BMPs; however, ensuring effective implementation of nutrient management plans (NMPs) remains a challenge. EPA finds that the majority of the priority BMPs necessary to achieve the 2017 and 2025 WIP BMP and

pollutant load reduction goals would need to be implemented under Pennsylvania's Manure Management and Erosion and Sediment Control programs. Those two programs, which exceed federal requirements, address the vast majority of agricultural operations, beyond those defined as CAFOs and CAOs. In addition to the implementation of Pennsylvania's regulatory programs, the Commonwealth's implementation of priority BMPs may also need to rely on implementation of non-regulatory programs, acknowledging that such previously unreported BMPs will be necessary to account for some of the progress to the 2025 goals. The non-regulatory programs include grants, cost-share funding, and other financial and technical assistance to help and encourage farmers to construct and maintain BMPs to benefit surface water quality.

Based on EPA's evaluation of Pennsylvania's overall progress towards meeting its 2012-2013 milestones and its sector-specific commitments for the 2014-2015 milestone period, EPA found that "Pennsylvania has made progress in the agriculture and wastewater sectors to ensure implementation is occurring, even though all its milestone commitments were not achieved. Pennsylvania will need to place additional emphasis on improving implementation in the agriculture and stormwater sectors and the offsets and trading program to stay on track" to meet its WIP commitments and Chesapeake Bay Program (CBP) goals of 2017 and 2025 to meet the Bay TMDL. Specific to the agriculture sector, EPA found that Pennsylvania "[d]id not meet its 2013 milestone targets for nutrients and sediment in agriculture and did not meet its cumulative (2009-2013) agricultural implementation targets for [certain] BMPs." Accordingly, EPA increased its level of oversight for Pennsylvania's agricultural sector from "Enhanced Oversight" to "Backstop Actions" level of oversight based on that review. Across all sectors, EPA acknowledges that "Pennsylvania's anticipated reductions for the 2014-2015 milestone period should keep it on track to meet the 2017 target of having practices in place to achieve 60% of reductions necessary for phosphorus and sediment, however projected reductions for nitrogen would be substantially behind schedule."

Pennsylvania has many programs that require implementation of the priority BMPs analyzed in this report. At this time, the Agricultural Erosion and Sediment Control and Manure Management Programs do not appear to be fully implemented to a level where EPA is assured of compliance with program requirements and fulfillment of WIP commitments. If Pennsylvania is able to implement a robust compliance assurance program for its current regulatory requirements and commit additional resources to these programs, then Pennsylvania will be better positioned to: 1) account for existing, non-cost shared priority BMPs currently unreported at animal agriculture operations; and, 2) achieve implementation levels of the BMPs identified in Pennsylvania's WIP agricultural implementation goals.

Below is a summary of each program and a description of how the relevant priority BMPs are required by the specific program.

### **Agricultural Erosion and Sediment Control Program**

Pennsylvania regulations require that certain agricultural operations implement a written Agricultural Erosion and Sediment Control Plan (Ag E&S Plan) to satisfy the "Chapter 102" Erosion and Sediment Control requirements authorized under the Clean Streams Law. An Ag E&S plan is required for operations where agricultural plowing and/or tilling activities (including no-till) and animal heavy use areas (AHUAs) disturb more than 5,000 sq. ft. Based upon PADEP regulations and guidelines, the farmer

may use a NRCS Conservation Plan to satisfy this requirement if certain areas such as soil loss and animal heavy use areas are addressed.<sup>1</sup> These PADEP guidelines include implementation and maintenance of BMPs to minimize the potential for accelerated erosion and sedimentation. Based on EPA's review, the Agriculture Erosion and Sediment Control Program requires two of the five priority BMPs: Soil Conservation and Water Quality Control Plans and Barnyard Runoff Control.

PADEP is the agency authorized to implement the Ag E&S Program, but has delegated certain oversight responsibilities to various CCDs. There is no legal requirement for Ag E&S plans to be reviewed or approved by PADEP, unless construction activities are proposed. Ag E&S plans must be available on the farming operation at all times. These plans would be provided to regulatory agencies upon request.

The Ag E&S Program is integrated into Pennsylvania's Nutrient Management and NPDES CAFO Programs to ensure that operations in those two programs comply with the Ag E&S Program requirements. Commonwealth agencies have not identified the complete universe of operations subject to Ag E&S requirements. The Commonwealth does not have a consistent approach or sufficient resources to ensure applicable operations are meeting Ag E&S requirements. Based on its review, EPA found that Ag E&S Plans are not always consistent with current farm conditions and activities, or with current NMPs. In addition, Pennsylvania and PADEP did not identify any electronic and/or comprehensive data systems used for tracking animal agriculture E&S Plans and E&S control BMPs implemented at animal agriculture operations.

### **Manure Management Program**

Pennsylvania's Manure Management Program engages farms with animal numbers below federal CWA NPDES and state regulatory thresholds for CAFOs, and requires a minimum set of BMPs. Every farm in Pennsylvania that land-applies manure or agricultural process wastewater (generated on the farm or received from an importer), that is not regulated by another state approved program, is required to develop, have available for review on-site, and implement a written manure management plan (MMP). A MMP includes requirements for how manure and agricultural process wastewater may be applied by various types of equipment and/or directly by animals on pastures and in animal concentration areas (ACAs). The Pennsylvania Manure Management Manual provides the requirements and a workbook for preparing a MMP. If the animal operation has a NMP written by a certified nutrient management specialist to meet Nutrient Management Act 38 standards and approved by a CCD (e.g., a voluntary agricultural operation (VAO)), or a Natural Resource Conservation Service (NRCS) comprehensive nutrient management plan (CNMP), such a plan would satisfy the Commonwealth's requirements for a MMP for that operation. There is no specific legal requirement for a MMP to be reviewed or approved. MMPs must be available on the farming operation at all times. All of these plans must be available for review on-site by CCD, PDA, SCC, and PADEP upon request.

Based on EPA's review, the Manure Management Program requires three of the five priority BMPs identified in Pennsylvania's Phase I WIP: nutrient management, livestock and poultry waste management systems, and barnyard runoff controls. MMPs are required to provide calculated manure

---

<sup>1</sup> 25 Pa Code § 102.4(a)(4)(iii)

application rates and timing, information on how the operation manages manure storage structures, and control of runoff from ACAs—including diversion of clean water away from ACAs.

Based on the review of Ag Census data and information supplied by PADEP, EPA estimates that Pennsylvania could have upwards of 20,000 animal agriculture operations required to develop and implement a MMP and close to 11,000 such facilities within the Chesapeake Bay watershed. This universe appears to be more than six times as large as the approximately 3,300 animal agriculture operations across the Commonwealth required to develop and implement a NMP.<sup>2</sup>

Animal agriculture operations subject to Manure Management Program requirements potentially generate large quantities of nutrients. However, MMPs are not collected or submitted to the Commonwealth or approved by PADEP and PADEP does not track the number of operations known to have an MMP. The Commonwealth does not have a compliance assurance strategy to ensure all applicable operations are meeting MMP requirements.

PADEP, SCC, and the CCDs do not have an integrated data system or approach in place for tracking and managing Manure Management program oversight. Pennsylvania does not appear to be conducting inspections where MMP compliance is the primary focus of the inspection unless the farm is the subject of a complaint or part of a Regional Agriculture Watershed Assessment Program Initiative (RAWAPI).

### **Nutrient Management Program**

The Commonwealth's Nutrient Management Act sets forth the requirements for its Nutrient Management Program (Act 38). The Program currently involves the SCC, PADEP, PDA, Penn State Cooperative Extension, USDA-NRCS, and the CCDs; however, PDA, SCC, and the CCDs have primary responsibility for program administration and implementation. In Pennsylvania, a concentrated animal operation (CAO) is defined as a livestock or poultry farming operation that has more than 8 total animal equivalent units (AEUs) and exceeds 2,000 pounds of live animal weight per acre suitable for manure application. CAOs are required to implement a NMP written by a certified nutrient management specialist and approved by a CCD pursuant to Act 38. An operation not otherwise subject to Act 38 may volunteer to participate under Act 38 as a voluntary agricultural operation (VAO) and submit a NMP, but are not required to do so by law. As of March 2014, there were 997 CAOs and 1189 VAOs in the Chesapeake Bay watershed.

Nutrient management is one of the practices identified by Pennsylvania in its WIP to reduce nutrient loads to the Chesapeake Bay. Pennsylvania has approved approximately 3,299 NMPs state-wide and 2,509 in the Chesapeake Bay watershed to address about 50% of all manure generated in the Commonwealth.

Based on EPA's review, the Nutrient Management Program requires four of the five priority BMPs including: Nutrient Application Management, Livestock and Poultry Waste Management Systems, Soil Conservation and Water Quality Control Plans, and Barnyard Runoff Control. Based on the files reviewed, it appears that on-site inspections of CAOs are being conducted on a regular basis and compliance issues are being addressed.

---

<sup>2</sup> Based on approved NMPs prepared by NPDES CAFOs, CAOs, and VAOs

Pennsylvania NMPs must include nutrient balance sheets for farms receiving manure from an operation covered by the NMP. The CCDs track these nutrient balance sheets and may reject NMPs that include farms already designated as manure recipients in several other NMPs. However, transferring information from the 66 CCDs to PADEP headquarters using paper records appears inefficient—particularly when the information appears to be stored electronically at the CCD level, albeit in a variety of software packages.

Cost-share and technical assistance incentives for VAOs do not encourage continued participation in Pennsylvania’s Nutrient Management Program after benefits are received. The “three strikes policy” compliance approach, which was in draft during the period of this assessment, is not applied consistently (explained below in Section 9.4). PDA, SCC, and the CCDs did not describe a process or provide sufficient information used to identify and quantify implementation of non-cost share BMPs at CAOs.

### **NPDES CAFO Program**

Pennsylvania defines a CAFO as a farm where certain large quantities of livestock or poultry are housed inside buildings or in confined feedlots. An operation with more than 1,000 AEUs or a CAO with 301-1,000 AEUs require a CAFO NPDES permit before the operation can be populated with livestock. Pennsylvania’s CAFO definition is broader in scope than the federal definition as it includes CAOs with as few as 300 AEUs. The federal CAFO definition can be found at 40 C.F.R. § 122.23. A CAFO permit requires the implementation of an Act 38 NMP. Facilities covered by CAFO permits in Pennsylvania must meet the state baseline requirements for nutrient management, manure storage, and erosion and sediment control as well as all federal NPDES CAFO regulatory requirements. PADEP implements the NPDES CAFO Program and issues the NPDES CAFO permit. The SCC, where delegated by PADEP, or any CCD Board of Directors that has been delegated the authority by the SCC, can review and take action on a NMP. As of September 30, 2014, a total of 362 facilities across Pennsylvania have either applied for and/or are covered under an NPDES CAFO General or Individual Permit. In accordance with the Pennsylvania Nutrient Management Administrative Manual (Chapter 3, Section VI.B), the SCC and/or CCDs perform annual status reviews of all CAFOs and CAOs. All BMPs described and required in an operation’s NMP are evaluated as part of this yearly review process.

Based on EPA’s review, the NPDES CAFO Program requires four of the five priority BMPs: Nutrient Application Management, Livestock and Poultry Waste Management Systems, Soil Conservation and Water Quality Control Plans, and Barnyard Runoff Control.

Pennsylvania’s NPDES CAFO program lacks cohesion due to separation of core functions (e.g., permitting, compliance and enforcement, NMP review and approval) in different agencies and locations. Based on EPA’s file review, separating permitting, compliance and enforcement, and NMP review and approval can result in an inefficient and inaccurate permit issuance process that can be frustrating to permittees. It may make it difficult for PADEP to manage program performance and identify areas for process improvement, and could result in NPDES CAFO permits that may not be as protective of water quality as they should be.

There is no assurance that an NMP submitted with a CAFO permit application, which was developed by a certified planner, will be accurate, complete, and current—causing PADEP’s permit issuance timeframe to extend. While PADEP has provided NPDES permit coverage for several hundred CAFOs (nearly 90%), EPA believes some attention is warranted to continue timely issuance. In general, there is inconsistency between the three main records management avenues: hard-copy documents, electronic documents (i.e., emails and attachments), and Environmental Facility Application Compliance Tracking System (eFACTS). This inconsistency has the potential to provide different information to the permit writing and permit enforcement staff as well as the public.

The two PADEP regional offices assessed take different approaches to scheduling, conducting and coordinating inspections based on their specific expertise and understanding of their regional farming communities. Although used for consistency, Pennsylvania’s reliance on checklists during on-site compliance inspections and annual site status reviews—instead of regular and ongoing oversight that includes reviewing facility-submitted annual reports—may lead to delayed compliance and the potential for unidentified water quality concerns, particularly if one or more years of site status reviews are missed. PADEP NPDES CAFO inspections are not collecting detailed information on implementation of priority BMPs, or, if the information is collected, it is not memorialized on the PADEP inspection checklist.

#### **Commercial Manure Hauler and Broker Certification Program**

The Commercial Manure Hauler and Broker Certification Program, administered by PDA, requires all owners and employees of a commercial manure hauler or broker business, that commercially haul, land-apply, or broker manure in Pennsylvania to hold a valid certificate issued by PDA before providing services in Pennsylvania. The intent is to ensure that manure generated by agricultural operations is transported and applied in a safe manner. Commercial manure haulers or brokers handling or applying manure on behalf of agricultural operations in Pennsylvania must do so according to an Act 38 NMP or MMP developed for the operation. Pennsylvania is one of a limited number of states trying to manage this component of nutrient handling. All applicants must complete a required training at the appropriate level of certification and pass an examination administered by PDA. Certification must be maintained by a certified hauler or broker by attending and completing continuing education programs approved by PDA. Compliance assurance challenges include low PDA staff levels, low PDA funding, and the lack of electronic communication capabilities on the industry side.

Based on EPA’s review, the Commercial Hauler and Broker Certification Program does not require any of the five priority BMPs.

## 2.0 Introduction

The U.S. Environmental Protection Agency (EPA) conducted an assessment of the Commonwealth of Pennsylvania's (the Commonwealth) animal agriculture regulations and programs to determine whether they are consistent with Clean Water Act (CWA) requirements and are implemented effectively to achieve Pennsylvania's animal agriculture Watershed Implementation Plan (WIP) commitments to reduce nitrogen, phosphorus, and sediment consistent with the Chesapeake Bay TMDL allocations. The assessment process began in summer 2013 when EPA provided Pennsylvania with a detailed Pennsylvania Animal Agriculture Program Review questionnaire (questionnaire). From November 5, 2013 to December 12, 2013, EPA met with animal agriculture staff in PADEP's North-central Regional Office (NCRO), PADEP's South-central Regional Office (SCRO), Snyder County Conservation District (CCD), Union CCD, Lancaster CCD, and Lebanon CCD to review animal agriculture operation files and discuss the various program components. Pennsylvania provided responses to EPA's questionnaire in March 2014. EPA provided the draft assessment report to Pennsylvania on November 7, 2014. Pennsylvania provided comments to EPA on December 12, 2014 and January 15, 2015. EPA completed an interim report on December 31, 2014, addressed PADEP's comments, and finalized the report on February 27, 2015.

The report is organized into the following sections:

Section 3.0 - Animal Agriculture Regulatory Overview

Section 4.0 - Commonwealth Agencies involved with Animal Agriculture Programs

Section 5.0 - Pennsylvania and the Chesapeake Bay TMDL

Section 6.0 - Pennsylvania's Animal Agriculture WIP Implementation Goals

Section 7.0 - Agriculture Erosion and Sediment Control Program

Section 8.0 - Manure Management Program

Section 9.0 - Nutrient Management Program

Section 10.0 - NPDES CAFO Program

Section 11.0 - Commercial Manure Hauler and Broker Certification Program

Section 12.0 - Summary

Each section includes a summary of program requirements and responsible agencies, and includes subsections addressing the following: the universe of animal agriculture operations subject to each program; program staff and financial resources; data systems in place to track program activities; compliance and enforcement; and the role of the program in furthering the Commonwealth's progress toward meeting the 2025 WIP implementation goals. Each section also includes observations based on the on-site agency meetings, PADEP and CCD file reviews, and Pennsylvania's questionnaire responses.

## 2.1 Purpose of Assessment

EPA conducts periodic reviews of state NPDES programs as part of its oversight responsibilities under the CWA. EPA discusses program goals and objectives with states, such as Pennsylvania, that are authorized to implement CWA programs (e.g., NPDES permit program) as part of annual CWA Section

106 grant negotiations.<sup>3</sup> Previously, EPA's program reviews have not focused exclusively on animal agriculture regulations and programs. EPA decided to assess animal agriculture programs in the six Chesapeake Bay jurisdictions<sup>4</sup> as part of EPA's oversight responsibilities under the NPDES program and the Chesapeake Bay Total Maximum Daily Load (TMDL). These reviews will also be used to fulfill EPA's commitment under the settlement agreement with the Chesapeake Bay Foundation (CBF) ([Fowler et al. v. EPA](#)). The Pennsylvania review is one of six animal agriculture program reviews that will be completed by 2015 in states within the Chesapeake Bay watershed.

The intent of the assessment is to identify successes and challenges within the Commonwealth's animal agriculture programs and regulations, evaluate the programs that are available to support Pennsylvania's pollutant load reduction goals under the Chesapeake Bay TMDL, and compare Pennsylvania's NPDES program with federal concentrated animal feeding operations (CAFO) requirements. The goal of this assessment is to determine how well Pennsylvania's programs align with Pennsylvania's Chesapeake Bay TMDL Watershed Implementation Plan (WIP) commitments and how effectively Pennsylvania's programs are being implemented.

## 2.2 Program Review Approach

In July 2013, EPA sent a questionnaire to Pennsylvania requesting background information on the following five Pennsylvania programs applicable to animal agriculture:

- Agricultural Erosion and Sedimentation Control Program;
- Manure Management Program;
- Nutrient Management Program;
- NPDES CAFO Permit Program; and
- Commercial Manure Hauler and Broker Certification Program.

The intent of the assessment was to determine how well these programs were funded, staffed, and implemented, and how well these programs worked together to collectively meet the requirements under the CWA and Pennsylvania's commitments for reducing animal agriculture nutrient and sediment pollution to meet the Chesapeake Bay TMDL. For each of these programs, EPA requested information on the number of full-time equivalents (FTEs) and FY2013 budget (July 1, 2012 through June 30, 2013) supporting the program, the number of animal agriculture operations involved/enrolled in the program, compliance and enforcement activities, communication among agencies involved in each program, communication with farmers, data management, policies and training programs, and program strengths and challenges.

