



Chesapeake Bay Program Office

# **Pennsylvania Chesapeake Bay Program Update: Agriculture Compliance, Data Management, and Funding Needs**

Water Resources Advisory Committee

July 21, 2022

Tom Wolf, Governor

Ramez Ziadeh, P.E., Acting Secretary

# Agenda

- Agriculture Compliance
- Data Management
- Funding Needs



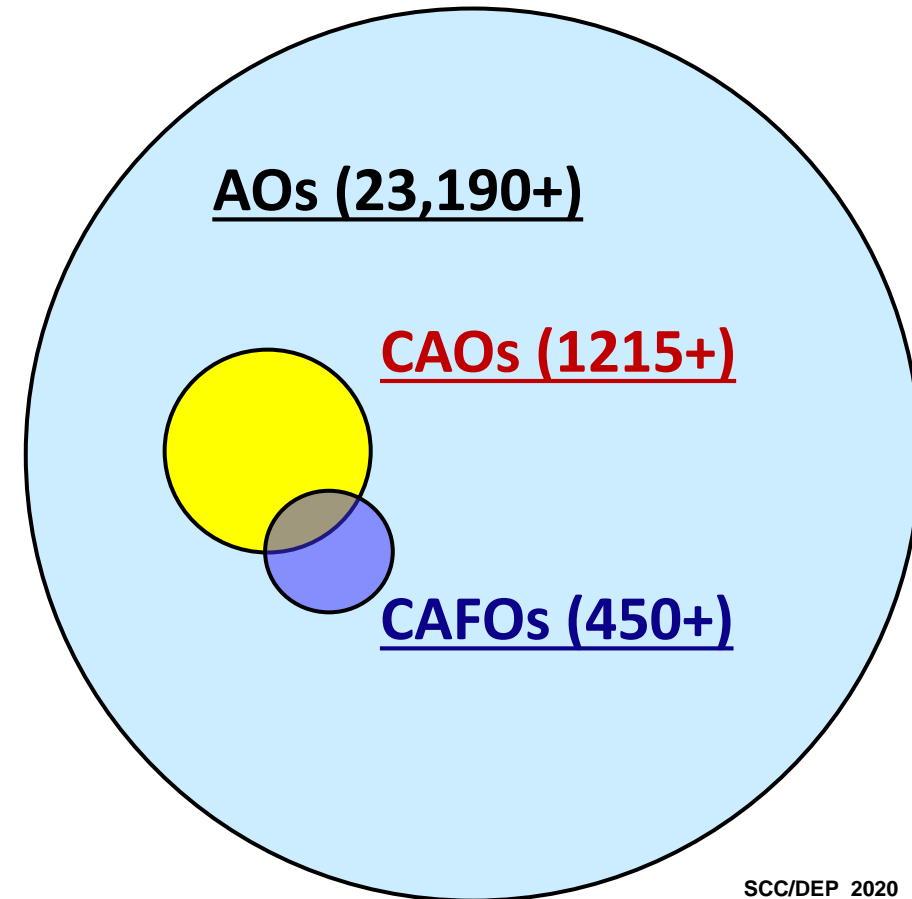
# Agriculture Compliance

# Agricultural Regulations

- Primary environmental regulations that affect agriculture:
  - DEP
    - Chapter 102 – Erosion and Sediment Control
    - Chapter 91 – Manure Management
    - Chapter 92a – National Pollutant Discharge Elimination Systems – Concentrated Animal Feeding Operations
  - State Conservation Commission (SCC)
    - Chapter 83 (Act 38 of 2005) – Nutrient Management
  - Pennsylvania Department of Agriculture and SCC
    - Act 49 of 2004 – Commercial Manure Hauler and Broker Certification
- Other environmental regulations:
  - Chapter 105 – Water Obstructions and Encroachments
  - Chapter 275 – Biosolids

# Animal Operations in Pennsylvania

- All Animal Operations (AOs)
  - All operations generating or utilizing manure
    - Regulated by PA DEP - Manure Management Manual
  - Manure Management Plan
- Concentrated Animal Operations (CAOs)
  - High animal density farms > 2,000 lbs/acre animal density
    - Regulated by PA SCC - Act 38
  - Approved Nutrient Management Plan, certified planner, public access
- Concentrated Animal Feeding Operations (CAFOs)
  - Based on animal numbers and/or animal density
  - Farms > 1,000 AEUs, CAOs > 300 AEUs, EPA head numbers
    - Regulated by PA DEP (for US EPA)
  - Approved Nutrient Management Plan, DEP CAFO permit, certified planner, public access





# Agricultural Erosion and Sediment Control

- Acronyms and Terms:

- Ag E&S – Agricultural Erosion and Sediment Control
- Conservation Plan – NRCS Conservation Plan
- Tolerable Soil Loss (T) over the Rotation
- Sheet and Rill Erosion – erosion that occurs in sheet flow over land
- Concentrated Flow Erosion – erosion that is concentrated (also called “gully erosion”)

- Common BMPs –

- Grassed and Rock-lined Waterways
- Terraces
- Diversions
- Cover Crops
- No-Till and Conservation/Reduced Till
- Roof Gutters and Downspouts (Barnyard Runoff Control)
- Animal Heavy Use Area Protection

# Chapter 102 – Erosion and Sediment Control

- Tools and Resources:
  - [Soil Erosion and Sediment Control for Agricultural Operations \(Ag E&S Manual\) – 383-4200-002](#)
  - Ag E&S Plan Administrative Completeness Review Guide
  - [Pennsylvania Clean Water Academy](#)
    - Ag E&S Web-based Training Modules

# Nutrient and Manure Management In Pennsylvania

- Common Animal Types:

- Poultry

- Broiler
- Layer
- Pullet (young laying hen)