In August 2013, PADEP sent a letter to EPA stating that EPA can answer a significant portion of the questionnaire and that "[PADEP] staff time would be better spent reviewing/editing EPA's responses to this questionnaire." In response to PADEP's request, EPA pre-populated the questionnaire based on information from Pennsylvania's WIP, program regulations, and other sources. EPA sent Pennsylvania the pre-populated questionnaire in November 2013 and asked Pennsylvania to, "Please review the pre-

---

<sup>3</sup> EPA awards CWA Section 106 grants to CWA-authorized states on an annual basis and subject to congressional appropriations.

<sup>4</sup> Delaware (EPA Region III), Maryland (EPA Region III), New York (EPA Region II), Pennsylvania (EPA Region III), Virginia (EPA Region III), and West Virginia (EPA Region III)

populated information and ensure it reflects the correct and current status of Pennsylvania’s programs.” Pennsylvania reviewed the pre-populated information and provided its completed response to the questionnaire in March 2014.

EPA also conducted file reviews and on-site interviews with agency staff. EPA focused its file reviews of animal agriculture programs on two PADEP regional offices, NCRO and SCRO. These two regional offices make up a large portion of the Chesapeake Bay watershed in Pennsylvania and have a large number of animal agriculture operations. EPA has focused agriculture efforts on three agricultural “hot spots” in Region III: the Delmarva Peninsula, the Shenandoah Valley, and Southcentral Pennsylvania. Because of how Pennsylvania program responsibilities are delegated to the CCDs, EPA also conducted file reviews and on-site interviews at two CCDs per regional office: Snyder CCD and Union CCD that are part of the north-central region, and Lancaster CCD and Lebanon CCD that are part of the south-central region.

Pennsylvania did not provide responses to the questionnaire before the on-site reviews. As a result, the on-site reviews were not informed by the questionnaire. Instead, EPA used these meetings to gain an understanding of how Pennsylvania’s animal agriculture programs are implemented and the relationships between the various agencies involved with day-to-day implementation of the programs. The Commonwealth’s questionnaire responses, received after EPA’s on-site reviews, were used to complete the report by providing information not obtained during the on-site meetings or the file reviews. Table 1 identifies the locations, dates, and participants for each of the on-site meetings, as well as the file reviews. EPA selected the agencies for on-site meetings due to their respective responsibilities and authorities, and the quantity of CAFOs and other animal agriculture operations within their jurisdiction, which are in the Chesapeake Bay watershed.

**Table 1. EPA On-site Meetings for the Pennsylvania Animal Agriculture Program Assessment**

Location	Date	Activity	Pennsylvania Agencies Represented
PADEP, North-central Regional Office (Williamsport, PA)	November 5, 2013	Question and answer session and CAFO file review	PADEP NCRO
	December 11, 2013	CAFO file review, continued	
Snyder CCD (Middleburg, PA)	November 6, 2013	Question and answer session and animal agriculture operation file review	Snyder CCD, SCC, and PADEP NCRO
Union CCD (Lewisburg, PA)	November 7, 2013	Question and answer session and animal agriculture operation file review	Union CCD, SCC, PADEP NCRO, and PADEP CO
Lebanon CCD (Lebanon, PA)	November 13, 2013	Question and answer session and animal agriculture operation file review	Lebanon CCD, SCC, PADEP SCRO, and PADEP CO
Lancaster CCD (Lancaster, PA)	November 18, 2013	Question and answer session and animal agriculture operation file review	Lancaster CCD, PADEP SCRO and SCC

Location	Date	Activity	Pennsylvania Agencies Represented
PADEP, South-central Regional Office (Harrisburg, PA)	November 19, 2013	Question and answer session	PADEP SCRO
	December 12, 2013	CAFO file review	

For the file reviews, EPA reviewed PADEP files for NPDES-permitted CAFOs and CCD files for NPDES-permitted CAFOs, CAOs, and VAOs. To the extent possible, EPA reviewed files for the same CAFOs at both PADEP and the applicable CCD. Prior to the file reviews, EPA provided the PADEP regional offices and CCDs with lists of animal agriculture operation files to be reviewed by EPA. Below is a brief summary of the number of files reviewed at each office.

- PADEP NCRO – 37 NPDES CAFO files
- Snyder CCD – 22 files; 12 NPDES CAFO files, 3 VAO files, and 7 CAO files
- Union CCD – 20 files; 11 NPDES CAFO files, 4 VAO files, and 5 CAO files
- PADEP SCRO – 20 NPDES CAFO files
- Lebanon CCD – 20 files; 7 NPDES CAFO files, 4 VAO files, and 9 CAO files
- Lancaster CCD – 24 files; 10 NPDES CAFO files, 5 VAO files, and 9 CAO files

The PADEP regional offices and CCDs provided EPA with hard copies of the requested files to review. Each facility file included information such as: inspection reports, current and expired Nutrient Management Plans (NMPs), annual nutrient management plan site review reports, correspondence, compliance and enforcement communications, self-monitoring reports, Agricultural Erosion and Sediment Control (Ag E&S) Plans<sup>5</sup>, permits, and other facility-specific information maintained by PADEP or the CCDs.

EPA performed a detailed review of each file. EPA logged the type and date of each document in each operation’s file and recorded observations related to program implementation, including potentially missing documents (e.g., correspondence about an inspection without a corresponding inspection report in the file), inconsistencies in communication to the operator (particularly between PADEP and the CCDs), NMP approval issues, typical inspection findings, challenges with permit issuance or reissuance, and inconsistencies in inspection approach between the PADEP regional offices. The observations help to identify opportunities for Pennsylvania to strengthen implementation of the Commonwealth’s animal agriculture programs and work towards improved water quality within Pennsylvania and the Chesapeake Bay watershed.

EPA compared inspection reports maintained in PADEP’s NPDES CAFO files against inspections reported in Pennsylvania’s Environment Facility Application Compliance Tracking System (eFACTS) to evaluate if inspections are accurately recorded in eFACTS.

EPA used information from the on-site agency meetings, PADEP and CCD file reviews, eFACTS, Commonwealth questionnaire responses, and agency and entity websites to develop and substantiate

---

<sup>5</sup> EPA did not have access to sensitive or restricted information such as USDA-NRCS prepared conservation plans.

observations about Pennsylvania’s animal agriculture programs. EPA reviewed all of the material provided but generally limited the content of this report to information necessary to support the observations. For this report, the files reviewed are considered representative.

### 3.0 Pennsylvania Animal Agriculture Regulatory Overview

According to the 2007 United States Department of Agriculture, National Agricultural Statistics Service Census of Agriculture (2007 Ag Census), Pennsylvania had 23,190 animal agriculture operations in 2007, with more than half (13,782 animal agriculture operations) located in the Chesapeake Bay watershed. Under the Clean Streams Law it is unlawful to discharge pollutants to surface or groundwater except as allowed by regulations or a PADEP permit. All agricultural operations are subject to the provisions of the Clean Streams Law.

Below (in Table 2) are animal inventories within Pennsylvania’s Chesapeake Bay watershed counties. All numbers represent animals within counties that share a border with the Chesapeake Bay watershed. The actual number of animals within the watershed is unknown as the exact location of animal operations is not public information or available to EPA.

**Table 2: 2007 and 2012 Census of Agriculture Animal Inventories**

Census	Cattle	Poultry	Swine	Sheep/Lambs
<b>2012</b>	1,379,863	60,978,959	1,073,537	61,791
<b>2007</b>	1,330,377	53,125,308	1,127,253	61,450
<b>Change</b>	49,486	7,853,651	-53,716	341

Table 3 presents the primary statutes and regulations under which Pennsylvania administers the Commonwealth’s animal agriculture programs.

**Table 3. Pennsylvania Animal Agriculture Programs, Statutes, and Regulations**

Commonwealth Animal Agriculture Program	Commonwealth Law/Statute and Regulations
Nutrient Management Program	Act 38 of 2005 (3 Pa.C.S. Chapters 3 and 5 (relating to local regulation; and nutrient management and odor management)) 25 Pa. Code § 83, Subchapter D 25 Pa. Code § 92a.29(e)(1)
NPDES CAFO Program	25 Pa. Code § 92a
Manure Management Program	25 Pa. Code § 91.36
Agricultural Erosion and Sediment Control Program	The Clean Streams Law (P.L. 1987, No. 394)(35 P.S. §§ 691.5 and 691.402) and regulations at 25 Pa. Code § 102
Commercial Manure Hauler and Broker Certification Program	Commercial Manure Hauler and Broker Certification Act (Act 49 of 2004) (3 P. S. § § 2010.1—2010.12); 7 Pa. Code § 130e. Commercial Manure Hauler and Broker Certification
Water Quality Management Permit Program	25 Pa. Code § 91.36

## 4.0 Commonwealth Agencies involved with Animal Agriculture Programs

PADEP, PDA, SCC, and the CCDs are the primary agencies with regulatory responsibilities for Pennsylvania’s animal agriculture programs. The Penn State Cooperative Extension is also an integral partner with the Commonwealth’s animal agriculture technical and educational programs, including serving as editor of Pennsylvania’s Nutrient Management Act Program Technical Manual. The scope of this assessment report does not directly address the roles played by Penn State Cooperative Extension, EPA, USDA-NRCS, and other non-Commonwealth agencies.

### 4.1 Agency Funding

Table 4 presents an estimate of the amount of both federal and state resources specifically for agriculture by program and agency. However, the information provided on staff and financial resources provided by PADEP does not differentiate between agriculture and animal agriculture and is inclusive of all agriculture-related activities. Additionally, PADEP did not break out budgets or FTEs by program because staff responsibilities are generally distributed across the programs and not specifically dedicated to any one. Almost 60% of the animal agriculture budget and 83% of the FTEs are allocated to the CCDs.

**Table 4. Pennsylvania FY2013 Budget and FTE Allocations for Agriculture Programs by Agency and Program**

	Management, Administration, Regulations, and Policy Development	NPDES CAFO Program	Nutrient Management Program	Manure Management Program	Ag E&S Control Program	Commercial Manure Hauler and Broker Certification Program	All Animal Agricultural Programs (FTEs)	FTEs
PADEP CO	Pennsylvania does not allocate fiscal or staffing resources by these categories. All data are estimated, based on estimates of staff / assignments for all agricultural activities.						\$629,040	5
PADEP ROs							\$1,263,573	14
PDA	\$103,110	-	\$342,000	\$96,900	\$98,500	\$150,000	\$687,400	2
SCC	-	-	\$978,000	\$432,800	\$437,400	-	\$1,848,200	8
CCDs	-	-	\$2,646,000*	-	-	-	\$6,314,390 <sup>+</sup>	137
<b>Total</b>	<b>\$103,110</b>	<b>-</b>	<b>\$3,966,000</b>	<b>\$529,700</b>	<b>\$535,900</b>	<b>\$150,000</b>	<b>\$10,742,603</b>	<b>165</b>

\* Funds allocated by PADEP/SCC to CCDs, and does not include any local funds.

<sup>+</sup> Conservation District data includes all agricultural activities, not just animal agricultural activities. This amount includes funding for CCD staffing (\$3,668,390), which was not distributed across programs.

Table 5 presents PADEP’s estimated breakdown of the Commonwealth’s animal agriculture budget by funding source. PDA and SCC are funded entirely by the Commonwealth, PADEP operates on a mixture of Commonwealth and federal funds (including EPA CWA Section 106 and 117 Grants<sup>6</sup>), and the CCDs are funded by a mix of state and federal grants.

**Table 5. Funding Sources for Pennsylvania’s Agriculture Programs by Agency**

<sup>6</sup> Section 106 of the CWA authorizes EPA to provide federal assistance to states (including territories, the District of Columbia, and Indian Tribes) and interstate agencies to establish and implement ongoing water pollution control programs.

Agency	Source Description	Percent Contribution to Total Budget	FY2013 Amount
CCDs	Nutrient Management Federal Funds	5.9%	\$632,000
	Nutrient Management Commonwealth Funds	18.8%	\$2,014,000
	CBIG* Commonwealth/Federal Funds	25.3%	\$2,716,345
	ACT** Commonwealth Funds	8.9%	\$952,045
	CCD Subtotal	58.8%	\$6,314,390
PADEP	Commonwealth/Federal Funds	17.6%	\$1,892,613
PDA	Commonwealth Funds	6.4%	\$687,400
SCC	Commonwealth Funds	17.2%	\$1,848,200
<b>Total</b>		<b>100%</b>	<b>\$10,742,603</b>

\*Chesapeake Bay Implementation Grant (CBIG)

\*\*Agricultural Conservation Technician/Engineer (ACT)

In addition to the \$6,314,390 total CCD budget, CCDs collectively include \$3,164,010 for watershed specialists and technicians that may be utilized to support animal agriculture program activities as necessary.

The Pennsylvania Resources Enhancement and Protection Program (REAP) has provided nearly \$20 million in state tax credits to farmers that have agreed to implement certain conservation best management practices (BMPs) and/or implement no-till systems through the purchase of no-till equipment.

The Pennsylvania Infrastructure Investment Authority (PennVest) funding for agriculture-related non-point source projects has exceeded \$76 million since funding of non-point source projects began in July 2010. PennVest has provided \$57.3 million in grants and loans to nonpoint source projects. PennVest also provided an additional \$18.8 million for two large manure technology projects.

The following sections provide brief descriptions of the roles and responsibilities of PADEP, SCC, PDA and the CCDs with respect to animal agriculture in Pennsylvania.

## 4.2 Pennsylvania Department of Environmental Protection

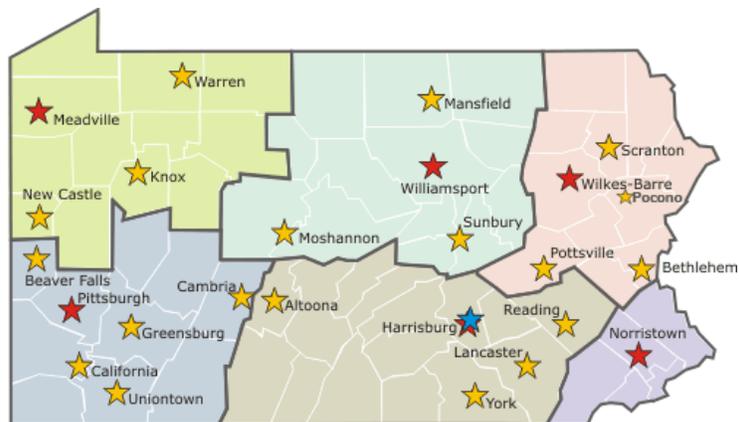
PADEP's mission is "to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment."<sup>7</sup>

PADEP's administrative structure consists of PADEP headquarters (Harrisburg), six regional offices<sup>8</sup> (ROs), and 19 district offices (Figure 1). PADEP headquarters is responsible for program development and evaluation, specialized assistance in the areas of policy, regulatory development, complex permitting, laboratory audits, safety training, treatment plant operations, enforcement, and data management ([PADEP 2012a](#)). PADEP's six ROs are responsible for implementing programs through permitting, inspection, enforcement, and other field services; program and technical support to Pennsylvania's 66 conservation districts; and compliance assistance to the regulated community. The

<sup>7</sup> [http://www.depweb.state.pa.us/portal/server.pt/community/about\\_dep/13464](http://www.depweb.state.pa.us/portal/server.pt/community/about_dep/13464)

<sup>8</sup> Northeast Regional Office (Wilkes-Barre), North-central Regional Office (Williamsport), Northwest Regional Office (Meadville), Southeast Regional Office (Norristown), South-central Regional Office (Harrisburg), and Southwest Regional Office (Pittsburgh).

ROs are structured identically to consistently implement regulatory programs and services statewide (PADEP 2014). The district offices do not appear to play an active role in implementation or administration of animal agriculture programs.



**Figure 1. PADEP Office Locations (PADEP 2014)**

Specific to animal agriculture, PADEP is delegated the authority to administer the federal NPDES CAFO program, and has its own state programs to regulate agricultural animal production operations under the Pennsylvania Clean Streams Law. PADEP has delegated some oversight of Chapter 91.36 as it relates to the Manure Management Manual to the CCDs. PADEP Regional Offices work with the CCDs in the review and implementation of NMPs required for CAFOs, including publishing public notice of NMPs in the Pennsylvania Bulletin. PADEP issues CAFO permits and conducts public notice, coordinates CAFO permit application reviews for both individual and general permit coverage with CCDs and, where necessary, coordinates with SCC on issues of statewide applicability.

### 4.3 Pennsylvania Department of Agriculture

PDA’s mission is defined as one that “encourages, protects, and promotes agriculture and related industries throughout the Commonwealth while providing consumer protection through inspection services that impact the health and financial security of Pennsylvania’s citizens.”<sup>9</sup>

Specific to animal agriculture, PDA administers the Commercial Manure Hauler and Broker Certification Program and provides staff and administrative resources to the SCC. Pennsylvania’s Nutrient Management Certification Program is under the authority of PDA but administered through the SCC. PDA does not have compliance and enforcement responsibilities under the Commonwealth’s NPDES CAFO Program.

### 4.4 Pennsylvania State Conservation Commission

The [SCC](#) is a 14-member commission with the primary mission “to ensure wise use of Pennsylvania’s natural resources and to protect and restore the natural environment through the conservation of its

<sup>9</sup>[http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS\\_0\\_2\\_24476\\_10297\\_0\\_43/AgWebsite/Page.aspx?name=Mission-Statement&navid=30&parentnavid=0&pageid=23&](http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/AgWebsite/Page.aspx?name=Mission-Statement&navid=30&parentnavid=0&pageid=23&)

soil, water, and related resources.”<sup>10</sup> The SCC is supported with staff from PADEP and PDA. Every other year, the chairmanship of the SCC switches between PADEP and PDA.

Specific to animal agriculture, SCC administers the Nutrient Management Certification Program and the Nutrient Management Program. The SCC also consults with PDA on the Commercial Manure Hauler and Broker Certification Program and provides support and oversight to the Commonwealth's 66 CCDs<sup>11</sup> “for the implementation of conservation programs in an efficient and responsible manner.”<sup>8</sup>

The SCC also works with the Nutrient Management Advisory Board (NMAB). Created by Act 6 of 1993, NMAB is a committee with wide-ranging membership, to include: the environmental community, local governments, feed industry and representatives from the major livestock and poultry industries. PADEP consults with the NMAB for the development of agriculture related policy and regulations. The NMAB serves the SCC in an advisory capacity, providing recommendations and comments with regard to nutrient management regulations developed by the state agencies.

#### 4.5 County Conservation Districts

The CCDs are local organizations, supported by the Commonwealth and county governments, established under the Conservation District Law (Act 217 of 1945) (3 P. S. § § 849—864). Each of the 66 CCDs was created by a county governing body but is governed by an independent CCD board. The Commonwealth government supports the CCDs through contractual agreements, delegation agreements, and direct grants. CCDs may also receive funds from the local county government and other public and private sector funding sources.

With respect to animal agriculture, Pennsylvania’s 66 CCDs provide technical support services in the areas of:

- Agricultural land preservation;
- Environmental education;
- Erosion and sediment control; and
- Nutrient and manure management.

Specifically, CCDs review NMPs for compliance with Act 38, assist PADEP’s implementation of the manure management program, and conduct annual on-farm status reviews of all CAOs with approved NMPs. CCDs conduct status review of VAOs every three years. The CCDs also investigate complaints and instances of nutrient management non-compliance under delegation agreements with PADEP and the SCC (see Section 9.4 for a discussion of Nutrient Management Program compliance and enforcement activities).

---

<sup>10</sup>[http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS\\_0\\_2\\_24476\\_10297\\_0\\_43/AgWebsite/OrganizationDetail.aspx?orgid=21](http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/AgWebsite/OrganizationDetail.aspx?orgid=21)

<sup>11</sup> Pennsylvania Association of Conservation Districts, Inc. maintains a contact list for all 66 CCDs (<http://pacd.org/your-district/find-your-district/>).

## 5.0 Pennsylvania and the Chesapeake Bay TMDL

On December 29, 2010, the U.S. Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load (TMDL), a historic and comprehensive “pollution diet” to restore clean water in the Chesapeake Bay and the region’s streams, creeks, and rivers. The Chesapeake Bay TMDL is the largest and most complex TMDL ever developed, involving six states and the District of Columbia and the impacts of pollution sources throughout a 64,000-square-mile watershed. The Chesapeake Bay TMDL—actually a combination of 92 smaller TMDLs for individual Chesapeake Bay tidal segments—includes individual and aggregate allocations for nitrogen, phosphorus and sediment sufficient to achieve state clean water standards for dissolved oxygen, water clarity, underwater Bay grasses and chlorophyll-a, an indicator of algae levels.<sup>12</sup>

The Chesapeake Bay TMDL is designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025, with practices in place to achieve at least 60 percent of the reductions necessary to obtain water quality standards in the Chesapeake Bay by 2017. The TMDL is supported by rigorous accountability measures to ensure cleanup commitments are met, including short- and long-term benchmarks, a tracking and accountability system for jurisdiction activities, and federal contingency actions that can be employed if necessary to spur progress ([EPA, 2010](#)).

Pennsylvania and the other Chesapeake Bay jurisdictions<sup>13</sup> developed Watershed Implementation Plans (WIPs) that detail each jurisdiction’s plan to meet the TMDL allocations for nitrogen, phosphorus, and sediment. To date, WIPs have been developed in two phases. The Phase I WIPs, submitted in late 2010, proposed Chesapeake Bay TMDL pollutant allocations and laid out the plan for how each jurisdiction would meet its allocations. The EPA’s TMDL allocations were based almost entirely on the proposed allocations in the state’s Phase I WIPs. Phase II WIPs, finalized in March 2012, provided additional detail on implementation actions, including actions by local partners to support achievement of the TMDL allocations. Phase III WIPs, when submitted in 2018, will provide the opportunity for the jurisdictions to make mid-course adjustments to pollutant reduction strategies, provide additional detail on implementation strategies, and propose refinements to the TMDL allocations. Each WIP includes detailed plans for reducing nutrient and sediment loads from agricultural runoff, including runoff from animal feeding operations (AFOs) and CAFOs.

As of 2009, the CBP (including EPA) estimated that Pennsylvania was the source of 44% of the nitrogen, 24% of the phosphorus and 32% of the sediment loads delivered to the tidal portions of the Chesapeake Bay.<sup>14</sup> To meet its overall TMDL allocations, Pennsylvania has committed to achieving approximately 75% of its necessary nutrient and sediment reductions from the agricultural sector. Controlling the agricultural load is not only essential to achieving Pennsylvania’s portion of the Chesapeake Bay TMDL, but it is essential for the overall Bay restoration. Table 6 identifies the progress and target loads for the agricultural sector, including animal agriculture operations, by milestone period.

---

<sup>12</sup> <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/FrequentlyAskedQuestions.html>

<sup>13</sup> Delaware, Maryland, New York, Virginia, West Virginia, and the District of Columbia

<sup>14</sup> [http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/FinalBayTMDL/CBayFinalTMDLSection4\\_final.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/FinalBayTMDL/CBayFinalTMDLSection4_final.pdf)

**Table 6. Agricultural Sector Target Loads by Milestone Period**

Ending Year	2009 Progress	2013 Progress	2015 Milestone	2017 60% Target	2025 TMDL	% Reduction (2009-2025)
<b>Nitrogen (lbs)</b>	62,659,000	61,196,000	55,027,000	46,413,000	35,582,000	43%
<b>Phosphorus (lbs)</b>	2,716,000	2,663,000	2,535,000	2,176,000	1,816,000	33%
<b>Sediment (lbs)</b>	1,676,644,000	1,636,375,000	1,398,011,000	1,325,884,000	1,092,044,000	35%

Pennsylvania submitted its Chesapeake Bay TMDL Phase I WIP on November 29, 2010 (PADEP, 2010) and its Phase II WIP on March 30, 2012 (PADEP, 2012). Specific to agriculture and therefore animal agriculture, Pennsylvania set agricultural pollutant reduction targets at levels achievable through significantly expanded implementation of BMPs such as: NMPs addressing the application of nutrients; livestock waste management systems; conservation plans; barnyard runoff control; stream fencing that excludes cows from streams; and vegetated buffers on pastures.

Pennsylvania’s Phase I WIP identified the agricultural regulatory programs in place to address nutrients and sediment in the Chesapeake Bay watershed. These are:

1. An approved CAFO NPDES permit program
2. A Nutrient Management Act planning effort
3. Regulatory requirements that address manure management and erosion and sediment control on all agricultural operations

Pennsylvania’s Phase II WIP outlined agricultural-related goals under the following:

1. CAFO Activities
2. Manure Management Manual Outreach
3. Outreach Activities
4. Model Agriculture Compliance Policy
5. Nutrient Management Delegation Agreement
6. Enhanced Compliance Activities
7. Additional Assurance regarding Conservation District Compliance Activities
8. Manure Technology

Along with the WIPs, each of the jurisdictions established two-year milestones to further outline the detailed steps to achieve 60% of necessary reductions by 2017 and full TMDL implementation by 2025 (see below for discussion of dates). The two-year milestones provide measureable interim implementation goals used to monitor process toward full TMDL implementation.

The [Chesapeake Bay Program](#) (CBP), a regional partnership (that includes EPA and Pennsylvania among others), leads and directs Chesapeake Bay restoration and protection activities, and collects data from the Chesapeake Bay jurisdictions to track and model progress toward the two-year milestones and Bay-wide TMDL implementation. The CBP has adopted 2025 as the date by which 100% of the controls necessary to achieve the Bay TMDL allocations are expected to be in place. CBP has also adopted 2017 as an interim goal and the date by which practices should be in place to achieve 60% of the necessary reductions, as compared with the level of reduction achieved in 2009. Best management practice (BMP) data are compiled by each jurisdiction and forwarded to the CBP as an electronic “input deck.” Each

input deck is entered into computer models maintained by the CBP to simulate nitrogen, phosphorus, and sediment loads from all sectors and sources and the units (e.g., acres) of each BMP for any area in the Chesapeake Bay watershed.<sup>15</sup> Model output is used to track progress toward each jurisdiction's 2017 and 2025 WIP implementation goals ([CBP, 2012](#)).

Under the accountability framework adopted by the CBP and discussed in the TMDL, EPA has committed to evaluating the two-year milestone commitments and the progress in meeting these commitments. Based on EPA's recent evaluation of the Commonwealth's 2012-2013 milestones and plans for 2014-2015 milestones, there remains a significant gap in nitrogen reductions to meet the goal of having practices in place by 2017 that would achieve 60% of the necessary reductions (compared to 2009 levels). As a result, EPA is working closely with Pennsylvania to further build the programs' capacity to increase implementation of best management practices so that Pennsylvania can get back on track to meeting its 2025 commitments.

In evaluating whether the Commonwealth's CAFO and AFO programs are aligned with meeting the Chesapeake Bay TMDL, EPA focused its assessment on five EPA-selected practices that are identified in Pennsylvania's Phase I WIP:

- Nutrient Management;
- Livestock and Poultry Waste Management Systems;
- Soil Conservation and Water Quality Control Plan;
- Barnyard Runoff Control; and
- Stream Access Control with Fencing (Pasture).<sup>16</sup>

EPA refers to these practices as "priority BMPs" in this report. EPA chose to focus on these practices because they are related to animal agriculture, they represent the BMPs that Pennsylvania identified in its WIPs (and associated model input decks), and they are the practices that the Commonwealth is relying on to achieve a significant portion of its animal agricultural nutrient and sediment reductions. Pennsylvania is relying on these five practices for reducing its nitrogen loads from all sectors by approximately 15.9%, reducing its phosphorus loads from all sectors by approximately 28.2%, and reducing its sediment loads from all sectors by approximately 8.1% (Table 7).<sup>17</sup> Looking at the agriculture sector, Pennsylvania is relying on these five practices for reducing its agricultural nitrogen loads by approximately 20.8%, reducing its agricultural phosphorus loads by approximately 41.0%, and reducing its agricultural sediment loads by approximately 10.5%. These practices are also the focus of many of Pennsylvania's milestones for ramping up animal agriculture programs (e.g., increasing financial

---

<sup>15</sup> The Chesapeake Assessment Scenario Tool (CAST) estimates load reductions for point and nonpoint sources including: agriculture, urban, waste water, forest, and septic loading to the land (edge-of-stream) and loads delivered to the Chesapeake Bay. CAST stores data associated with each BMP as well as the load for each sector and land use (<http://casttool.org/About.aspx>).

<sup>16</sup> Pennsylvania statute Title 35, Chapter 5, Article VII states "no administrative agency of the Commonwealth or any political subdivision thereof shall require any person to erect a fence along a stream in a pasture or other field used for grazing of farm livestock for the purpose of keeping farm livestock out of the stream."

<sup>17</sup> <http://www.casttool.org/Documentation.aspx>

assistance for stream exclusion measures, etc.). This assessment report evaluates how Pennsylvania’s regulatory and non-regulatory programs require or facilitate implementation of EPA’s five priority BMPs.

**Table 7. Pennsylvania Total Load Reductions Resulting from Priority BMPs**

<b>Priority BMP</b>	<b>Nitrogen</b>	<b>Phosphorus</b>	<b>Sediment</b>
<b>Nutrient management</b>	6.0%	3.3%	0.0%
<b>Livestock and poultry waste management systems</b>	5.8%	15.7%	0.0%
<b>Conservation plans</b>	2.4%	4.1%	6.7%
<b>Barnyard runoff control systems</b>	0.5%	1.3%	0.2%
<b>Stream fencing on pastures</b>	1.2%	3.8%	1.2%
<b>Total</b>	15.9%	28.2%	8.1%

## 6.0 Pennsylvania’s Animal Agriculture WIP BMPs

Pennsylvania is relying on regulatory and non-regulatory programs to meet the 2017 and 2025 WIP goals pertaining to animal agriculture operations. Table 8 summarizes EPA’s findings on the authority of certain Pennsylvania animal agriculture programs to require the implementation of priority BMPs along with an estimated number of animal operations potentially subject to each program. The regulatory programs are discussed in more detail below in Sections 7-11

**Table 8. Pennsylvania Program Authority to Require Priority BMPs**

Priority BMP	NPDES CAFO Program	Nutrient Management Program	Manure Management Program	Ag E&S Control Program	Commercial Manure Hauler and Broker Certification Program
<b>Lead Agency</b>	PADEP	SCC	PADEP	PADEP	PDA
<b>Estimated Facility Universe (PA/Chesapeake Bay watershed)</b>	362/323*	3,299/2,509 <sup>+</sup>	19,880/11,263 <sup>^</sup>	unknown**	N/A
<b>Nutrient Management</b>	Required	Required	Required		
<b>Livestock and Poultry Waste Management Systems</b>	May Be Required	May Be Required	May Be Required		
<b>Soil Conservation and Water Quality Control Plans</b>	Required	Required		Required	
<b>Barnyard Runoff Control</b>	Required	Required	Required	Required	
<b>Stream Fencing</b>	<b>*Pennsylvania statute prohibits requiring this BMP*</b>				

\* Based on list of CAFO permittees covered by individual and general NPDES CAFO permits as of September 30, 2014 submitted by PADEP as part of CWA Section 106 grant deliverables

<sup>+</sup> Based on approved NMPs for NPDES CAFOs, CAOs, and VAOs

<sup>^</sup> Number of AFOs - NMP operations (Commonwealth of Pennsylvania and PADEP, 2014)

\*\* Ag E&S Plans are not tracked

N/A - Not Applicable; program covers people, not farms

Table 9 summarizes Pennsylvania’s progress toward meeting the 2025 implementation goals, as reported by Pennsylvania to the CBP, for the five priority BMPs selected by EPA as specifically relevant to animal agriculture programs. Note that the data provided by CBP are not necessarily limited to animal agriculture operations. For example, NMPs and Soil Conservation and Water Quality Control Plans are developed and implemented on non-animal agriculture operations as well. In addition, for the 2013 milestone reporting period, Pennsylvania, in its effort to review and correct its data on land retirement

and riparian areas previously reported to the Chesapeake Bay Program, determined that implementation of these Best Management Practices (BMPs) had been over-estimated. EPA supports Pennsylvania's efforts to review and correct previously reported data.

**Table 9. Pennsylvania's Progress Toward 2025 Priority BMP Implementation Goals (PADEP, 2012c and CBP, 2014)**

WIP Priority Practice	Units	2011 Progress	2011 (% complete)	2013 Progress	2013 (% complete)	2025 Goal
<b>Nutrient Management*</b>	acres	1,384,659	78%	586,362	33%	1,783,954
<b>Livestock and Poultry Waste Management Systems</b>	AUs	644,922	52%	701,685	56%	1,251,150
<b>Soil Conservation and Water Quality Control Plans</b>	acres	1,562,980	52%	1,420,532	49%	2,908,925
<b>Barnyard Runoff Control</b>	acres	408	7%	955	17%	5,784
<b>Stream Access Control with Fencing (Pasture)</b>	acres	9,227	65%	14,409	102%	14,184

NR – not reported

As of 2013, Pennsylvania reported achievement of 17% of its Barnyard Runoff Control 2025 implementation goal. Barnyard Runoff Control is a required element of the Commonwealth's NPDES CAFO, Nutrient Management, and Manure Management programs. Pennsylvania's Phase II WIP (PADEP, 2012b) acknowledges that accounting for unreported BMPs that were not cost-shared with government funds is a challenge. Barnyard Runoff Control may be one of these unreported BMPs and reported acres with Barnyard Runoff Control will increase as PADEP develops and implements a strategy or strategies to account for unreported BMPs.

Pennsylvania has access to a number of non-regulatory programs and resources to assist with WIP BMP implementation. The non-regulatory programs (Table 10) include grants, cost-share funding, and other financial assistance to help and encourage farmers to construct and maintain BMPs to benefit surface water quality. Descriptions of these non-regulatory programs can be found in Pennsylvania's Phase I WIP (PADEP, 2010).

**Table 10. WIP Implementation Goals, Pennsylvania’s Animal Agriculture Non-regulatory Programs**

Priority BMP	Non-regulatory Program(s)
<b>Nutrient Management</b>	<ul style="list-style-type: none"> <li>• Chesapeake Bay Implementation Grant: Special Project Funding.</li> <li>• Chesapeake Bay Regulatory and Accountability Program Grant</li> <li>• Farmland Preservation</li> <li>• EQIP/CBWI</li> </ul>
<b>Livestock and poultry waste management systems</b>	<ul style="list-style-type: none"> <li>• Chesapeake Bay Implementation Grant: CBP Technician and Engineering Funding</li> <li>• Chesapeake Bay Implementation Grant: Special Project Funding</li> <li>• Resource Enhancement and Protection (REAP) Program</li> <li>• PENNVEST</li> <li>• EQIP/CBWI</li> </ul>
<b>Soil Conservation and Water Quality Control Plans</b>	<ul style="list-style-type: none"> <li>• The Conservation Reserve Enhancement Program</li> <li>• Chesapeake Bay Implementation Grant: Special Project Funding</li> <li>• Chesapeake Bay Regulatory and Accountability Program Grant</li> <li>• Conservation District Fund Allocation Program – Agricultural Conservation Technical Assistance (ACT) and Farmland Preservation Administrative Support</li> <li>• Farmland Preservation</li> </ul>
<b>Barnyard runoff control</b>	<ul style="list-style-type: none"> <li>• Chesapeake Bay Implementation Grant: CBP Technician and Engineering Funding</li> <li>• Chesapeake Bay Implementation Grant: Special Project Funding</li> <li>• PENNVEST</li> <li>• EQIP/CBWI</li> </ul>
<b>Stream access control with fencing</b>	<ul style="list-style-type: none"> <li>• Chesapeake Bay Implementation Grant: CBP Technician and Engineering Funding</li> <li>• Chesapeake Bay Implementation Grant: Special Project Funding Clean Water Act, Section 319 Program</li> <li>• EQIP/CBWI</li> <li>• Plain Sect Initiative</li> <li>• Clean Water Act, Section 319 Program</li> </ul>

According to PADEP, CCDs are responsible for installation of specific BMPs, via Chesapeake Bay Implementation Grant (CBIG) funds, and for reporting the specific BMPs they installed. CCDs are not responsible for overall tracking of BMP implementation. However, EPA’s review found that one of the four CCDs visited by EPA was tracking BMP implementation. Lancaster CCD was beginning to work on procedures to input NMP BMPs into their GIS tracking program (Lancaster CCD, personal communication, November 18, 2013). The only area of understanding by the CCD’s related to WIP commitments was for the responsibility and goals to conduct farm visits as described in the Phase II WIP (Lebanon CCD, personal communication, November 13, 2013, Snyder CCD, personal communication, November 6, 2013, and Union CCD, personal communication, November 7, 2013).