- Livestock

- Dairy

- Heifer
- Cow – Milking/Dry

- Beef Cow/calf pairs

- Swine

- Equine

- Horses

- Driving
- Working/Draft

- Mules

- Acronyms and Terms:

- NMP – Nutrient Management Plan

- MMP – Manure Management Plan

- AEU – Animal Equivalent Unit

- $AEU = [\text{avg. number of animals on a typical day that the animals are on the operation} \times \text{animal weight (lbs)} \div 1,000] \times [\text{number of days the animals are on the operation per year} \div 365]$



# Chapter 91 – Manure Management

## **Chapter 91.36(a) – Animal Manure Storage Facilities**

- Design and construction criteria for manure storages
- Liquid or semi-solid manure storage facilities constructed after January 29, 2000 must have been designed and/or certified by a registered professional engineer
- Includes manure storage freeboard requirements

## **Chapter 91.36(b) – Land Application of Animal Manure and Agricultural Process Wastewater**

- Operations that produce or use animal manure/process wastewater must have AND implement a written Manure Management Plan, in accordance with the Manure Management Manual
- CAOs – regulated under Act 38 of 2005 (Chapter 83, Subchapter D).
- CAFOs – regulated under Chapter 92.5a

# Chapter 92a – NPDES CAFO Requirements

- CAFOs – regulated by DEP
  - NPDES Permit
    - Additional requirements for manure storages
    - Additional record-keeping and reporting requirements
  - Act 38 Nutrient Management Plan (VAO/CAFOs and CAO/CAFOs)
  - Ag E&S Plan
  - Publicly Noticed
  - CAFO Inspection conducted at least once every 5 years by DEP
  - Nutrient Management Status Review conducted annually by delegated Conservation District (or SCC)

# Chapter 92a – NPDES CAFO Requirements

## Water Quality Management (WQM) Permits

- New, Expanded Liquid or Semisolid Manure Storages.
  - AEU's > 1,000
  - Between 1 & 2.5 million-gallon capacity
  - ALL Liquid or Semisolid Storages of 2.5 million gallon or more.
- Individual vs. General NPDES [CAFO] Permits
  - Individual applies to 'special protection watersheds'
  - General applies to existing, new CAOs not in 'special protection' watersheds.
- Design/Construction must be certified by a 'registered' professional engineer as meeting PA Technical Guide standards.

# Act 49 – Commercial Manure Hauler and Broker Certification Act

## Objective:

- Preserve water quality in Pennsylvania.
- 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 the PDA.
- 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, NBS or other manure management plan (MMP).
- Administered by the SCC, on behalf of PDA.
- Conservation districts assist with program administration and implementation

# Agriculture Inspection Programs

- Erosion and Sediment Control Program - statewide
  - Delegated to participating conservation districts; includes agriculture erosion and sediment control in delegation agreement
  - Conduct site inspections per NPDES Construction Stormwater Program (102.4(b)); includes inspecting agricultural operations if conducting earth disturbance activities related to construction (e.g. constructing barns, poultry houses, etc.)
  - Provide planning and implementation services in relation to erosion and sediment control requirements for agriculture (102.4(a))
- NPDES CAFO - statewide
  - Delegated from EPA to DEP to conduct permitting, compliance, inspection and enforcement for CAFO operations
  - Conduct inspections on at least 20% of all CAFOs annually in accordance with the EPA Compliance Monitoring Strategy (CMS)

# Agriculture Inspection Programs

- Act 38 Nutrient Management Program - statewide
  - Delegated to participating conservation districts; in counties with no delegation, workload is managed by SCC
  - Conduct annual status reviews of CAOs and CAFOs to assess compliance with Nutrient Management regulations (Act 38)
- Manure Management Program - statewide
  - Delegated to participating conservation districts; in counties with no delegation, workload is managed by DEP
  - Conduct education and outreach, training, planning and implementation services