Based on the data collected, EPA found that Pennsylvania’s current BMP identification and tracking program does not reflect the strategy identified by the Commonwealth in the Phase I WIP. The Phase I

WIP states that CCD Chesapeake Bay technicians will be given clear and specific guidance as to methodology to identify and verify previously installed BMPs, and given instruction to include these efforts in their FY 2011-12 work plans, and that CBIG resources would be assigned to the task of identifying and tracking BMPs from both public and private funding sources. In 2015, PADEP will begin to implement this portion of the WIP by establishing a pilot program to test the concept of “Resource Indicators” with select CCDs. At this time, only Lancaster CCD appears to have a system in place that could potentially be enhanced to track the implementation of BMPs to meet the milestones in the WIPs. Lancaster CCD is beginning to work on procedures to input the practices called for in the NMPs into their GIS tracking program; this system would allow them to track WIP implementation if needed.

In summary, Pennsylvania has many programs that require implementation of the priority BMPs that were analyzed in this report. At this time, the Agricultural Erosion and Sediment Control and Manure Management Programs do not appear to be fully implemented to a level where EPA is assured of compliance with program requirements and fulfillment of WIP commitments. If Pennsylvania is able to implement a robust compliance assurance program for its current regulatory requirements and commit additional resources to these programs, then Pennsylvania will be better positioned to: 1) account for existing, non-cost shared BMPs currently unreported at animal agriculture operations; and, 2) achieve implementation levels of the BMPs identified in Pennsylvania’s WIP agricultural implementation goals.

## **6.1 Pennsylvania’s Animal Agriculture WIP BMPs– Observations**

- Based on EPA’s June 26, 2014 evaluation of the Commonwealth’s 2012-2013 milestones, Pennsylvania surpassed its 2013 milestone target for phosphorus. Pennsylvania did not achieve the 2013 milestone target for nitrogen and sediment.
- For agriculture, Pennsylvania did not meet its 2013 milestone targets for nutrients and sediment and did not meet its cumulative (2009-2013) agricultural implementation targets for such BMPs as animal waste management systems and enhanced nutrient application management.
- At this time, Pennsylvania relies on non-regulatory, financial and technical assistance, and voluntary compliance approaches to implement its regulatory animal agriculture programs.
- Based on the data collected, EPA found that Pennsylvania’s current BMP identification and tracking program does not reflect the strategy identified by the Commonwealth in the Phase I WIP.
- At this time, the Agricultural Erosion and Sediment Control and Manure Management Programs do not appear to be fully implemented to a level where EPA is assured of compliance with program requirements and fulfillment of WIP commitments.

## 7.0 Agriculture Erosion and Sediment Control Program

Pennsylvania's existing Erosion Control Rules and Regulations ([25 Pa. Code §102](#) [Chapter 102]) were effective October 30, 1972 prior to the development of the 1972 Model State Act for Soil Erosion and Sediment Control by the Council of State Governments.<sup>18</sup> The Chapter 102 regulations were adopted under the authority of Pennsylvania's Clean Streams Law to define specific procedures and requirements of the program. The regulations also reflect the Declaration of Policy contained in Act 217 (the [Conservation District Law](#)): to implement a program that helps provide for the conservation of soil, water and related resources; for the control and prevention of soil erosion; and preservation of natural resources. The Chapter 102 regulations require erosion and sediment control planning for all types of earthmoving including agricultural plowing and tilling, and animal heavy use areas.

PADEP is responsible for administration of the E&S Control program. The CCDs conduct E&S control inspections under delegation from PADEP. There are three levels of delegation: Level 1 – Program Administration, Level 2 – Program Compliance and Level 3 – Program Enforcement. PADEP staff conduct Chapter 102 program evaluations of each delegated CCD once every three years.

PADEP and the CCDs communicate E&S control requirements to animal agriculture operations through on-farm meetings or inspections, conferences, public notices, and direct mailings to the approximately 82,000 Pennsylvania addresses on the United States Department of Agriculture National Agriculture Statistics Service (NASS) mailing list (Commonwealth of Pennsylvania and PADEP, 2014).

25 Pa. Code §102.4 requires the implementation and maintenance of E&S control BMPs to minimize the potential for accelerated erosion and sedimentation. Written E&S Plans are required for agricultural plowing or tilling activities and animal heavy use areas that disturb more than 5,000 square feet (approximately 1/10 of an acre). However, Ag E&S Plans are not approved by any Commonwealth agencies, but are required to be available for review during on-site inspections. When an animal operation does not have an E&S Plan available for review at the time of the on-site inspection, PADEP is the agency with the authority to enforce this requirement.

Written E&S Plans can be prepared by NRCS, a CCD, or by a private consultant. Pennsylvania has determined that NRCS conservation plans meet Chapter 102 E&S regulatory requirements (PADEP, 2010). A written E&S Plan is not required for agricultural plowing or tilling activities and animal heavy use areas that disturb less than 5,000 square feet; however, implementation and maintenance of erosion and sediment control BMPs to minimize the potential for accelerated erosion and sedimentation are required for all agricultural plowing or tilling activities or for animal heavy use areas. Specific regulatory requirements are:

- 25 Pa. Code §102.4(a)(1) requires implementation and maintenance of E&S control BMPs to minimize the potential for accelerated E&S from all agricultural plowing or tilling activities or for animal heavy use areas.
- 25 Pa. Code §102.4(4)(i) requires the written E&S Plan to limit soil loss from agricultural and tilling activities to the soil loss tolerance (T) over the planned rotation.

---

<sup>18</sup> More information on the Model State Act for Erosion and Sediment Control can be found at <http://hilo.hawaii.edu/~sdalhelp/links/soils/Laws%20&%20Management/NRCLawsch3.pdf>

- 25 Pa. Code §102.4(4)(ii) requires additional BMP implementation to minimize accelerated E&S from agricultural plowing or tilling activities on fields with less than 25% plant cover or crop residue and within 100 feet of a river, or perennial or intermittent stream.

The Ag E&S Program is integrated into Pennsylvania’s Nutrient Management and NPDES CAFO Programs and focuses on both cropland and animal concentration areas. Pennsylvania’s NPDES CAFO permit application requirements include a written E&S Plan meeting the requirements of 25 Pa. Code §102 (25 Pa. Code §92a.29(e)(2)). Additionally, the CCDs cannot approve an Act 38 NMP without a written E&S Plan. Lebanon CCD staff indicated that farmers “rarely” have an E&S Plans available for review during the site visit. In these cases, Lebanon CCD staff offer to assist the farmer with drafting the plan and the CCD does draft many E&S Plans each year. Lebanon CCD staff noted that the NMP approval process is delayed when the E&S Plan must be drafted before the NMP can be approved. The other three CCDs visited did not mention the availability of E&S Plans being an issue; EPA did not determine whether this was a geographic issue or related to the level of Chapter 102 oversight delegated to each CCD.

E&S Plans do not need to be updated or revised on a set frequency. 25 Pa. Code §102(a)(5) states that “[t]he [E&S] plan must be consistent with the current conditions and activities on the agricultural operation.” A farm’s E&S Plan must be updated or revised whenever the current conditions and activities on the agricultural operation change. Pennsylvania’s Act 38 NMP Technical Manual, January 2013, Section V Plan Review and Implementation states, “Ag E&S plan verification is required for all lands in the NMP. It is critically important that the Ag E &S plan and the proposed Act 38 NMP correlate and complement each other. Having two separate plans that do not relate only serves to confuse the operator and additionally make the operator out of compliance with either Act 38 or Chapter 102.” EPA found inconsistency across the various agencies on reviewing a farm’s E&S Plan to ensure it correlates and complements its NMP as to the location of BMPs, crop rotations, and seasonal nutrient application considerations. Lebanon CCD staff stated that it is rare that the NMP and Ag E&S Plan do not match. However, Snyder CCD staff indicated that they verify that the NMP operation has an Ag E&S Plan but do not review for consistency. Regardless of approach, however, EPA did not see documentation in any of the reviewed files pertaining to an NMP/E&S Plan consistency check. Furthermore, EPA’s inspections of CAFOs in summer 2013 found significant inconsistencies between BMPs, crop rotations, and nutrient application considerations in NMPs and Ag E&S Plans.

## 7.1 Facility Universe

Due to the complexity of the requirements and lack of data, EPA was unable to determine the complete universe of facilities subject to Ag E&S Control Program requirements. 25 Pa. Code § 102.4 requires written Ag E&S Plans for agricultural plowing or tilling activities and animal heavy use areas that disturb more than 5,000 square feet. For the purposes of this assessment, EPA assumes all NPDES CAFO, CAO, and VAO NMPs have written Ag E&S Plans since a Pennsylvania NMP cannot be approved without an E&S Plan meeting the requirements at 25 Pa. Code § 102.4. Accordingly, EPA estimates approximately 3,299 operations may currently meet this requirement. This estimate does not take into account those NPDES CAFOs, CAOs, or VAOs the may export 100% of their manure, do not till, or do not have animal concentration areas (ACAs). The universe of operations subject to 25 Pa. Code § 102.4 requirements

include all types of earthmoving greater than 5,000 sq. ft. including agricultural plowing and tilling; however, these agricultural operations may not necessarily raise animals.

## 7.2 Resources Allocated

The Commonwealth of Pennsylvania and PADEP (2014) report the FY2013 Agriculture E&S Control Program budget was \$535,900, split between PDA Headquarters (\$98,500) and SCC (\$437,400). PADEP and CCD FY2013 Ag E&S Control Program budgets and FTE estimates were not specifically provided because these items are not tracked separately (Commonwealth of Pennsylvania and PADEP, 2014).

## 7.3 Data Systems

The Commonwealth of Pennsylvania and PADEP (2014) did not identify any electronic and/or comprehensive data systems used for tracking animal agriculture E&S Plans and E&S control BMPs implemented at animal agriculture operations

## 7.4 Compliance and Enforcement

E&S control program compliance is a component of each animal agriculture facility inspected by PADEP (PADEP, 2010). Ag E&S Plan compliance is evaluated through identification of the farm owner/operator; identification of farm/tracts; identification and implementation of BMPs; and necessary maps (Commonwealth of Pennsylvania and PADEP, 2014). However, based on the interviews conducted with PADEP (PADEP NCRO, personal communication, November 5, 2013), EPA understood that implementation of Ag E&S Plans may be spot-checked during an inspection but are not consistently evaluated in the field. Similarly, CCD annual site status reviews document the presence or absence of an E&S plan and not its implementation (Snyder CCD, personal communication, November 6, 2013). In addition, if an animal operation has an NRCS conservation plan, CCD's are legally barred from reviewing or enforcing those plans even though they're used to meet Ag E&S control requirements (see Appendix A: Letter from PA NRCS to EPA).

Pennsylvania pursues the development and implementation of a manure management plan and Ag E&S Plan or conservation plans when responding to agricultural water quality complaints, if not already in place, as these are requirements of all farming operations (PADEP, 2010). The complaint investigation and follow-up process is used to provide one-on-one education to farmers.

PADEP did not identify the number of animal agriculture operations that were noncompliant with Chapter 102 requirements or Ag E&S Plans in FY2013. PADEP does not track Ag E&S Plan compliance data by facility separate from its agriculture operation inspection, complaint, and compliance numbers (Commonwealth of Pennsylvania and PADEP, 2014).

## 7.5 WIP Implementation Goals

Table 11 presents the priority BMPs required under the Pennsylvania Agriculture Erosion and Sediment Control Program. The Agriculture Erosion and Sediment Control Program requires a written E&S Plan for agricultural plowing or tilling activities and animal heavy use areas that disturb more than 5,000 square feet. The Agriculture Erosion and Sediment Control Program does not specify or require additional priority BMPs not already required under the Nutrient Management Program, which requires both a written Ag E&S Plan and Barnyard Runoff Controls.

**Table 11. Priority BMPs, Agriculture Erosion and Sediment Control Program**

Priority BMP	Required Component	Notes
Nutrient Application Management	<input type="checkbox"/>	
Livestock and Poultry Waste Management Systems	<input type="checkbox"/>	
Soil Conservation and Water Quality Control Plans	<input checked="" type="checkbox"/>	25 Pa. Code § 102
Barnyard Runoff Control	<input checked="" type="checkbox"/>	BMP credits from animal heavy use area E&S practices may be credited under barnyard runoff controls by the CBP
Stream Access Control with Fencing (Pasture)	<input type="checkbox"/>	

CAOs with agricultural plowing or tilling activities and animal heavy use areas that disturb less than 5,000 square feet must implement E&S control practices but are not required to memorialize these in a written plan.

## 7.6 Agriculture Erosion and Sediment Control Program – Observations

- The Ag E&S Program is integrated into Pennsylvania’s Nutrient Management and NPDES CAFO Programs to ensure that operations in those two programs comply with the Ag E&S Program requirements.
- Commonwealth agencies have not identified the complete universe of operations subject to Ag E&S requirements.
- The Commonwealth does not have a consistent approach or sufficient resources to ensure applicable operations are meeting Ag E&S requirements.
- Ag E&S Plans are not always consistent with current farm conditions and activities, or with current NMPs.
- The Commonwealth did not identify any electronic and/or comprehensive data systems used for tracking Ag E&S Plans and E&S control BMPs implemented at animal agriculture operations.

## 8.0 Manure Management Program

Pennsylvania's Manure Management program was started in 1986. Every farm in Pennsylvania that land applies manure or agricultural process wastewater, regardless of size, is required to have and implement a written Manure Management Plan (MMP). Land application of manure includes manure and agricultural process wastewater application by various types of equipment as well as direct application of manure by animals on pastures and in ACAs. Farms that do not mechanically apply manure that have ACAs need a MMP, including small, pasture-based horse operations that are below regulatory thresholds. An operation similar to this, identified by Snyder CCD as potentially having an adverse impact to water quality, was required to develop an MMP.

PADEP oversees the implementation of the manure management program by providing technical, administrative, and programmatic guidance to farm operators, program participants, CCD staff and boards, and other interested parties. The PADEP ROs are responsible for manure management program compliance and enforcement activities. The PADEP ROs work with the CCDs to implement the manure management program and investigate complaints.

The CCDs, with SCC oversight, provide assistance to PADEP in the implementation of the Manure Management program through funded delegation agreements. The CCDs engage in Manure Management Program outreach, education and training, and compliance assistance that includes: support with manure management plan development and implementation; coordinate Manure Management program outreach and education efforts; complaint response and referral activities; and coordination of a minimum of three outreach activities per calendar year. PADEP funds CCD nutrient management and manure management delegation agreements. Each agreement requires a minimum of two education events each year. This would result in a minimum of 116 training events conducted by CCDs in the Commonwealth.

The CCDs are not authorized to enforce manure management regulations. Lebanon and Lancaster CCDs identified education as their primary role under the Manure Management program, and Lebanon CCD indicated that farmers attending their [one-day workshops](#) would have a nearly completed MMP by the end of the training program.

According to the questionnaire response, CCDs across the Commonwealth have conducted over 11,000 farm visits to communicate manure management program requirements. All four CCDs visited by the EPA stated that they were aware of the farm visit milestone in the Phase II WIP (100 visits per year for Union, Snyder, and Lebanon; 500 for Lancaster). The CCDs have dedicated staff and a system in place to conduct these visits, and indicated that they are meeting or exceeding the farm visit milestone.

Farmers may develop their own MMP; a certified planner is not required. Pennsylvania's [Manure Management Manual](#) (MMM) contains the required template for a MMP. In general, CCD staff believe that farmers are more likely to assume ownership of the MMP when self-developed instead of prepared by a contractor or state agency.

The MMM requires BMPs at all farms that generate or beneficially use manure ([PASA 2011](#)). Three of these BMPs (i.e., Nutrient Application Management, Livestock and Poultry Waste Management Systems, and Barnyard Runoff Control) are also identified in the Commonwealth's Phase I and Phase II WIPs.

- Manure application setbacks of 100 feet from streams or other water bodies, sinkholes, and drinking water sources. The setback from streams may be reduced to 50 feet where a recent soil test shows less than 200 ppm phosphorus, with no-till cultivation and either a cover crop or adequate residue; or to a 35-foot permanent vegetated buffer.
- Maximum winter application rates of 5,000 gallons liquid, 20 tons non-poultry solid manure or 3 tons solid poultry manure per acre, and restricted to fields with at least 25% cover crop and slopes less than 15%.
- Management of animal concentration areas (such as barnyards, feedlots, loafing areas) to prevent manure runoff to water bodies.
- Pasture management to maintain dense vegetation at least 3 inches high throughout growing season.
- Management of temporary manure stockpiles or stacks so rainwater does not transport manure to streams or other water sources.
- Records of manure applications, facilities' inspections, repairs, and other practices; and
- Monthly self-inspections of manure storage facilities.

MMPs are not collected or submitted to the Commonwealth or approved by PADEP. During farm visits, PADEP can request to see a facility's MMP and the farm may get cited if the MMP is not available, maintained, or implemented (PADEP SCRO, personal communication, November 19, 2013).

## 8.1 Facility Universe

Based on AFO numbers from the 2007 Ag Census and information on the number of NMP operations from the Commonwealth's questionnaire responses, EPA estimates that Pennsylvania could have upwards of 20,000 animal agriculture operations across the Commonwealth required to develop and implement a MMP. Pennsylvania's questionnaire response (A.23) estimated 23,190 AFOs in the Commonwealth and 13,782 AFOs in the CBW, based on Pennsylvania's analysis of NASS data (2007 Ag Census). Of those 23,190 Commonwealth AFOs, 3,299 are most likely implementing NMPs (Table 13) and would not need an MMP.

PADEP, however, does not track the number of animal agriculture operations that have developed and implemented an MMP (Commonwealth of Pennsylvania and PADEP, 2014). In addition, the CCDs may not know the universe of MMP facilities. Snyder CCD stated that accounting for all of the smaller farms, including MMP operations, is an ongoing challenge. EPA agrees that universe identification is a challenge and is aware of the potential administrative obstacles to collecting this information. Cooperation and "buy-in" from the agricultural community will be critical to develop a data collection and verification process, particularly as it relates to protecting confidential business information and personally identifiable information.

## 8.2 Resources Allocated

In FY2013, Pennsylvania budgeted \$529,700 for administration and implementation of the Manure Management program; \$96,500 for PDA Headquarters and \$432,800 for SCC. Manure Management Program budgets and FTE estimates were not specifically provided because these items are not tracked separately (Commonwealth of Pennsylvania and PADEP, 2014).

Chesapeake Bay and Pennsylvania Clean Water Funds are awarded to county conservation districts to conduct MM workshops. In FY2013, grants supported 47 CCDs and 152 MM training programs. MM training included 2,966 farmers, 30 consultants and 246 “others” and followed the format developed by Penn State. Through this effort, 717 MMPs were completed at these training sessions.

### 8.3 Data Systems

Each CCD uses a unique data management system to track Manure Management program activities. Most CCDs track Manure Management program data in Microsoft Excel spreadsheets but some use geographic information systems (GIS). The following CCD data management systems were identified during the four on-site visits.

- **Lancaster CCD** developed a GIS-based program that tracks all aspects of their work: NMPs; MMPs; complaints; compliance; BMP implementation; farm visit commitments; etc.
- **Lebanon CCD** uses a GIS-based mapping system to track farm visits. Staff noted that farmers are tracked as parcels rather than discrete points to keep up with farmers managing multiple tracts of land. Lebanon CCD supplements the GIS system with a Microsoft Excel spreadsheet and hardcopy list containing farmer names and dates of inspection.
- **Snyder CCD** uses a spreadsheet to track facility status and compile data for quarterly nutrient management reports. After visits, data are also entered into a GIS. For NMP operations, the spreadsheet tracks facility type, sampling dates, manure analysis results, and nutrient importers.
- **Union CCD** uses GIS to track farm visits and is developing a database of all farms in the community. Tracking is done by parcel tax ID and not using NRCS’s file management protocol because the parcel tax ID does not change.

According to NCRO staff, eFACTS has the capability to track all types of farm visits and inspections, but additional details such as information maintained and tracked in this system were not provided to EPA. At this time, PADEP does not have a system that tracks MMPs.

### 8.4 Compliance and Enforcement

In 2009, EPA conducted an assessment of animal agriculture operations in the Watson Run watershed located in Leacock Township in Lancaster County, Pennsylvania. EPA inspected 24 farms and requested their applicable farm management plan. EPA found that 85% of the farms did not have their required MMPs.

PADEP regional offices are responsible for compliance and enforcement activities under the manure management program. According to the questionnaire responses, PADEP RO staff may inspect agricultural operations that are required to have an MMP as a result of a complaint, a random inspection, or as part of a Regional Agriculture Watershed Assessment Program Initiative (RAWAPI). As part of this initiative, PADEP RO staff do request to review a copy of the MMP while on site. PADEP inspectors evaluate or review a farm’s MMP to ensure it includes acreage of the operation, animals in the operation, manure application rates/timing, crop rotation, environmentally sensitive areas, manure storage, pastures, and ACAs.

Communication of manure management compliance is different, depending on the type of inspection and the severity of the pollution incident or potential pollution. When lack of planning is a component of a pollution incident, chronic pollution, or potential pollution, the operator typically has 90 days to

respond to a notice of violation or a compliance notice. When “MMP program noncompliance” is an “other violation”—one that does not cause or have potential to cause pollution—PADEP staff can use best professional judgment in determining the appropriate response. At a minimum, the farm operator is provided notice of this violation and follow-ups occur on a prioritized basis, depending on staff resources.

NCRO inspectors visit around 244 MMP operations each year (PADEP NCRO, personal communication, November 5, 2013). SCRO inspectors will review MMPs when responding to complaints but do not visit other farms to determine compliance with MMP program requirements. PADEP did not estimate the number of MMP inspections statewide and indicated that exact MMP compliance documentation is not readily available.

The CCDs will respond to manure complaints under their complaint response policies. For example, in response to a manure spreading complaint, the Lancaster CCD will send the farmer a letter explaining the complaint and MMP requirement. The farmer will be directed to submit a copy of the MMP to the CCD; Lancaster CCD did not discuss any additional activities, such as technical review, taken when a MMP is submitted. Lancaster CCD did not identify the number of farms that have submitted MMPs in response to complaints. Additionally, none of the CCD files reviewed by EPA contained a MMP.

Under the Phase II WIP, PADEP developed the RAWAPI to determine MMP compliance in small watersheds across the Commonwealth. This watershed assessment approach was included in Pennsylvania’s 2012-2013 milestones for one watershed and is being increased to six watersheds in Pennsylvania’s 2014-2015 milestones.

## **8.5 WIP Implementation Goals**

EPA estimated that Pennsylvania could have upwards of 20,000 animal agriculture operations that are required to develop and implement a MMP, as indicated in Section 8.1, with over 13,000 of those operations located within the Chesapeake Bay watershed. The MMP universe appears to be more than five times larger than the number of animal agriculture operations required to develop and implement an NMP.

The Manure Management program requires two or three of the five priority BMPs identified in Pennsylvania’s Phase I WIP (Table 12). MMPs must contain calculated manure application rates and timing, information on how the operation manages manure storage structures, and control of runoff from ACAs—including diversion of clean water away from ACAs.

MMPs do not explicitly require a facility to have a waste management system. Many livestock operations will have waste storage facilities, but a livestock operation could comply with the MMP requirements without having a waste management system. For example, a poultry operation may move poultry litter directly from the poultry houses to fields for land application, or a poultry operation may sell the poultry litter to another farmer or broker who collects the poultry litter from inside the poultry houses and takes the litter off-site. Therefore, an MMP may or may not require an animal waste management system.

**Table 12. Priority BMPs, Manure Management Program**

Priority BMP	Required Component	Notes
Nutrient Application Management	<input checked="" type="checkbox"/>	MMP Section 2 (Mechanical Manure Application Rates and Timing)
Livestock and Poultry Waste Management Systems	<input checked="" type="checkbox"/> May be required	MMP Section 5 (Managing Manure Storage in Structures and Stockpiling/Stacking Areas)
Soil Conservation and Water Quality Control Plans	<input type="checkbox"/>	
Barnyard Runoff Control	<input checked="" type="checkbox"/>	MMP Section 7 (Animal Concentration Areas)
Stream Access Control with Fencing (Pasture)	<input type="checkbox"/>	

### 8.6 Manure Management Program – Observations

- Pennsylvania’s Manure Management program engages farms with animal numbers below federal CWA NPDES and state regulatory thresholds for CAFOs, and requires a minimum set of BMPs.
- MMPs are not collected or submitted to the Commonwealth or approved by PADEP.
- PADEP does not track the number of operations known to have an MMP.
- The Commonwealth does not have a compliance assurance strategy or sufficient resources to ensure applicable operations are meeting MMP requirements.
- PADEP, SCC, and the CCDs do not have an integrated data system or approach in place for tracking and managing Manure Management program oversight.
- Pennsylvania does not appear to be conducting inspections where MMP compliance is the primary focus of the inspection unless the farm is the subject of a complaint or part of a Regional Agriculture Watershed Assessment Program Initiative.

## 9.0 Pennsylvania Nutrient Management Program

The Pennsylvania Nutrient Management Program began with Act 6 of 1993, Pennsylvania's first nutrient management law and one of the first in the United States. Act 6 of 1993 was amended with Act 38 of 2005 in response to concerns about manure odors and lack of manure application setbacks from bodies of water. Pennsylvania's Nutrient Management Program currently involves the SCC, PADEP, PDA, Penn State Cooperative Extension, USDA-NRCS, and the CCDs; however, PDA, SCC, and the CCDs have primary responsibility for program administration and implementation.

Act 38 (SCC, 2006) sets forth minimum thresholds for animal agriculture operations required to develop and implement an NMP.

1. The operation must be high animal density and must have at least 8,000 pounds (lbs.)<sup>19</sup> of animals on the farm.
2. High density farms are those that have more than 2,000 lbs. of live animal weight per acre of land where manure is applied
  - Includes owned and rented land where manure is or will be applied: cropland, hayland, or pasture
  - Includes all livestock, whether they are for production or recreation

Pennsylvania refers to these high animal density farms with more than 8,000 lbs. of animals as Concentrated Animal Operations (CAOs). Voluntary agricultural operations (VAOs) are operations that voluntarily submit an NMP, but are not required to do so by law. VAOs include agricultural operations applying for financial assistance under 25 Pa. Code § 83.261. VAOs may withdraw from the Nutrient Management Program at any time.

An Act 38 compliant NMP must contain the following information (SCC, 2006).

1. The amount of manure generated on the operation.
2. Manure nutrient content according to manure test results.
3. Field specific nitrogen- and phosphorus-based manure application rates.
4. Mechanical manure application setbacks including 100 foot setback from streams, lakes, ponds, and sinkholes; or 35 foot permanent vegetated buffer; and 100 feet from active water wells.
5. Manure handling procedures including properly constructed and maintained manure storage areas.
6. Barnyard and paddock management to minimize contaminated runoff to streams.
7. 120-day limit on uncovered in-field manure stacking.
8. Documentation pertaining to exported manure, if the operation exports more than 5 tons poultry litter or 25 tons non-poultry litter per year.

Under Act 38, all NMPs must be prepared by a PDA-certified nutrient management specialist using the current version of SCC's standardized plan format,<sup>20</sup> unless an alternative format is approved by SCC.

There are four categories of nutrient management specialist certification:

- Commercial - A person who develops nutrient management plans for others.

---

<sup>19</sup> 8,000 lbs. is equal to 8 animal units (AUs).

<sup>20</sup> <http://extension.psu.edu/plants/nutrient-management/tools/plan>

- Public Review - An agency employee who reviews nutrient management plans, or recommends approval or denial of a nutrient management plan to a conservation district or the State Conservation Commission.
- Public Dual - An agency employee who develops nutrient management plans for another person's agricultural operation or reviews and makes recommendations for the approval or denial of nutrient management plans which they have not personally written or developed.
- Individual - A person who develops a nutrient management plan for their own agricultural operation.

Pennsylvania's 107 certified nutrient management specialists must obtain continuing education credits (CECs) to maintain certification. Commercial and Public Nutrient Management Specialists must complete 20 CECs every three years with five CECs for events sponsored by SCC. Individual Nutrient Management Specialists must complete six CECs every three years. One CEC typically equals one hour of instruction.

NMPs are submitted to the Act 38 delegated CCDs for an administrative completeness check and technical review. For a list of delegated CCDs, see Appendix B. For those CAOs in non-delegated CCDs, the SCC is responsible for Act 38 oversight. In addition, the SCC is responsible for Act 38 compliance oversight at CAOs owned and operated by CCD board members.

The CCD has 10 days to determine if the NMP is administratively complete. Incomplete NMPs are returned to the NMP planner for revision and resubmittal. The CCD begins the technical review period when the NMP is administratively complete. The technical review period includes a CCD site visit to make sure the NMP is consistent with farm operations and verify that the farm has an Ag E&S Plan. The NMP cannot be approved without an Ag E&S Plan (see Section 7.0 for more information on Ag E&S Plans).

The CCD has 90 days to complete the entire NMP review, including the administrative and technical reviews. Section 83.361(c) of the Act 38 Rules and Regulations indicates "The Commission or a delegated conservation district will approve or disapprove a plan or plan amendment within 90 days of receipt of a complete plan or plan amendment". The reviewing agency has 10 days after the submission date to determine if the plan is administratively complete. If a determination is made that the plan received is administratively complete, the 90 day review period starts at the initial plan submission date. If the 10 day administrative completeness review indicates additional information is required, the 90 day review period begins when the additional information is received, and the plan is determined to be administratively complete.

According to Pennsylvania's Act 38 NMP Technical Manual, January 2013, Section V Plan Review and Implementation, the 90 day review process requires an on-site evaluation of the operation. During the on-site evaluation there are several items the plan reviewer should verify. 1) The plan reviewer must verify records which are required to be maintained on the operation but are not required to be submitted with the NMP. 2) The plan reviewer must verify that a current Ag. E&S Plan written for the operation meets the requirements of Chapter 102.4. Chapter 102.4(a) indicates "The E & S Plan shall be available for review and inspection at the agricultural operation. The Act 38 NMP can't be approved by a District Board unless a current Ag. E&S Plan exists for the operation and has been verified by the plan

reviewer during the on-site evaluation. The term “current” refers to the crop rotation and tillage practices currently employed on the operation.

An operation that submits a complete NMP or plan amendment is authorized to implement the plan if the conservation district fails to act within 90 days of submittal. When the conservation district fails to act within 90 days of plan submission and the district again fails to act within 90 days of the expiration of the initial 90 days review period, the plan shall be deemed approved. If a NMP operation plan or plan amendment submission is disapproved, the NMP operation submitting the plan or plan amendment for the first time shall have 90 days after receipt of a written notice explaining specific reasons for the disapproval to resubmit a revised plan amendment.

For NPDES CAFO NMPs only, following the review period, the CCD submits the necessary information to [The Pennsylvania Bulletin](#) for a 30-day public notice period followed by referral to the CCD Board for consideration and approval. Following approval, CCD staff may conduct a site visit within 3 months to explain expectations (Lancaster CCD, personal communication, November 18, 2013) or provide the operator with a list of the NMP recordkeeping requirements (Snyder CCD, personal communication, November 6, 2013).

Manure handling and application rates specified in the NMP must be implemented immediately upon plan approval. An NMP operation must fully implement the structural conservation practices within three years of the date the plan is approved.

When adjustments to the operation are made during implementation of the approved NMP plan, nutrient application rates must be balanced so that nitrogen is not over-applied in relation to crop nitrogen needs. The owner, operator or specialist is expected to review the approved NMP at least once per year to verify that nitrogen is not over applied.

The approved NMP must be revised every three years. NMP updates and amendments must be developed and certified by an Individual or Commercial Nutrient Management Specialist and reviewed by a public review nutrient management specialist and approved by a delegated CCD or the SCC.

PADEP and SCC review Nutrient Management Program requirements every year and make revisions as necessary. Nutrient Management Program revisions are communicated to interested parties (i.e., farmers, consultants, regulators, etc.) through mail, email, websites, trade publications, public meetings and training. Communication is ongoing through multiple agriculture organizations, The Pennsylvania State University, and CCDs. There is also a nutrient management program newsletter. (PA questionnaire, C.11)

NMPs are developed according to Pennsylvania’s Nutrient Management Act Program, Technical Manual Version 7.0, January 2014 (Technical Standards) and the Nutrient Management Plan Standard Format. Pennsylvania reviews its Technical Standards on an annual basis. EPA periodically compares state technical standards against agency expectations. The 2012 EPA review (EPA, 2014a) determined that most aspects of Pennsylvania’s Technical Standards are consistent with EPA’s effluent limitation guidelines but that some portions are inconsistent.<sup>21</sup>

---

<sup>21</sup> Additional information available upon request.

## 9.1 Facility Universe

Act 38 requires, in part, development and implementation of an NMP<sup>22</sup> for a specific set of animal operations. Any Pennsylvania animal operation may voluntarily develop and implement an NMP; however, the following animal operations are required to develop and implement an NMP under Act 38:

- CAOs
- All NPDES-permitted CAFOs
- Farms receiving financial assistance for nutrient management under 25 Pa. Code § 83.
- An agricultural operation that violates the Clean Streams Law<sup>23</sup> may be required to develop, submit, and implement an NMP.

Table 13 summarizes the number of approved NMPs in Pennsylvania and in Pennsylvania’s portion of the Chesapeake Bay Watershed. These numbers represent NMPs that have been approved and is not limited to NMPs that are currently valid, being implemented, and subject to inspections. NMPs are usually developed for a 3-year implementation time frame, and the owner or operator of the facility must update (or amend) and send for review and approval a new plan after this time period. Lancaster, Lebanon, and Snyder CCD personnel indicated that in the past few years many VAOs have left the Nutrient Management Program and did not update their NMPs after they expired. Snyder CCD staff explained that VAOs may join the Nutrient Management Program to fulfill a loan or grant requirement, a building permit, or other benefit but leave the Program once those benefits are received (Snyder CCD, personal communication, November 6, 2013). Lancaster CCD staff stated that VAO participation in the Nutrient Management Program is decreasing; NMP cost-share funds that were available under Act 6 are no longer available under Act 38 (Lancaster CCD, personal communication, November 18, 2013). Union CCD staff stated that VAOs are opting out of the program and switching to MMPs due to the cost of updating their NMP every three years despite the liability protection Act 38 provides. It is important to note, that approximately 47% of farms with NMPs are VAOs.

**Table 13. Number of Approved NMPs in Pennsylvania and Pennsylvania’s Portion of the Chesapeake Bay Watershed**

Operation Type	Number of NMPs	
	Pennsylvania	Pennsylvania’s Portion of the Chesapeake Bay Watershed
NPDES CAFO	362	323
CAO	1,140	997
VAO	1,797	1,189
<b>Total</b>	<b>3,299</b>	<b>2,509</b>

SOURCE: Commonwealth of Pennsylvania and PADEP, 2014

<sup>22</sup> The regulation at 25 Pa. Code, Chapter 83, Subchapter D (25 Pa. Code §83) establishes NMP content and related nutrient management requirements.

<sup>23</sup> Act 394 of 1937

## 9.2 Resources Allocated

The CCDs had an FY2013 Nutrient Management Program operating budget of \$2,646,000. Of these funds, Pennsylvania provided \$2.14 million to CCDs and the EPA Chesapeake Bay Regulatory and Accountability Program (CBRAP) provided \$632,000. FY2013 Nutrient Management Program operating budgets for PDA and SCC were \$342,000 and \$978,000, respectively.

Pennsylvania had 54 FTEs committed to Nutrient Management Program oversight in FY2013; 1 FTE at PADEP Headquarters, 8 FTEs at SCC, and 45 FTEs at the CCDs. The PADEP Headquarters FTE administers data systems and financial agreements. The eight SCC FTEs manage the Nutrient Management Program and run the program in non-delegated counties. The 45 CCD FTEs run the Nutrient Management Program in the delegated counties (Commonwealth of Pennsylvania and PADEP, 2014).

## 9.3 Data Systems

Nutrient management data are transmitted from delegated CCDs to PADEP. PADEP tracks Nutrient Management Program funding amounts, staffing, expenditures, and activities. PADEP also tracks individual NMP operations, including: operation name; location information; plan authorship; acreage; animal information; manure transport; manure nutrient content; new BMPs; and other applicable information.

The CCDs do not have a standard data management system. The following CCD data management systems were identified during the four on-site visits.

- **Lancaster CCD** developed a GIS-based program that tracks all aspects of their work: NMPS; MMPs; complaints; compliance; BMP implementation; farm visit commitments; etc.
- **Lebanon CCD** uses a GIS-based mapping system to track farm visits. Staff noted that farmers are tracked as parcels rather than discrete points to keep up with farmers managing multiple tracts of land. Lebanon CCD supplements the GIS system with a Microsoft Excel spreadsheet and hardcopy list containing farmer names and dates of inspection.
- **Snyder CCD** uses a spreadsheet to track facility status and compile data for quarterly nutrient management reports. After visits, data are also entered into a GIS. For NMP operations the spreadsheet tracks facility type, sampling dates, manure analysis results, and nutrient importers.
- **Union CCD** uses GIS to track farm visits and is developing a database of all farms in the community.

The CCDs provide data to PADEP on a quarterly basis. PADEP typically receives Nutrient Management Program information in paper form and, over time, the information is loaded into electronic spreadsheets and databases for further analysis and reporting needs. PADEP currently tracks NMP operations separately from NPDES CAFOs. PADEP is in the process of entering NMP information for NPDES CAFOs into the eFACTS system, where information overlaps between the two programs.