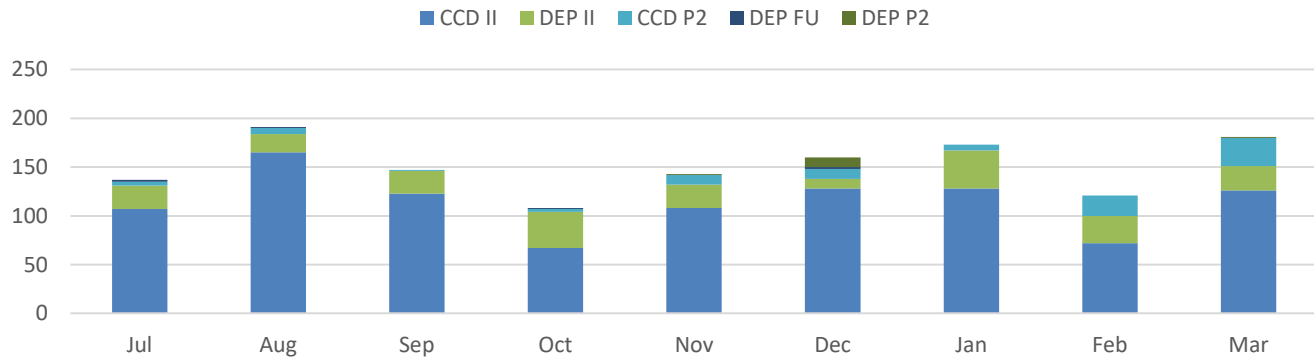


# Agriculture Inspection Programs

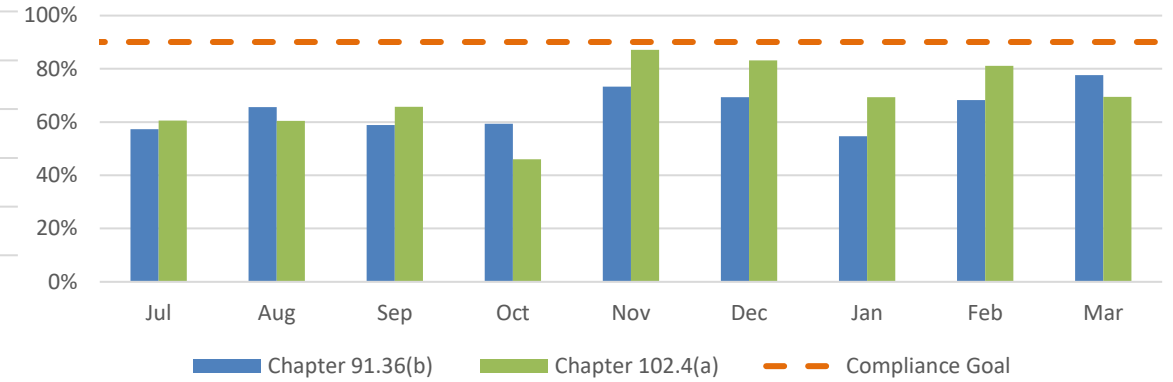
- Chesapeake Bay Technicians – Chesapeake Bay watershed
  - Agreement with participating conservation districts to provide additional education and outreach, training, planning and implementation services; in counties with no agreement, workload is managed by DEP
  - Conduct inspections of non-CAOs and non-CAFOs since 2016 as part of the Chesapeake Bay Agriculture Inspection Program (CBAIP)
- Annual Summary of inspections and enforcement activities is published on the [DEP Agricultural Compliance website](#) every Fall/Winter since 2016
  - The summary provides information related to Act 38 and CBAIP efforts to demonstrate unique inspections that occur on farms.
    - Act 38 status reviews occur on the same farms that are inspected for NPDES CAFO permit requirements
    - CBAIP inspections occur on farms that are regulated under Chapter 102 and Chapter 91 but not regulated under Act 38 or NPDES CAFO