## 9.4 Compliance and Enforcement

Delegated CCDs are responsible for conducting an annual NMP inspection (also referred to as an annual site status review) at each CAO and CAFO to evaluate compliance with Act 38 nutrient management requirements. CCDs conduct an NMP inspection every three years at VAOs. In addition, nutrient management grant recipients receive an NMP inspection every two years. Lancaster CCD staff indicated that CAOs with a history of noncompliance may be inspected more than once per year. Based on the

files reviewed, it appears that on-site inspections of CAOs are being conducted on a regular basis and compliance issues are being addressed.

The following field specific records are reviewed during each NMP inspection to confirm that the farmer is implementing the NMP as scheduled:

- Crop yields
- Manure/fertilizer application rates
- Soil test results
- Manure analysis results
- Manure export sheets
- Nutrient balance sheets
- Re-run of the Pennsylvania phosphorus index (P-index) every three years
- BMP implementation
- BMP Operation and Maintenance

During an NMP inspection, the CCD inspector will, among other things, verify that NMP information (e.g., animals and acreage) is still accurate on the ground; spot check fields against the NMP; verify manure application setbacks; verify manure application by reviewing manure application logs; evaluate manure storage structures for capacity and structural issues; and check BMP implementation schedules against BMPs in place. The CCD inspector will also work with the farmer to identify operational changes that might trigger the need for an NMP amendment or update.

Following an NMP inspection, the [Nutrient Management Program Administrative Manual](#) specifies that the CCD send the operator a formal letter within one week of the NMP inspection noting significant items of compliance and all items determined to be deficient. A follow up inspection is then scheduled at an accelerated frequency for non-compliant operations. If non-compliance remains after the second inspection, the CCD Board can refer the operation to the SCC for enforcement. The policy set forth in Scenario 4 suggests that the CCDs rely on professional judgment to establish a compliance date and corresponding follow up inspection. The timeframe to complete a corrective action and be re-inspected should not exceed 6 months except for unusual circumstances. This inspection and re-inspection process for Act 38 non-compliance is commonly referred to as the “three strikes rule” or “three strikes policy”, which was in draft at the time of this assessment.

Based on information provided in Pennsylvania’s questionnaire and interviews with Union and Lancaster CCD staff, the “three strikes policy” timeframes are applied inconsistently. The questionnaire response specifies that the NMP inspection report be delivered no later than five days after the inspection. Non-compliant operations receive a follow-up inspection within 60 days. If Act 38 non-compliance remains, a second inspection is conducted within the next 60 days. The operator has 30 days to respond to any noncompliance identified during the second NMP inspection before being referred to the SCC for enforcement. The Union CCD stated that an NMP operator has 90 days to come into compliance after the first non-compliant NMP inspection; 60 days after the second; and 30 days after the third. The Lancaster CCD appears to implement the “three strikes policy” during annual NMP inspections, where three straight annual inspections need to illustrate continued non-compliance before the facility is referred to the SCC for enforcement.

In FY2013, the SCC received five (5) Act 38 referrals from CCDs. All were paperwork violations (no water quality concerns identified) by CAOs that refused to get required NMPs. The SCC initiates enforcement actions on all referrals received from CCDs that have exhausted the voluntary compliance steps described in Chapter 4 of the SCCs Nutrient Management Program Administrative Manual.<sup>24</sup> The five (5) Act 38 enforcement actions included levying two administrative fines and enforcing three compliance schedules. It appears that non-compliant nutrient management program operations may be provided different amounts of time to return to compliance in different CCDs. EPA found compliance schedules ranging from 60 days to a year, depending on the farm's geographic location. Understanding that enforcement and compliance schedules are generally dictated by the severity of the compliance issue and other mitigating circumstances, the "three strikes policy" lays out specific timeframes, which are not being followed consistently.

## 9.5 WIP Implementation Goals

Nutrient management is one of the practices identified in Pennsylvania's Phase I WIP for reducing nutrient loads to the Chesapeake Bay. Approximately 3,299 animal agriculture operations have approved NMPs, 2,509 of these are in Pennsylvania's portion of the Chesapeake Bay watershed (Commonwealth of Pennsylvania and PADEP, 2014). The Commonwealth of Pennsylvania (2010) estimated that NMPs address the handling of at least 26 million tons of manure annually, or about 50 percent of all the manure generated in the Commonwealth.<sup>25</sup>

An Act 38 compliant NMP must include three or four of the five priority BMPs: nutrient application management; livestock and poultry waste management systems; soil conservation and water quality control plans; and barnyard runoff control (Table 14).

An Act 38 compliant NMP does not explicitly require a facility to have a waste management system. Many livestock operations will have waste storage facilities, but a livestock operation could comply with the NMP requirements without having a waste management system. For example, a poultry operation may move poultry litter directly from the poultry houses to fields for land application, or a poultry operation may sell the poultry litter to another farmer or broker who collects the poultry litter from inside the poultry houses and takes the litter off-site. Therefore, an NMP may or may not require an animal waste management system.

---

<sup>24</sup> <http://extension.psu.edu/plants/nutrient-management/scc/manual/nutrient-management-program-administrative-manual>

<sup>25</sup> The 26 million tons of manure addressed each year under NMPs was based on 2,650 Pennsylvania operations implementing approved NMPs (Commonwealth of Pennsylvania, 2010).

**Table 14. Priority BMPs, Nutrient Management Program**

Priority BMP	Required Component	Notes
Nutrient Application Management	<input checked="" type="checkbox"/>	§ 83.291 through § 83.294
Livestock and Poultry Waste Management Systems	<input checked="" type="checkbox"/> May be required	§ 83.351
Soil Conservation and Water Quality Control Plans	<input checked="" type="checkbox"/>	§ 83.351(f)
Barnyard Runoff Control	<input checked="" type="checkbox"/>	§ 83.311
Stream Access Control with Fencing (Pasture)	<input type="checkbox"/>	

Based on information from the Commonwealth’s questionnaire, agency visits, and the Phase I and Phase II WIPs, EPA understands that information on planned implementation of BMPs can be obtained from approved NMPs and actual implementation is verified during the annual NMP site status review. However, the CCD Nutrient Management Status Review checklist evaluates BMP implementation on a yes/no/not applicable basis. For example, under ACAs the CCD checklist includes a question “[i]s animal access to stream properly controlled?” While these inspections were initially designed to assess compliance with Pennsylvania’s regulatory requirements and not to collect data for tracking progress toward Chesapeake Bay TMDL load reductions, an annual NMP site status review provides an opportunity to potentially account for non-cost share BMPs.

## 9.6 Nutrient Management Program – Observations

- Based on the files reviewed, it appears that on-site inspections of CAOs are being conducted on a regular basis and compliance issues are being addressed.
- Pennsylvania NMPs are required to include nutrient balance sheets for farms receiving manure from the operation covered by the NMP. The CCDs track these nutrient balance sheets and may reject NMPs that include farms already designated as manure recipients in several other NMPs.
- Transferring information from the 66 CCDs to PADEP headquarters using paper records appears inefficient—particularly when the information appears to be stored electronically at the CCD level, albeit in a variety of software packages.
- Cost-share and technical assistance incentives for VAOs do not encourage continued participation in Pennsylvania’s Nutrient Management Program after benefits are received.
- The “three strikes policy” compliance approach, which was in draft during the period of this assessment, is not applied consistently.
- PDA, SCC, and the CCDs did not describe a process used to identify and quantify implementation of non-cost share BMPs at CAOs.

## 10.0 NPDES CAFO Program

The federal CWA and Pennsylvania's Clean Streams Law regulate concentrated animal feeding operations (CAFOs). In Pennsylvania, a CAFO is a farm where large quantities of livestock or poultry are housed inside buildings or in confined feedlots. An operation with more than 1,000 AEU's or a CAO with 301-1000 AEU's require a CAFO permit before the operation can be populated with livestock.

Regulations at 25 Pa. Code § 92 require CAFOs to obtain an NPDES permit from PADEP and comply with the NPDES permit requirements. CAFOs in Pennsylvania must meet the baseline requirements for nutrient management, manure storage, and erosion and sediment control as well as all federal CAFO program requirements.

PADEP has primary responsibility for administering and implementing the Pennsylvania NPDES CAFO Program. PADEP Headquarters is responsible for program administration and implementation occurs at the PADEP regional office level. Each PADEP regional office has a Bureau of Point and Non-point Source Management (Clean Water Program) that is responsible for reviewing and issuing NPDES CAFO permits and a Bureau of Waterways, Engineering, and Wetlands (W&W) responsible for NPDES CAFO compliance and enforcement. PADEP separated the NPDES CAFO permitting function from the compliance function during their reorganization in 2011.

PADEP reviews the NPDES CAFO Program requirements every five years, at a minimum, when the CAFO general permit is revised. In practice, program review is ongoing and implementation requirements are modified as issues are identified. As the program is revised, PADEP uses both formal (final publication in the Pennsylvania Bulletin) and informal (mail, email, websites, trade publications, industry meetings and training) methods for communicating new or modified CAFO permitting requirements to operators.

### *NPDES Permit Application*

The Commonwealth's NPDES regulations include the following criteria for determining whether a CAFO may apply under an individual or a general permit.

- **Individual Permit** - All CAOs with more than 300 AUs in Special Protection Waters<sup>26</sup>; all farming operations with direct discharge to surface water.
- **General Permit** - All CAFOs outside Special Protection Waters.

The current General Permit for Concentrated Animal Feeding Operations (PAG-12), became effective on April 1, 2013 and expires on March 31, 2018. Pennsylvania requires the following documents to be included with all CAFO's NPDES permit application:

- A copy of the current approved NMP, prepared by a state-certified nutrient management planner, and an approval letter issued by the CCD or SCC<sup>27</sup>;
- A copy of the Chapter 102 E&S Control Plan;

---

<sup>26</sup> Special protection waters are those designated as High Quality or Exceptional Value Waters, in accordance with specific criteria for water chemistry and biology defined in the Water Quality Standards regulations at 25 Pa. Code § 93.4b.

<sup>27</sup> The delegated conservation district must approve, modify or disapprove any NMP within 90 days of receipt of the complete plan.

- A copy of the CAFO's Water Quality Management Permit (WQMP)<sup>28</sup> when required under Chapter 91;
- A copy of the Preparedness, Prevention and Contingency Plan addressing chemical handling and storage; and
- Measures to be taken to prevent discharge to surface water from storage of raw materials such as feed and supplies, if not included in the NMP.

The permit application process provides a 30-day public comment period and a PADEP NMP review before issuing a permit. PADEP works with the CCD during the technical review period to ensure the NMP adequately addresses all CAFO permit requirements.

PADEP Clean Water Program staff are responsible for permit application review and issuance and PADEP W&W staff may have the opportunity to comment on individual permits. Draft individual permits may be reviewed by W&W [DEP Bureau of Waterways, Engineering and Wetlands] staff prior to EPA, but are not necessarily part of the internal review process (PADEP NCRO, personal communication, November 5, 2013). Based on review of PADEP files, EPA noted that critical information was not always shared between the two bureaus. For example, at one facility, the W&W staff received a copy of a CAFO permit issued by the Clean Water Program that did not meet state requirements. The following issues were raised by W&W staff: Clean Water Program staff had not reviewed the Ag E&S Plan, the permit application did not address measures to be taken to prevent discharges from raw materials, the permit did not include the annual and self-inspection report forms, and the facility had not been required to provide Act 41 notice. The facility had been issued a Notice of Violation (NOV) for expanding without a permit. The Clean Water Program staff indicated that they would take the W&W staff's comments under advisement.<sup>29</sup>

PADEP's Clean Water Program may not be consistently evaluating permit application completeness reviews or agreeing on what the permit issuance process includes across the regions. According to correspondence in the file of the facility described above, when the Clean Water Program staff reviewed eFACTS prior to issuing the permit, their review did not find any open compliance actions. However, an enforcement action was ongoing with the facility and eFACTS had not been updated. As a result, the permitting staff was instructed by management to check directly with the W&W staff prior to issuing coverage under PAG-12.

In addition, during the file reviews, EPA found an example where an NMP approved by a CCD board was subsequently reviewed by PADEP staff who found several deficiencies with it. PADEP held up the issuance of the permit until the deficiencies were addressed. Another example involved a question regarding the need for an Ag E&S plan to be submitted with the permit application that was raised to the W&W staff. The W&W staff informed the facility that the question needed to be directed to the

<sup>28</sup> A WQMP is required to construct and operate manure storage facilities under some circumstances. When required under Title 25, Chapter 91 (§ 91), existing and proposed CAFOs must provide a copy of the operation's WQMP, WQMP application, approval or engineering certification for manure storage facilities with the NPDES permit application.

<sup>29</sup> In FY2013, PADEP was navigating an extensive programmatic reorganization with numerous personnel changes as well as transitioning to the revised NPDES CAFO General Permit.

Clean Water Program staff in charge of permitting even though the W&W staff notifies the facility about the permit application submittal deadline as part of its compliance oversight.

PADEP has proposed consolidating CAFO permitting for the entire Commonwealth in the SCRO. Compliance and enforcement would remain in the regional offices for CAFOs within their jurisdictions. Based on the information gathered by EPA, consolidating CAFO permitting in the SCRO may exacerbate the communication challenges that appear to already exist between Clean Water Program and W&W staff. Under the current system, permitting staff have access to compliance information in the facility files (which are combined at each regional office); although the extent to which that information is used is unknown as EPA did not interview regional permitting staff.

### *Pennsylvania's Permit Decision Guarantee for New Permit Applications*

Pennsylvania's [Permit Decision Guarantee](#) (PDG, [Executive Order 2012-11](#), signed July 24, 2012) replaces the Commonwealth's 1995 Policy for Implementing the PADEP Money-Back Guarantee Permit Review Process 013-2000-001. Pennsylvania intends for the PDG to provide critical regulatory certainty to local governments, non-profit organizations, and businesses by establishing a standardized review process and processing times for all PADEP permits. PADEP guarantees to provide permit decisions within the published timeframes, provided applicants submit complete, technically adequate applications that address all applicable regulatory and statutory requirements in the first submission. Pennsylvania's PDG includes goals for timely permitting decisions, clear expectations for applicants to improve the quality of permit applications, and measurable performance standards for PADEP's permit review staff. EPA understands that this PDG is in the nature of policy or guidance directive and is not a regulatory requirement.

The PDG changed the order for processing permit applications from a "first-in-first-out" basis, to a priority-driven process where priority is assigned by the appropriate PADEP Regional or District Director in accordance with the following criteria:

1. Applications necessary for the protection of public health, safety or the environment from imminent threats or that are necessary to support the restoration of the environment or that support broader environmental improvement goals;
2. Applications necessary for economic development projects that create and/or retain jobs in Pennsylvania, leverage private investment in Pennsylvania, and/or provide significant economic benefit to Pennsylvania communities;
3. Applications within the Permit Decision Guarantee that do not meet any of the criteria in 1. and 2. above;
4. Applications for which the Permit Decision Guarantee is voided; and
5. Applications that do not meet the above criteria will be completed on a "first-in-first-out" basis.

Additionally, the PDG establishes a hierarchy for processing new applications, permit modifications, and renewal applications. New permit applications receive the highest priority. The lowest priority is assigned to renewal applications for permits legally extended for less than five years or the time period authorized in applicable regulatory and statutory requirements.

The PDG targets issuance of new coverage under the General CAFO Permit (PAG-12) within 43 days of receiving an administratively complete application. The policy allows 143 days for issuance of new individual CAFO permits. The PDG does not establish a “guaranteed” decision target for existing CAFO permittees, including renewals and amendments.

EPA evaluated five new CAFO permit applications submitted between August 2012 and May 2013, included in the file review sample, against the PDG criteria. Table 15 presents information on the five new permits subject to the PDG. Of the five new permits issued, only Facility 5 actually exceeded the PDG target. Facility 1, based on review of both SCRO and Lebanon CCD files, submitted an incomplete NPDES permit application, which voided the PDG for this facility.

**Table 15. Summary of New Permits Issued in File Review Sample**

Facility	Permit Type	PADEP Office	Application Submitted	Permit Issued	Permit Issuance Time	PDG Target
Facility 1	Gen.	SCRO	August 8, 2012	February 22, 2013	198 days	43 days
Facility 2	Ind.	SCRO	January 31, 2013	May 24, 2013	113 days	143 days
Facility 3	Gen.	NCRO	February 13, 2013	March 3, 2013	19 days	43 days
Facility 4	Ind.	SCRO	April 10, 2013	August 8, 2013	120 days	143 days
Facility 5	Gen.	SCRO	May 15, 2013	August 18, 2013	95 days	43 days

### *Pennsylvania’s NPDES CAFO Permit Issuance Process*

EPA reviewed 59 NPDES CAFO permit files at PADEP regional offices (32 at NCRO and 27 at SCRO). File reviews included facilities covered under both individual and general permits. EPA compared permit renewal information from the files with that found on eFACTS. The eFACTS database stores publicly available information including NPDES permit application submittal and issuance dates, WQMPs, changes in ownership, and inspection and pollution prevention visits.

For NPDES CAFO General Permits, PADEP’s NCRO took an average of 153 days to process and authorize applications for coverage under PAG-12 from 19 operations; 6 days was the shortest period and the longest period was 1,224 days<sup>30</sup>. PADEP NCRO received the Notice of Intent for that facility on December 12, 2006 and issued the permit on April 19, 2010, a total of 1,224 days. Snyder CCD received the NMP on November 8, 2008 and approved it on May 5, 2009, with a total of 181 days between NMP approval and permit issuance.

For coverage under NPDES CAFO General Permits, PADEP’s SCRO took an average of 138 days to process and authorize PAG-12 applications from 12 operations; 50 days was the shortest period and the longest

<sup>30</sup> Permit issuance time was calculated as the number of calendar days between the eFACTS “date received” field and the “date issued” field.

period was 286 days. The delay in permitting for the facility with the longest period was the result of not submitting an approved NMP with the permit application.

For NPDES CAFO Individual Permits, PADEP's NCRO took an average of 296 days to process and issue NPDES Individual Permit applications from 13 operations; 7 days was the shortest period and the longest period was 1,011 days. Nine of the 13 individual NPDES permits evaluated took more than 180 days for NCRO to process from the time the application was received to permit issuance. The NCRO file for the facility with the longest Individual Permit issuance period was inconclusive as to why permit issuance took over two and a half years, although the file identified a number of issues that could have resulted in the permit issuance delay, including: NMP issues; a spill/discharge; and self-reporting and inspection violations.