# CBAIP – by the numbers

Chesapeake Bay Ag Inspection Program (CBAIP) Inspections YTD

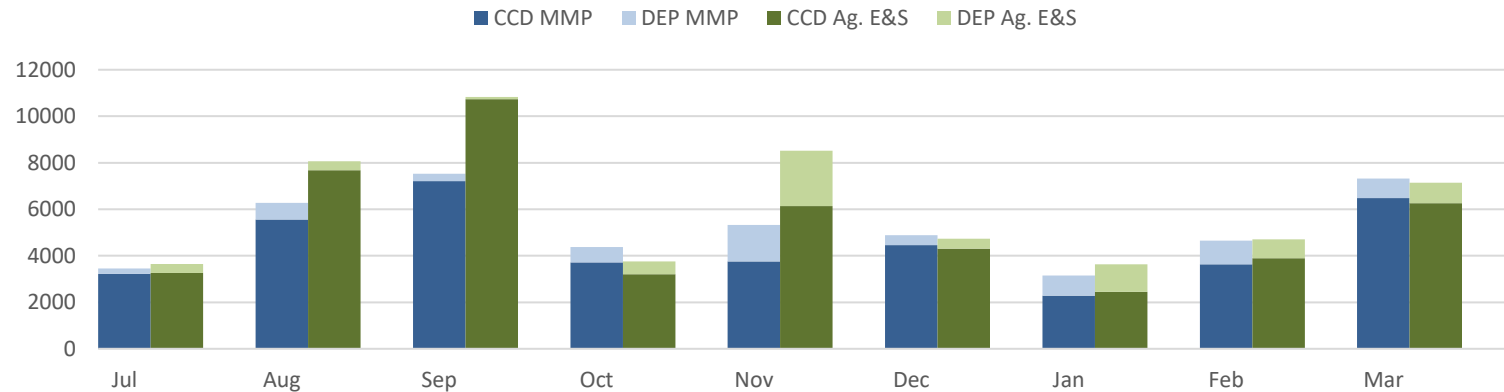


CBAIP Compliance Rate for Initial Inspections



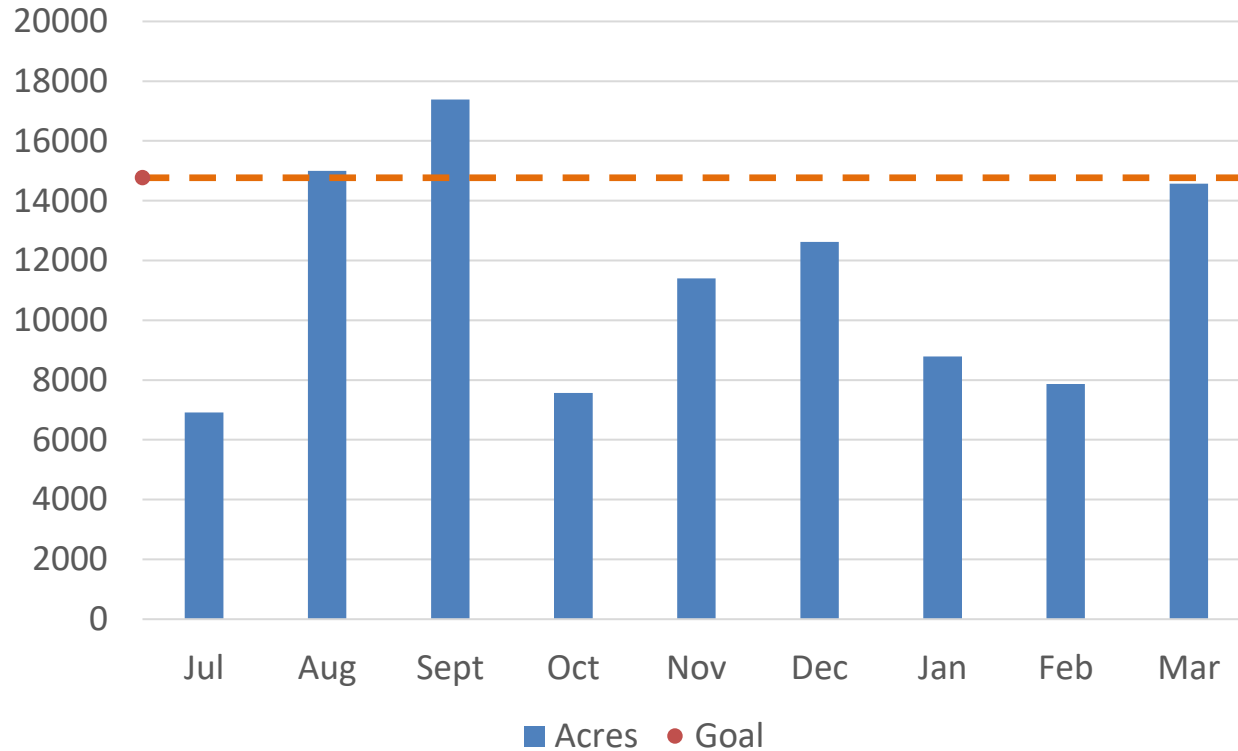
CCD II = County Conservation District Initial Inspection  
 CCD P2 – County Conservation District Phase 2 Inspection  
 DEP II = DEP Initial Inspection  
 DEP FU = DEP Follow Up Inspection  
 DEP P2 = DEP Phase 2 Inspection

Acres Verified of Manure Management Plans (MMPs) and Agriculture Erosion and Sediment Control (Ag E&S) Plans YTD

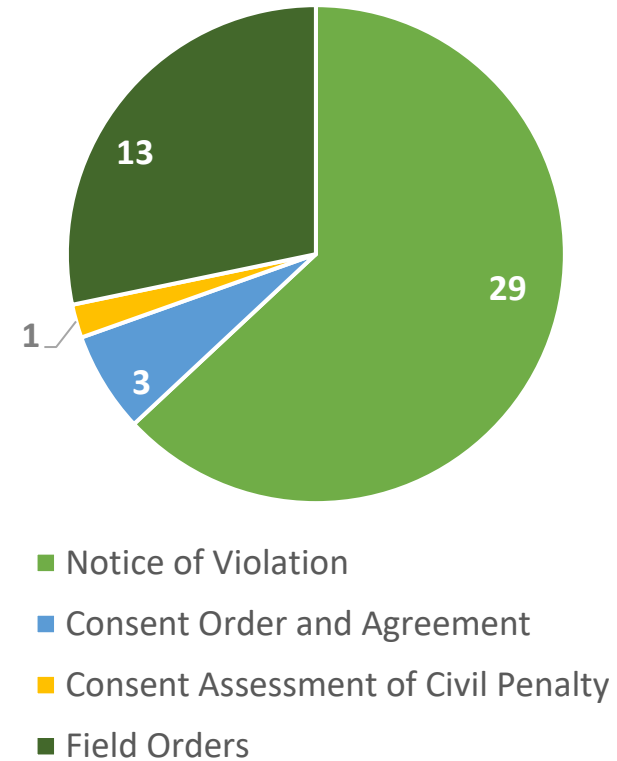


# CBAIP – by the numbers

### CBAIP Inspected Acres YTD

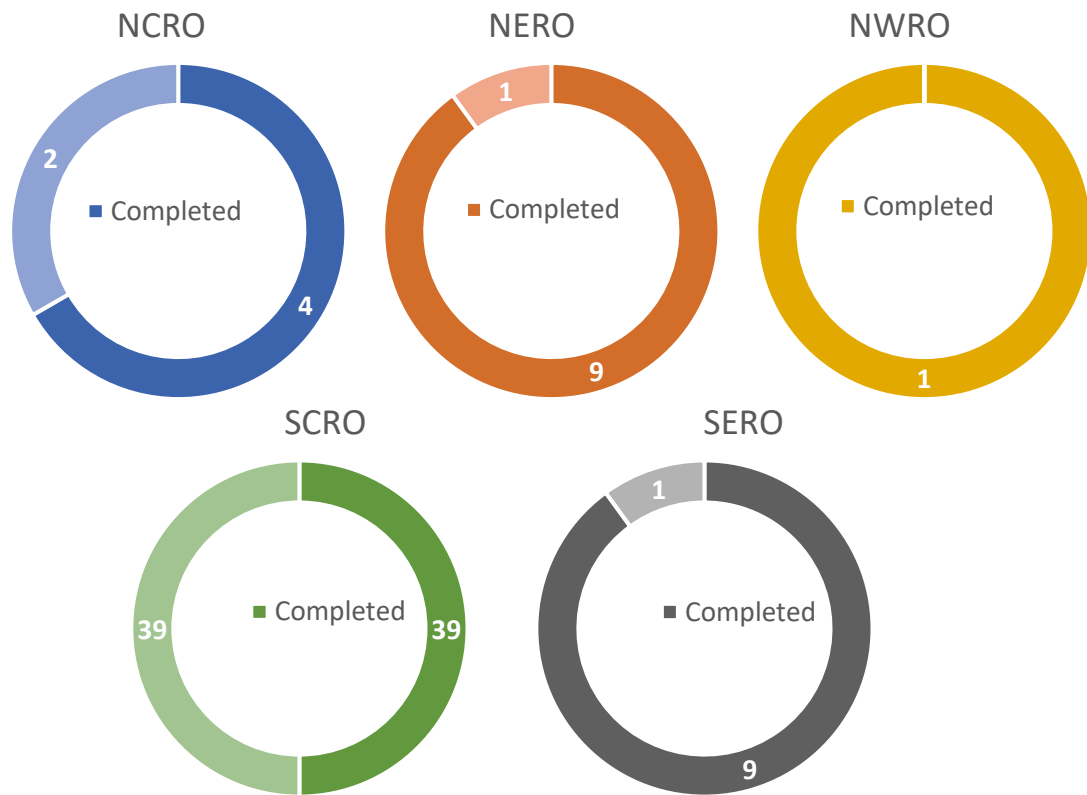


### Enforcement Actions Related to CBAIP Inspections YTD

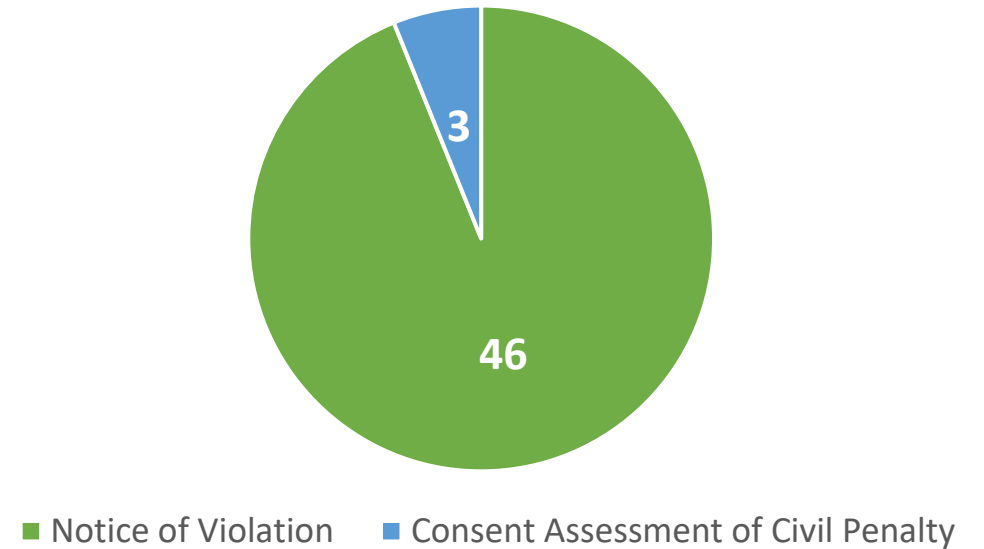


# CAFO – by the numbers

## NPDES CAFO CEI Inspections Completed by Region YTD



## Enforcement Actions taken on CAFO Operations YTD



# Staff Complement for Agriculture Inspections, Compliance, and Enforcement

Number of Full Time Equivalents (FTEs) per Program				
	Nutrient Management Program + Ag Conservation Technicians (ACTs)	Chesapeake Bay Ag Inspections	NPDES CAFO (DEP Only)	Manure Hauler / Broker (SCC Only)
Conservation District	63	29.6	N/A	N/A
SCC	9	N/A	N/A	1
DEP (Inspectors)	N/A	5.6	2.4	N/A
DEP (Compliance Specialists)	N/A	0.5	1	N/A
DEP (Water Program Specialists)	0.25	0.75	0.25	N/A
<b>Total</b>	<b>72.25</b>	<b>36.45</b>	<b>3.65</b>	<b>1</b>