For NPDES CAFO Individual Permits, PADEP's SCRO took an average of 569 days to process and authorize NPDES Individual Permit applications from 15 operations; 113 days was the shortest period and the longest period was 1,516 days. Ten of the 15 individual NPDES permits evaluated took more than 180 days for SCRO to process from the time the application was received to permit issuance. The SCRO file for the facility with the longest permit issuance period was inconclusive as to why permit issuance took more than four years; the facility submitted its permit application in 2006 and EPA only reviewed file information for 2008 through 2013.

Permit actions not subject to the PDG took considerably longer, depending on the PADEP regional office and whether the permit was an individual or general NPDES CAFO permit. NCRO took longer than SCRO on average to process general permit application renewals and SCRO took about twice as long as NCRO, on average, to renew NPDES individual CAFO permits. Delay on the part of the SCRO was attributed to a vacant permit writer position and a hiring freeze (EPA, personal communication, January 28, 2014; PADEP SCRO, personal communication, November 19, 2013).

Pennsylvania's NPDES CAFO program lacks cohesion due to separation of core functions (e.g., permitting, compliance and enforcement, NMP review and approval) in different agencies and locations. Based on EPA's file review, separating permitting, compliance and enforcement, and nutrient management plan review and approval can result in an inefficient and inaccurate permit issuance process that can be frustrating to permittees. It may make it difficult for PADEP to manage program performance and identify areas for process improvement, and result in NPDES CAFO permits that may not be as protective of water quality as they should be.

Furthermore, Union CCD and Snyder CCD staff stated to EPA that not all private sector, certified nutrient management planners are developing representative, accurate plans and some are non-responsive (Union CCD, personal communication, November 7, 2013 and Snyder CCD, personal communication, November 6, 2013). Lebanon CCD noted that SCC has identified four to five private sector, certified nutrient management planners that consistently submit "bad plans." The SCC has suspended certified nutrient management planners, but has never revoked a certification (Lebanon CCD, personal communication, November 13, 2013).

Submittal of incomplete NMPs extends the CCD review process because the CCD 90-day technical review clock does not proceed until the NMP is administratively complete. In addition, non-

responsiveness by planners to CCD comments delays NMP approval. Based on the EPA’s review, it appears that some certified nutrient management planners are not developing NMPs that include basic required information such as complete maps of the facility. In addition, Pennsylvania’s Act 38 Nutrient Management Program Technical Manual, January 2014, NMP Submission: Required Appendices and Supplemental Information Section states, “[t]he planner is required to review the plan with the farmer...prior to submission to ensure that the farmer understands and agrees with the obligations outlined in the plan. The farmer’s signature on the plan is his acknowledgement that he will follow the plan, and he cannot make that statement until he understands what the plan is requiring.” These planning related issues delay the NPDES permit issuance process because the NPDES permit application cannot be submitted, or will be deemed incomplete, without an approved NMP and the CCD approval letter. Despite these regulatory requirements, there is no assurance that an NMP submitted with a CAFO permit application, which was developed by a certified planner, will be accurate, complete, and current—causing PADEP’s permit issuance timeframe to extend.

### ***NPDES CAFO Nutrient Management Plans***

Part A.I.B.1.b of Pennsylvania’s CAFO general permit states that “CAFOs operating under this permit shall obtain and implement an approved NMP under 25 Pa. Code Chapter D (relating to nutrient management) and 40 CFR §122.42(e)(1)(i-ix), according to Part C of this General Permit including all BMPs identified in the plan, both for land application and for manure, litter, and agricultural process wastewater handling and storage, or otherwise as approved by the State Conservation Commission or conservation district with approval authority under 25 Pa. Code Chapter 83, Subchapter D.”

A review of Pennsylvania’s Nutrient Management Plan Standard Format, revealed that the standardized plan format does not address all of the NMP requirements identified in 40 CFR §122.42(e)(1)(i-ix). Specifically, the template focuses primarily on nutrient utilization on land application sites and does not include water quality protection elements from all aspects of the operation. However, these NMP elements are addressed by Pennsylvania in other farm management plans and in PAG-12, which contains specific required NMP elements that are missing from the template. The plans and the permit terms, when taken together, address all of the required NMP elements.

In regards to implementing an NMP, the hauling and application of manure to land owned, operated, and/or leased by CAFOs needs further investigation. Oversight under this program needs to ensure all acres leased by a CAFO for land application of manure, litter or process wastewater generated by the CAFO are accounted for in its NMP and being tracked. In addition, EPA has had issues tracking manure hauling as CAFOs expand operations. Based on EPA’s review, it appears some owners and operators have incorporated as different entities on adjacent land parcels in order to possibly avoid NPDES permit coverage even though the AFOs adjoin each other or use a common area or systems for the disposal of wastes, including manure.

## **10.1 Facility Universe**

Pennsylvania’s NPDES CAFO program is broader in scope than the federal NPDES CAFO regulations and includes agricultural operations not regulated under federal regulations. Pennsylvania defines CAFOs as:

- All operations with more than 1,000 AUs;

- CAOs with greater than 300 AUs; or
- Operations that meet the large CAFO definition at 40 CFR 122.23(b)(4). This definition sets threshold numbers for specific animal types. Operations that meet or exceed any one of these numbers are classified as CAFOs. The thresholds are (a) 700 mature dairy cows, whether milked or dry; (b) 1,000 veal calves; (c) 1,000 cattle other than mature dairy cows or veal calves; (d) 2,500 swine each weighing 55 pounds or more; (e) 10,000 swine each weighing less than 55 pounds; (f) 500 horses; (g) 10,000 sheep or lambs; (h) 55,000 turkeys; (i) 30,000 laying hens or broilers, if using a liquid manure handling system; (j) 125,000 chickens (other than laying hens) if using a dry handling system; (k) 82,000 laying hens if using a dry handling system; (l) 30,000 ducks, if using a dry manure handling system; (m) 5,000 ducks, if using a liquid manure handling system.

As of September 30, 2014, there are 362 defined CAFOs in Pennsylvania. 249 facilities are covered under PAG-12, of which coverage for 221 permittees have been issued, 22 are pending renewal, 1 is pending transfer, and 5 are pending new. 113 facilities are currently covered under an individual permit of which 94 permits are issued, 18 are pending renewal, and 1 is pending new (CWA Section 106 Grant CAFO Program Report Received on November 18, 2014). PADEP regulations require new or expanding NPDES CAFO facilities to obtain an approved permit prior to commencing operations.<sup>31</sup> However, EPA has received individual permits for new or expanding CAFOs that have begun operating (e.g., populating barns with animals) while their applications were undergoing review and permit coverage was pending issuance. While PADEP has provided NPDES permit coverage for several hundred CAFOs (nearly 90%), EPA believes some attention is warranted to continue timely issuance.

## 10.2 Resources Allocated

PADEP reported that Pennsylvania, in general, does not allocate fiscal or staffing resources for agricultural by program (e.g., NPDES CAFO program). Rather, Pennsylvania provided resource numbers based on estimates of staff/assignments for overall agricultural activities. However, PADEP CO currently has five FTEs committed to NPDES CAFO Program oversight and according to the questionnaire do not expect to bring on additional staff. Based on discussions with NCRO, there is one FTE in the Clean Water Program assigned to review and approve CAFO permits and three FTE in the W&W Program responsible for compliance activities. SCRO did not provide a breakdown.

## 10.3 Data Systems

PADEP central and regional offices track permits, facility information including NMP, animal and manure storage data, and PADEP inspections and enforcement actions through eFACTS. Staff is expected to enter information as a result of receipt of permit applications, when inspections are conducted, and when enforcement actions are taken. Reports generated from the data systems are used to identify deadlines for processing permit application and/or to examine workload.

---

<sup>31</sup> 25 Pa Code § 92a.29

PADEP's offices use hard-copy files for their records. This means that electronic communications must be printed and physically put in the folders to become part of the official records, and documents received in hard copy are not electronically available or tracked. Additionally, it appears that not all hard copy documents make it to the facility folders (or may be misplaced in other folders as witnessed during site visits); for example, EPA noted that eFACTS identifies inspections for which inspection reports were not included in facility files.

In general, there is inconsistency between the three main records management avenues: hard-copy documents, electronic documents (i.e., emails and attachments), and eFACTS. This inconsistency has the potential to provide different information to the permit writing and permit enforcement staff. CAFO permit writing and enforcement functions are located in separate bureaus within PADEP ROs. Permit and compliance policy and administrative functions are also in separate bureaus within the PADEP CO. However, DEP CO maintains an internal NPDES Management e-System and newly developed penalty application which may aid in the consistency of permitting, inspection, and enforcement information available to regional staff.

The current file management system is inconsistent in tracking compliance actions. In some instances, NOVs closed out in eFACTS do not have supporting files in the documentation to indicate that a letter was sent to the operator informing of the closure of the action. It is unclear if a letter was not submitted, or if the letter was not included in the files. Incomplete files make accurate and appropriate decision-making difficult if various bureaus (who may not be familiar with the facility) are involved in compliance and permitting activities and the whole compliance picture is not available.

The lack of file tracking has direct impacts on enforcement of permit conditions. One of the most common violations observed by EPA was failure to submit records and reports required by the permit (e.g., annual or quarterly reports, NMPs). However, these violations are usually only detected at the time of the inspection when the facility files are reviewed. If the documents received were tracked electronically, compliance with these permit conditions could be assessed automatically, and in real time.

#### **10.4 Compliance and Enforcement**

PADEP has primary responsibility for compliance and enforcement related to NPDES permits. NPDES-permitted facilities must be inspected once every five years. PADEP's stated policy is for annual inspections of NPDES-permitted CAFO facilities. PADEP also performs complaint driven inspections, permit modification inspections, and annual report review as time constraints allow.

According to the questionnaire, in FY2013 PADEP performed 161 general permittee inspections and 99 individual permittee inspections. Of those inspections, 156 were complete inspections. At least 117 other inspection types were performed by DEP. Other inspection types included administrative/file review, incident-response to accident or event, routine/partial inspection, follow-up inspection and complaint inspection.

PADEP's NCRO has three full-time inspectors who annually inspect the 60 individual and general permit CAFOs located in the NCRO (PADEP NCRO, personal communication, November 5, 2013). An NCRO CAFO

may be inspected more than once per year if a water quality complaint is received (PADEP NCRO, personal communication, November 5, 2013).

PADEP's SCRO has two full-time inspectors who inspect all CAFOs with individual NPDES permits and approximately half of the general permit CAFOs each year (PADEP SCRO, personal communication, November 19, 2013). SCRO schedules an additional unannounced, partial inspection once per year at these same CAFOs (PADEP SCRO, personal communication, November 19, 2013). A partial inspection may emphasize manure storage, silage storage, and a portion of the required paperwork (PADEP SCRO, personal communication, November 19, 2013).

PADEP compliance inspectors do not evaluate compliance with all aspects of the NPDES permit, including quarterly and annual self-monitoring reports and other information required to be submitted to PADEP throughout the year. According to the questionnaire, NPDES CAFO annual report submittal reviews are not generally tracked on FY-basis and the specific accounting is not readily available. However, in practice, according to PADEP NRCO staff, annual reports are not reviewed because the regional office has received "no guidance" from PADEP CO on how or when to review annual reports. Violations noted during an on-site inspection are recorded on the Inspection Report, which is presented to the permittee at the conclusion of the inspection. Violations documented during an administrative review (performed off-site), such as the failure to submit a timely permit renewal application, are communicated in writing with NOVs that are mailed to the permittee. The timing of non-compliance communication and follow-up occurs on a case-by-case basis depending on the nature and severity of the violation. The example provided by PADEP is the observation of an active pollution event, which may require the issuance of a field order mandating that the permittee take an immediate action versus a recordkeeping violation which may offer the permittee more time to resolve.

In regards to annual reporting requirements, PADEP requires CAFOs to complete and submit annual reports by February 15 of each year. The reporting period is from January 1 to December 31. However, this reporting period does not align with PA's nutrient management program definition of a crop year. According to PA's nutrient management program, a crop year is understood to begin with the harvest of the previous year's crop(s). This generally ranges from late September to early November depending on the crop and location in the state. For Act 38 planning purposes, October 1 is the arbitrary date for the beginning of a new crop year. For example, crop year 2015 began on October 1, 2014. Since the current annual report reporting period (January 1 to December 31) does not align with the crop year (October 1 to September 30), it complicates an evaluation of a CAFO's compliance with its NMP.

In addition to compliance inspections performed by PADEP staff, CAFOs also receive an NMP status review inspection conducted by the local CCD as discussed above in Section 9.0. Coordination of NPDES inspections conducted by PADEP and status reviews conducted by the CCDs varies between the regional offices and among counties. PADEP and the CCDs may or may not coordinate their visits to coincide. For example, whenever possible, NCRO staff coordinates inspections with the CCDs so that the NPDES compliance inspection and status review occur during the same visit.

SCRO inspectors do not actively coordinate inspections with the CCDs. According to the SCRO staff, they prefer to conduct inspections at different times of the year to observe the facility under a range of

operating conditions, whereas CCDs tend to schedule the visits the same month every year. Review of the files confirms that CCDs in the SCRO region tend to schedule facility visits during the same month, and possibly week, year after year. For the status reviews conducted by the CCDs, some visit the same farm around the same time every year; some tend to focus most of their visits at a certain time of the year to minimize the burden imposed on the farmers (e.g., no inspections are scheduled during planting and harvest times). Timing of the status reviews also depends on if the CAFO is also defined as a CAO or a VAO. For CAFO/CAOs, NMP status reviews usually occur annually. For CAFO/VAOs, NMP status reviews occur every three years. It is unclear when the NMP status reviews occur for non-CAO/VAO CAFOs. Representatives from Lancaster CCD, located within the SCRO region, stated that the CCD is willing to coordinate with PADEP to make inspections coincide, but joint inspections do not occur very often.

It appears that joint inspections conducted by a CCD and PADEP can be confusing for a producer particularly when a compliance issue is identified. Based on information in the file, at Facility 13, it was unclear which agency the producer needed to work with to resolve the compliance issues in a timely manner. The producer began working with the CCD to resolve the compliance issues, but then PADEP directed the CCD to have the producer contact PADEP directly.

However, based on information gathered by EPA, when PADEP and CCD staff conduct separate inspections, there are discrepancies between identifying and addressing non-compliance. For example, during their annual status reviews, CCD staff may identify Act 38 violations related to the implementation of a CAFO's NMP (e.g., spreading the wrong manure, at the wrong rate, at the wrong time, and/or in the wrong place). CCD staff note these violations on checklists and/or in a letter to the facility. The letters usually remind the facility to follow their NMP. During their inspections, PADEP inspectors do not consistently include these NMP violations in their inspection reports or address this significant permit non-compliance with enforcement.

### *Comparison of NPDES Compliance and Enforcement between NCRO and SCRO*

EPA reviewed eFACTS for inspection information for 53 NPDES-permitted CAFOs included in the file review. Table 16 summarizes inspection information for the NCRO and SCRO, as well as by individual and general permit holders. Inspections older than January 1, 2009 were eliminated from the analysis, consistent with the practice of only reviewing the most recent five years' worth of file information.

**Table 16. Comparison of NPDES CAFO Inspection Data, PADEP NCRO and SCRO 2009-2013**

	NCRO			SCRO		
	Total NPDES Ind. & Gen.	NPDES Ind.	NPDES Gen.	Total NPDES Ind. & Gen.	NPDES Ind.	NPDES Gen.
Number of NPDES Farms Evaluated	32	13	19	21	12	9
Number of inspections	119	56	63	102	68	34
Average number of inspections per NPDES	3.7	4.3	3.3	4.9	5.7	3.8

permitted CAFO (last 5 years)						
Inspections Resulting in violations	62 (52%)	25 (45%)	37 (59%)	16 (16%)	9 (13%)	7 (21%)
Complaint Inspections	7	4	3	0	0	0

Information in eFACTS suggests that the SCRO is more likely to inspect each CAFO every year but appears less likely to identify or record violations during inspections. Approximately one-half of NCRO’s inspections identified one or more violations where only one in five SCRO inspections identified one or more violations. PADEP SCRO reported zero complaint-driven inspections for the 21 CAFOs reviewed; again, this is inconclusive as to whether these CAFOs are compliant, or PADEP SCRO did not receive complaints, or if the complaints received did not merit an onsite inspection. However, these numbers are consistent with the SCRO staff’s assessment that formal enforcement actions are not common at CAFOs because, after more than 10 years of recurring enforcement, permitted facilities are typically well aware of the requirements.

One of the most significant discrepancies in CAFO program implementation relates to PADEP enforcement actions. In the NCRO, for example, NOV’s are issued for routine violations and it is not uncommon for issues to result in a Consent Order and Agreement. However, in the SCRO it is rare that a CAFO violation results in an NOV or further enforcement. According to the PADEP-SCRO, its main role is guaranteeing compliance through methods other than just issuing fines or NOV’s. SCRO applies the most appropriate method, such as education, notice on the onsite review form, NOV’s or other enforcement action types, to resolve the compliance issue quickly and efficiently. Table 13 illustrates the differences in compliance and enforcement between the two PADEP regional offices. Specifically, 16% of SCRO individual and general CAFO permit inspections accessed on eFACTS resulted in a violation whereas 52% of the NCRO inspections reviewed identified one or more permit violations. Also interesting to note, general CAFO permit inspections in both regions were more likely to result in one or more violations than inspections of individual NPDES CAFO permit holders. However, a larger sample size would need to be evaluated to determine if the difference is significant.

***NPDES CAFO Enforcement Follow-up***

EPA noted during the file review that NPDES noncompliance penalties typically ranged from \$500 to \$2,500. One file reviewed included a fine of \$1,000 after years of a documented pattern of violations and notifications by the PADEP. Another file included a fine of \$500 for not submitting annual reports for 2011-2013 on time. The PADEP SCRO did escalate penalties for one facility from \$500 to \$34,152 for four discharges over 2.5 years.

When a discharge from a CAFO causes a fish kill, the Pennsylvania Fish and Boat Commission (FBC) has authority to take enforcement action including issuing fines up to \$10,000 per day. EPA did not interview staff or conduct file reviews at the FBC. Based on discussion with PADEP staff, there is no process for joint action between PADEP and FBC. Each agency makes a compliance determination and takes enforcement action independently.

It appears that PADEP is inconsistently applying compliance assurance tools, such as penalties and fines that provide for both general and specific deterrence, at CAFOs. In light of this, permittees will likely weigh the costs and benefits of complying with regulations. If a permittee receives a penalty order for more than the cost of compliance, in the future it and other permittees will choose compliance. It is also important for a permittee to know that if they do not comply, they will actually face enforcement and possible fines. The threat of enforcement typically leads to higher rates of compliance.