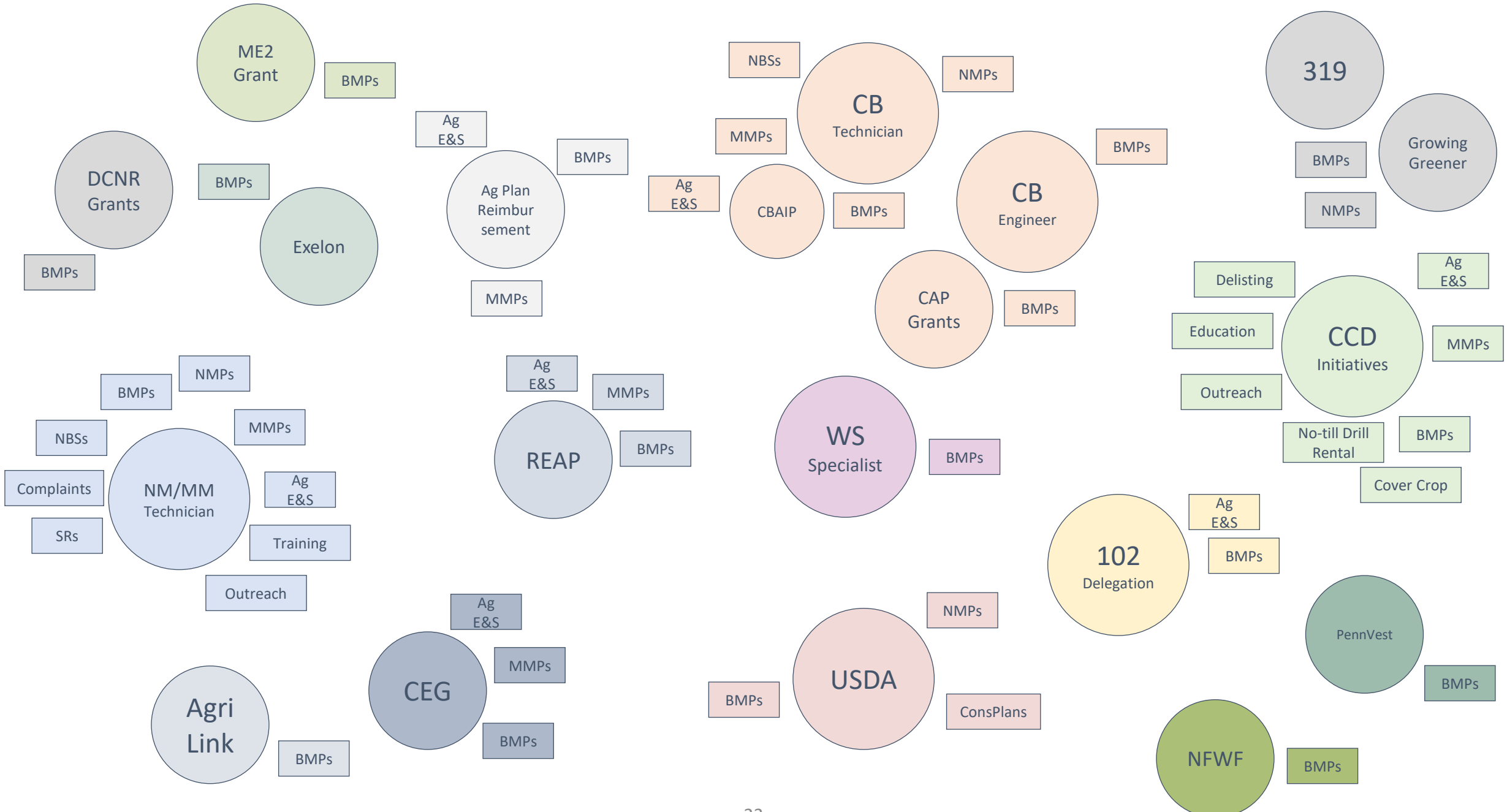
# Data Management

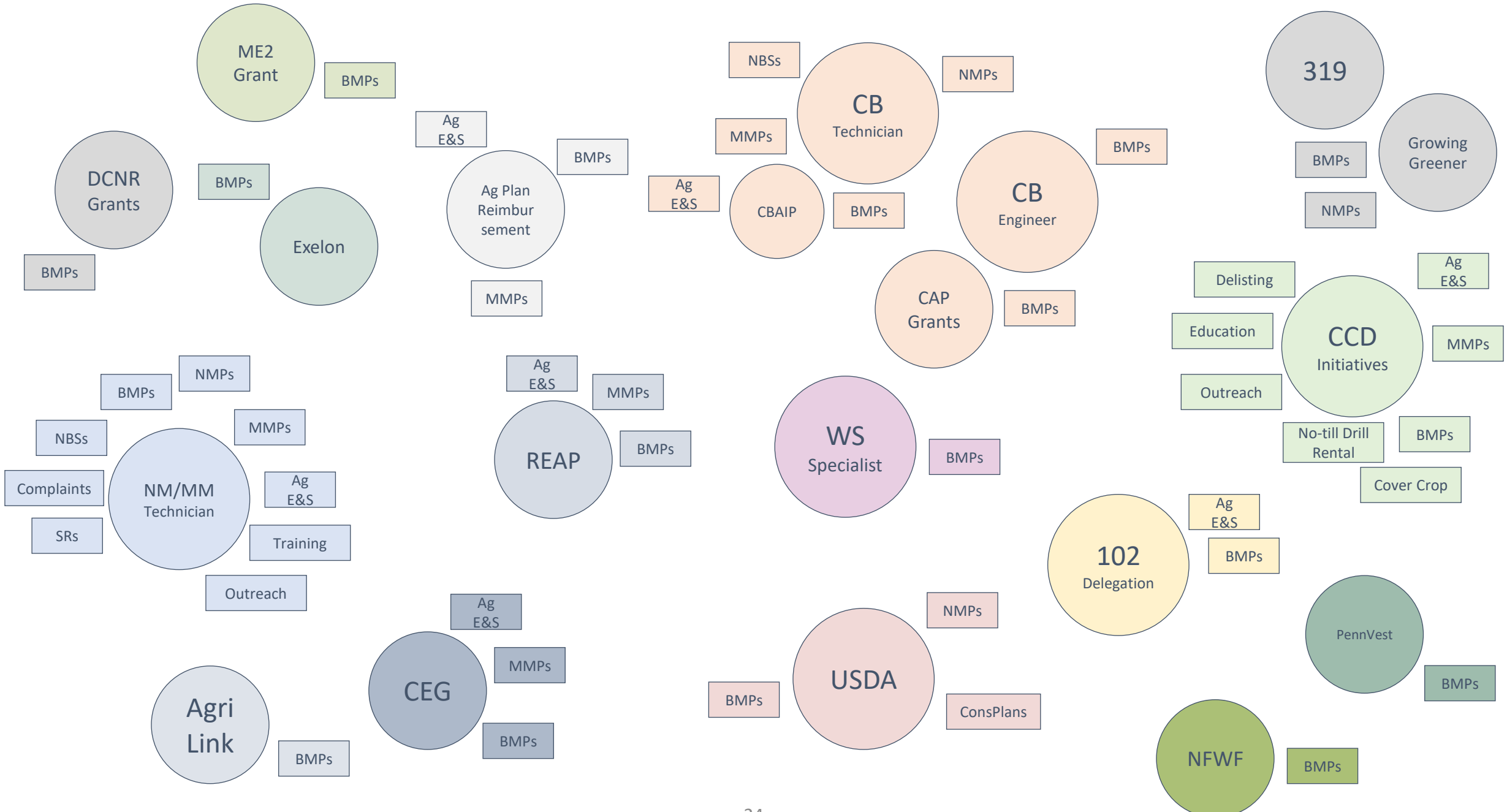


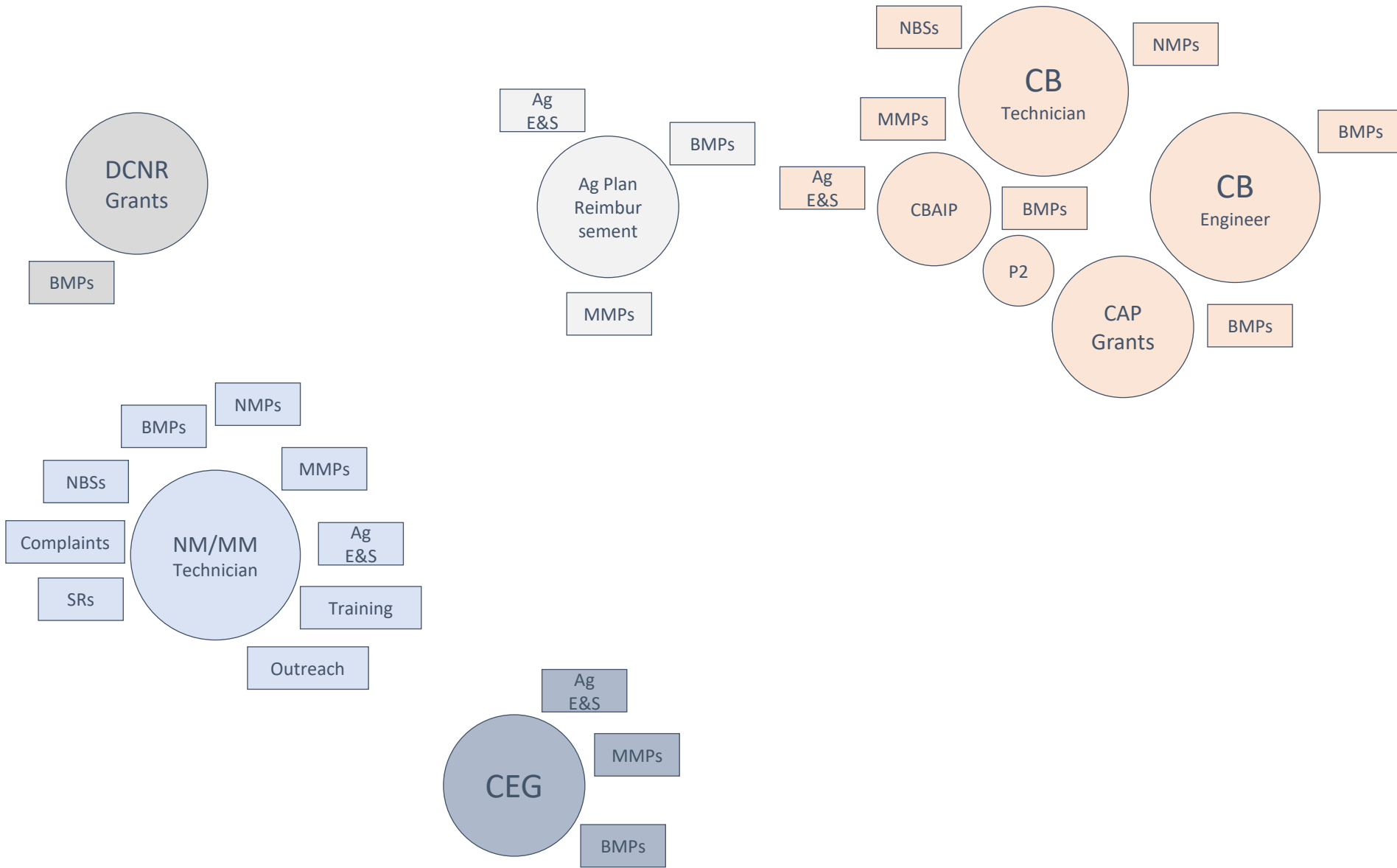
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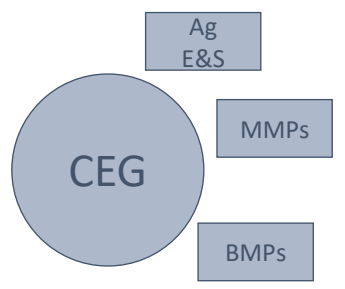
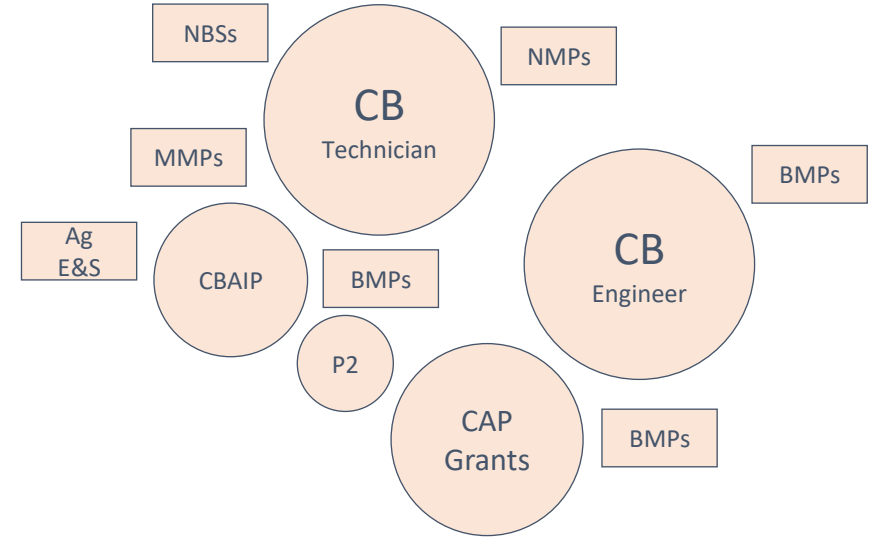
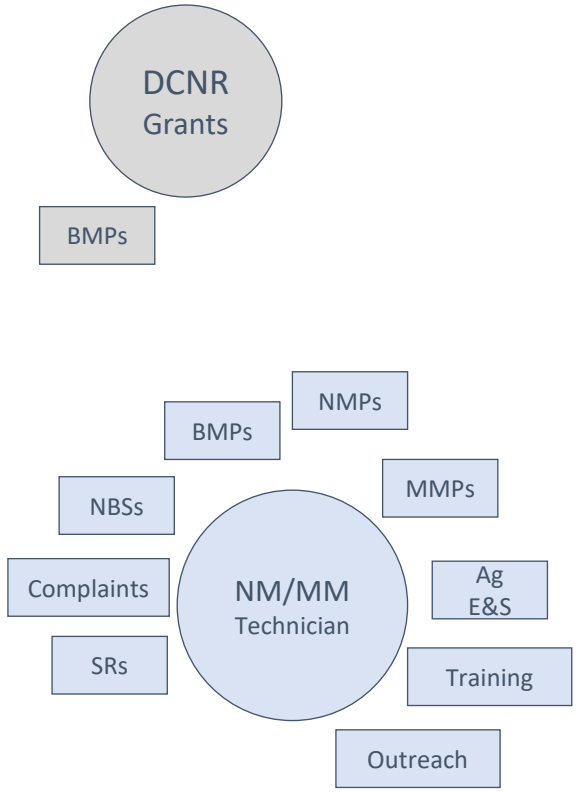
- PracticeKeeper was first developed by multiple counties across the state, including Lancaster and Juniata, beginning in 2010
- PracticeKeeper was then “adopted” in 2017 as Pennsylvania’s centralized geodatabase for reporting conservation district agriculture activities, beginning with the Chesapeake Bay Agriculture Inspection Program
- Since then, multiple enhancements to the system have been made, including but not limited to a Partner BMP Submission Module