## 10.5 WIP Implementation Goals

Pennsylvania’s NPDES CAFO Program requires implementation of three or four of the five priority BMPs through requirements in 25 Pa. Code § 92a.29 or Act 38 (Table 17). EPA observed that the NPDES CAFO Program does not incorporate any additional Chesapeake Bay BMPs over and above those already required by the Commonwealth’s Nutrient Management Program (see Section 9.5), particularly because NPDES CAFOs are subject to Pennsylvania’s NMP regulations.

Pennsylvania’s NPDES CAFO permits do not explicitly require a facility to have a waste management system. Many NPDES-permitted CAFOs will have waste storage facilities due to their larger size, but an NPDES-permitted CAFO could comply with the permit requirements without having a waste management system. For example, a poultry operation may move poultry litter directly from the poultry houses to fields for land application, or a poultry operation may sell the poultry litter to another farmer or broker who collects the poultry litter from inside the poultry houses and takes the litter off-site. Therefore, an NPDES CAFO permit may or may not require an animal waste management system.

**Table 17. Priority BMPs, NPDES CAFO Program**

Priority BMP	Required Component	Notes
Nutrient Application Management	<input checked="" type="checkbox"/>	§ 92a.29(e)(1)
Livestock and Poultry Waste Management Systems	<input checked="" type="checkbox"/> May be required	§ 83.351
Soil Conservation and Water Quality Control Plans	<input checked="" type="checkbox"/>	§ 92a.29(e)(2)
Barnyard Runoff Control	<input checked="" type="checkbox"/>	§ 83.311
Stream Access Control with Fencing (Pasture)	<input type="checkbox"/>	

EPA noted that PADEP NPDES CAFO inspections are not collecting detailed information on implementation of priority BMPs, or if the information is collected it is not recorded on the PADEP inspection checklist. The PADEP NPDES CAFO compliance inspection checklist includes general questions about whether all BMPs identified in the NMP and Ag E&S Plan are implemented. These two questions are answered with a yes or no and contain space for comment.

There is an opportunity for PADEP’s NPDES CAFO compliance inspection checklist to be updated to include a specific question about implementation of priority BMPs, including the number of units implemented. Again, if this information is in an NPDES CAFO’s Ag E&S Plan, approved NMP, or other planning document, in-field BMP data collection may be more efficient and provide for verification.

## 10.6 NPDES CAFO Program – Observations

- Pennsylvania’s CAFO definition is broader in scope than the federal definition as it includes CAOs with as few as 300 AEUs.
- The hauling and application of manure to all land owned, operated, and/or leased by CAFOs needs further investigation.
- Pennsylvania’s NPDES CAFO program lacks cohesion due to separation of core functions (e.g., permitting, compliance and enforcement, nutrient management) in different agencies and locations.
- There is no assurance that an NMP submitted with a CAFO permit application, which was developed by a certified planner, will be accurate, complete, and current—causing PADEP’s permit issuance timeframe to extend.
- While PADEP has provided NPDES permit coverage for several hundred CAFOs (nearly 90%), EPA believes some attention is warranted to continue timely issuance.
- In general, there is inconsistency between the three main records management avenues: hard-copy documents, electronic documents (i.e., emails and attachments), and eFACTS. This inconsistency has the potential to provide different information to the permit writing and permit enforcement staff as well as the public.
- The two PADEP regional offices assessed take different approaches to scheduling, conducting and coordinating inspections based on their specific expertise and understanding of their regional farming communities.
- Pennsylvania’s reliance on checklists during on-site compliance inspections and annual site status reviews instead of regular and ongoing oversight that includes reviewing facility-submitted annual reports may lead to delayed compliance and the potential for unidentified water quality concerns, particularly if one or more years of site status reviews are missed.
- PADEP NPDES CAFO inspections are not collecting detailed information on implementation of priority BMPs, or if the information is collected it is not memorialized on the PADEP inspection checklist.

## 11.0 Commercial Manure Hauler and Broker Certification Program

The [Commercial Manure Hauler and Broker Certification Program](#) requires all owners and employees of a commercial manure hauler or broker business, that commercially haul, land-apply, or broker manure in Pennsylvania to hold a valid certificate issued by PDA before providing services in Pennsylvania. The intent is to ensure that manure generated by agricultural operations is transported and applied in a safe manner. Commercial manure haulers or brokers handling or applying manure on behalf of agricultural operations in Pennsylvania must do so according to an Act 38 NMP or MMP developed for the operation. Pennsylvania is one of a limited number of states trying to manage this component of nutrient handling.

The requirements for the Commercial Manure Hauler and Broker Certification Program are established by regulation creating manure hauler and broker levels (Manure Hauler Level 1, 2 or 3 and Manure Broker Level 1 or 2), training and examination requirements that demonstrate competency and understanding of manure handling, and application principles.

### 11.1 Certified Manure Hauler and Broker Universe

A person who is employed in the transport or application of manure, needs to apply for a Manure Hauler Level 1, 2 or 3 certificate in order to operate. A person who obtains temporary control of manure (i.e. purchasing of a quantity of manure) and further arranges for transport or application of that manure to another agricultural operation or for another use, needs to apply for the Manure Broker Level 1 or 2 certificate in order to operate. Commercial manure haulers or brokers can obtain the necessary certification by completing the appropriate training program for the activity level.

- Hauler Level 1 - Persons only transporting manure must review a workbook and complete a checklist verifying their understanding of basic manure handling principles
- Hauler Level 2 - Persons employed and supervised to haul and apply manure must review a workbook and pass a short examination.
- Hauler Level 3 - Persons hauling or applying manure independently (without supervision) must attend a 1-day classroom training and pass an examination.
- Broker Level 1 - Person arranging for the transport or application of manure must attend a 1-day classroom training and pass an examination.
- Broker Level 2 - Person arranging for the transport or application of manure and interested in developing nutrient balance sheets must complete the Broker Level 1 training and an additional training on developing nutrient balance sheets.

Certification is only required if hauling or brokering commercially. Individuals hauling manure without financial compensation do not need a certification. A CAFO, CAO, or VAO hauling or land-applying manure to land that is part of its approved NMP does not need a certification.

The following total numbers of certifications, by category, were reported by SCC in the PADEP questionnaire.

Certified Manure Hauler Level 1 – 200

Certified Manure Hauler Level 2 – 212  
Certified Manure Hauler Level 3 – 150  
Certified Manure Broker Level 1 – 73  
Certified Manure Broker Level 2 – 56

## **11.2 Resources Allocated**

Two FTEs are currently dedicated to the Commercial Manure Hauler and Broker certification program, with one FTE each in the SCC and PDA. The requirements of the certification program are reviewed and continuously updated, as needed. Certification program requirements, updates, and revisions are communicated through mail, email, the program website, newsletters, and training events. There are no plans to expand the number of FTEs committed to the program in the future (Commonwealth of Pennsylvania and PADEP, 2014).

Penn State University provides educational support through a contract with the SCC. To ensure these delegated responsibilities for the program development, approval, and oversight are carried out in a satisfactory manner an annual meeting is held with Penn State to review contract responsibilities (Commonwealth of Pennsylvania and PADEP, 2014).

## **11.3 Data Systems**

The PDA utilizes the PaPlants system, the program website, and an Access database to track applications and licenses, and to provide information regarding fees, educational courses, program requirements, and for dissemination of information. CECs are entered into PaPlants and can be reviewed by PDA as well as the hauler or broker. When spot checks are performed, PDA verifies that the hauler or broker's certification is still active. PDA reported that these resources are used on a daily basis for data entry and that reports generated are for internal needs and to fulfill requests from outside organizations (Commonwealth of Pennsylvania and PADEP, 2014).

## **11.4 Compliance and Enforcement**

PDA has the sole authority for oversight and enforcement of the Commercial Manure Hauler and Broker Certification Program. PDA compliance and enforcement activities include random record keeping spot reviews and complaint driven record keeping compliance checks. Complaints originate from partner agency investigations, complaints from the general public, and educational outreach. Complaint spot checks are the highest priority; random record keeping spot checks are conducted as time permits. The Commonwealth and PADEP (2014) state that PDA field time for Commercial Manure Hauler and Broker Certification Program activities is very limited due to low staffing levels and lack of delegation agreements with other agencies. No field-related compliance and enforcement activities were identified in FY2013 for this program (Commonwealth of Pennsylvania and PADEP, 2014).

PDA notes that if a person is found to be operating without a Commercial Manure Hauler and Broker Certification, they are told to stop all activity until the requirements are met for the activity for which the license is needed. CCDs are notified if PDA is aware that a person was operating without a license and to let PDA know if they hear of any hauling or brokering activity going on after being notified about that person. In FY2013, there were 17 enforcement actions recorded (Commonwealth of Pennsylvania and PADEP, 2014).

## **11.5 WIP Implementation Goals**

The Commercial Manure Hauler and Broker Certification Program does not directly result in activities that count toward any of Pennsylvania's 2025 priority BMP implementation goals. Commercially hauled manure must be applied according to an NMP or MMP, but those documents are maintained by the receiving farm, not the certified manure hauler or broker. The Commonwealth does not track the amount of manure transported under this program.

## **11.6 Commercial Manure Hauler and Broker Certification Program – Observations**

- Pennsylvania is one of a limited number of states trying to manage this component of nutrient handling.
- Compliance assurance challenges include low SCC/PDA staff levels, low PDA funding, and the lack of electronic communication capabilities on the industry side.

## 12.0 Summary

This section summarizes the observations in each of the program sections above.

### Watershed Implementation Plan Goals

1. Based on EPA's June 26, 2014 evaluation of the Commonwealth's 2012-2013 milestones, Pennsylvania surpassed its 2013 milestone target for phosphorus. Pennsylvania did not achieve the 2013 milestone target for nitrogen and sediment.
2. For agriculture, Pennsylvania did not meet its 2013 milestone targets for nutrients and sediment and did not meet its cumulative (2009-2013) agricultural implementation targets for such BMPs as animal waste management systems and enhanced nutrient application management.
3. At this time, Pennsylvania relies on non-regulatory, financial and technical assistance, and voluntary compliance approaches to implement its regulatory animal agriculture programs.
4. Based on the data collected, EPA found that Pennsylvania's current BMP identification and tracking program does not reflect the strategy identified by the Commonwealth in the Phase I WIP.
5. At this time, the Agricultural Erosion and Sediment Control and Manure Management Programs do not appear to be fully implemented to a level where EPA is assured of compliance with program requirements and fulfillment of WIP commitments.

### Agriculture Erosion and Sediment Control Program

6. Pennsylvania's Ag. E&S Program is integrated into its Nutrient Management and NPDES CAFO Programs to ensure that operations in those two programs comply with the Ag E&S Program requirements.
7. Commonwealth agencies have not identified the complete universe of operations subject to Ag E&S requirements.
8. The Commonwealth does not have a consistent approach or sufficient resources to ensure applicable operations are meeting Ag. E&S requirements.
9. Ag E&S Plans are not always consistent with current farm conditions and activities, or with current NMPs.
10. The Commonwealth did not identify any electronic and/or comprehensive data systems used for tracking Ag E&S Plans and E&S control BMPs implemented at animal agriculture operations.

## **Manure Management Program**

11. Pennsylvania’s Manure Management program engages farms with animal numbers below federal CWA NPDES and state regulatory thresholds for CAFOs, and requires a minimum set of BMPs.
12. MMPs are not collected or submitted to the Commonwealth or approved by PADEP.
13. PADEP does not track the number of operations known to have an MMP.
14. The Commonwealth does not have a compliance assurance strategy or sufficient resources to ensure applicable operations are meeting MMP requirements.
15. DEP, SCC, and the CCDs do not have an integrated data system or approach in place for tracking and managing Manure Management program oversight.
16. Pennsylvania does not appear to be conducting inspections where MMP compliance is the primary focus of the inspection unless the farm is the subject of a complaint or part of a Regional Agriculture Watershed Assessment Program Initiative.

## **Nutrient Management Program**

17. Based on the files reviewed, it appears that on-site inspections of CAOs are being conducted on a regular basis and compliance issues are being addressed.
18. Pennsylvania NMPs are required to include nutrient balance sheets for farms receiving manure from the operation covered by the NMP. The CCDs track these nutrient balance sheets and may reject NMPs that include farms already designated as manure recipients in several other NMPs.
19. Transferring information from the 66 CCDs to PADEP headquarters using paper records appears inefficient—particularly when the information appears to be stored electronically at the CCD level, albeit in a variety of software packages.
20. Cost-share and technical assistance incentives for VAOs do not encourage continued participation in Pennsylvania’s Nutrient Management Program after benefits are received.
21. The “three strikes policy” compliance approach, which was in draft during the period of this assessment, is not applied consistently.
22. PDA, SCC, and the CCDs did not describe a process used to identify and quantify implementation of non-cost share BMPs at CAOs.

## **NPDES CAFO Program**

23. Pennsylvania's CAFO definition is broader in scope than the federal definition as it includes CAOs with as few as 300 AEUs.
24. The hauling and application of manure to all land owned, operated, and/or leased by CAFOs needs further investigation.
25. Pennsylvania's NPDES CAFO program lacks cohesion due to separation of core functions (e.g., permitting, compliance and enforcement, nutrient management) in different agencies and locations.
26. There is no assurance that an NMP submitted with a CAFO permit application, which was developed by a certified planner, will be accurate, complete, and current—causing PADEP's permit issuance timeframe to extend.
27. While PADEP has provided NPDES permit coverage for several hundred CAFOs (nearly 90%), EPA believes some attention is warranted to continue timely issuance.
28. In general, there is inconsistency between the three main records management avenues: hard-copy documents, electronic documents (i.e., emails and attachments), and eFACTS. This inconsistency has the potential to provide different information to the permit writing and permit enforcement staff as well as the public.
29. The two PADEP regional offices assessed take different approaches to scheduling, conducting and coordinating inspections based on their specific expertise and understanding of their regional farming communities.
30. Pennsylvania's reliance on checklists during on-site compliance inspections and annual site status reviews instead of regular and ongoing oversight that includes reviewing facility-submitted annual reports may lead to delayed compliance and the potential for unidentified water quality concerns, particularly if one or more years of site status reviews are missed.
31. PADEP NPDES CAFO inspections are not collecting detailed information on implementation of priority BMPs, or if the information is collected it is not memorialized on the PADEP inspection checklist.

## **Commercial Manure Hauler and Broker Certification Program**

32. Pennsylvania is one of a limited number of states trying to manage this component of nutrient handling.
33. Compliance assurance challenges include low SCC/PDA staff levels, low PDA funding, and the lack of electronic communication capabilities on the industry side.

## References

- CBP (Chesapeake Bay Program). No date. *2012-2013 Milestone Commitments to Reduce Nitrogen, Phosphorus and Sediment Pollution to the Chesapeake Bay*.  
[http://www.chesapeakebay.net/documents/ecbrief/18163/chesbay\\_2012-13\\_milestones\\_fact\\_sheets.pdf](http://www.chesapeakebay.net/documents/ecbrief/18163/chesbay_2012-13_milestones_fact_sheets.pdf).
- Commonwealth of Pennsylvania and PADEP (Pennsylvania Department of Environmental Protection). 2014, March 27. Pennsylvania's and DEP's responses to the EPA questionnaire *Questions and Discussion Topics: Pennsylvania Animal Agriculture Program Review*.
- EPA (U.S. Environmental Protection Agency). 2013, May 30. *EPA Interim Assessment of Pennsylvania's 2012-2013 Milestones and WIP Progress*.  
[http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/InterimAssessments/PA%20Interim%20Assessment%202012%202013%20Milestones%20and%20WIP%20progress.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/InterimAssessments/PA%20Interim%20Assessment%202012%202013%20Milestones%20and%20WIP%20progress.pdf).
- PADEP (Pennsylvania Department of Environmental Protection). 2010, November 29. Pennsylvania Chesapeake Watershed Implementation Plan.  
<http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/REVISED%20FINAL%20PA%20Chesapeake%20Bay%20WIP%201-11-11.pdf>
- PADEP (Pennsylvania Department of Environmental Protection). 2012a. *2012 Pennsylvania Integrated Water Quality Monitoring and Assessment Report*.  
[http://www.portal.state.pa.us/portal/server.pt/community/water\\_quality\\_standards/10556/integrated\\_water\\_quality\\_report\\_-\\_2012/1127203](http://www.portal.state.pa.us/portal/server.pt/community/water_quality_standards/10556/integrated_water_quality_report_-_2012/1127203).
- PADEP (Pennsylvania Department of Environmental Protection). 2012b. *Pennsylvania Chesapeake Watershed Implementation Plan Phase II*.  
<http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/4-2-2012/Clean%20FINAL%20Phase%202%20WIP%203-30-2012%20%282%29.pdf>.
- PADEP (Pennsylvania Department of Environmental Protection). 2012c. *Pennsylvania Draft County Level Planning Targets for Chesapeake Bay Phase II Watershed Implementation Plans*.  
[http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/7-9-2012/Master%20Phase\\_2\\_Draft%20County\\_Planning%20Targets\\_June\\_2012\\_final.pdf](http://files.dep.state.pa.us/Water/Chesapeake%20Bay%20Program/ChesapeakePortalFiles/7-9-2012/Master%20Phase_2_Draft%20County_Planning%20Targets_June_2012_final.pdf).
- PADEP (Pennsylvania Department of Environmental Protection). 2014, February 7. *Email from Steve Taglang (PADEP) to Shanika Whitehurst (EPA Headquarters) providing updated information for the Pennsylvania AFO/CAFO Program Profile*.
- PASA (Pennsylvania Association for Sustainable Agriculture). 2011, December. *New Manure Management Requirements*. <http://www.pasafarming.org/files/mmm-overview-12-11-with-cds.pdf>.

SCC (Commonwealth of Pennsylvania, State Conservation Commission). 2006, September 1. *PA Nutrient Management Regulations: Act 38 of 2005 Summary of Regulations*.  
[http://panutrientmgmt.cas.psu.edu/pdf/lr\\_Act38\\_Reg\\_Sum0609.pdf](http://panutrientmgmt.cas.psu.edu/pdf/lr_Act38_Reg_Sum0609.pdf).

Tetra Tech (Tetra Tech, Inc.). 2011, January 19. *Summary of AFO/CAFO Universe Estimates – Pennsylvania*. Unpublished technical report prepared for U.S. Environmental Protection Agency's Rural Branch.

---

## Appendix A: Letter from PA NRCS to EPA

---

## Appendix B: Chapter 102 Delegated County Conservation Districts