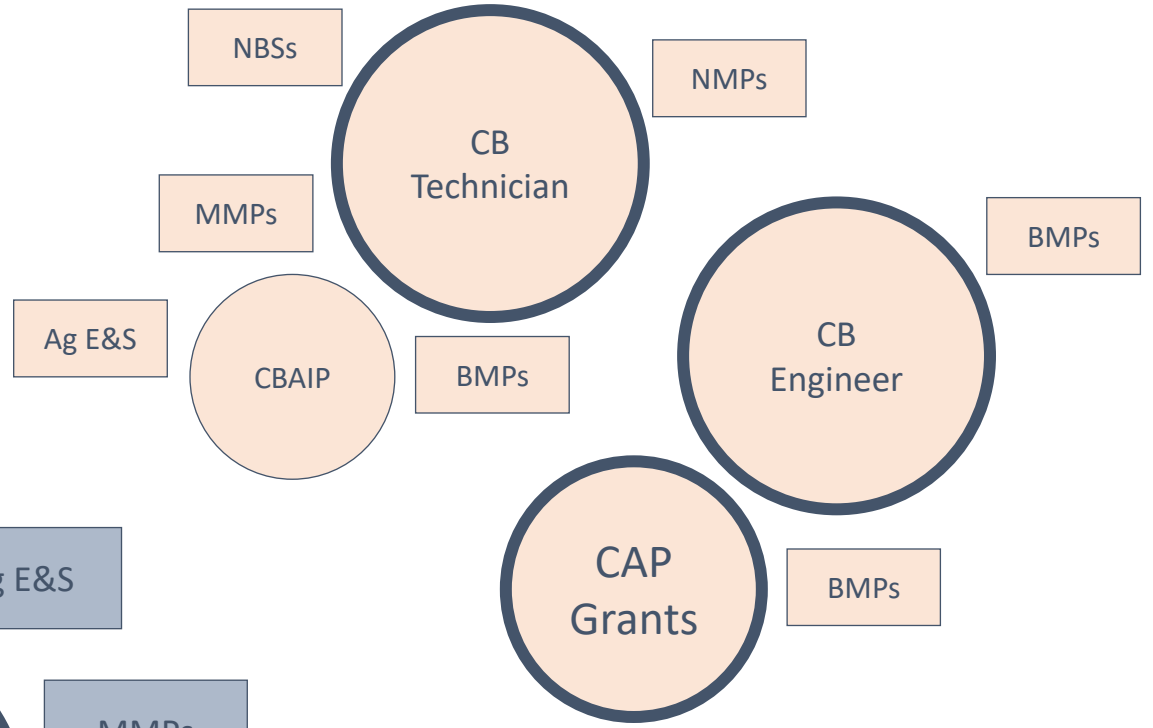
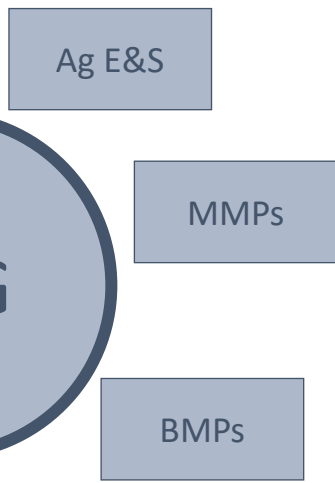
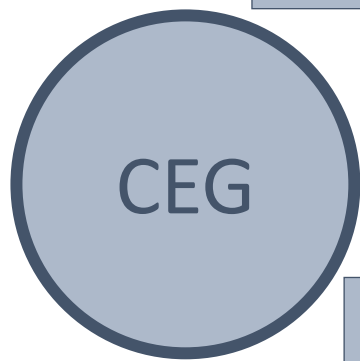
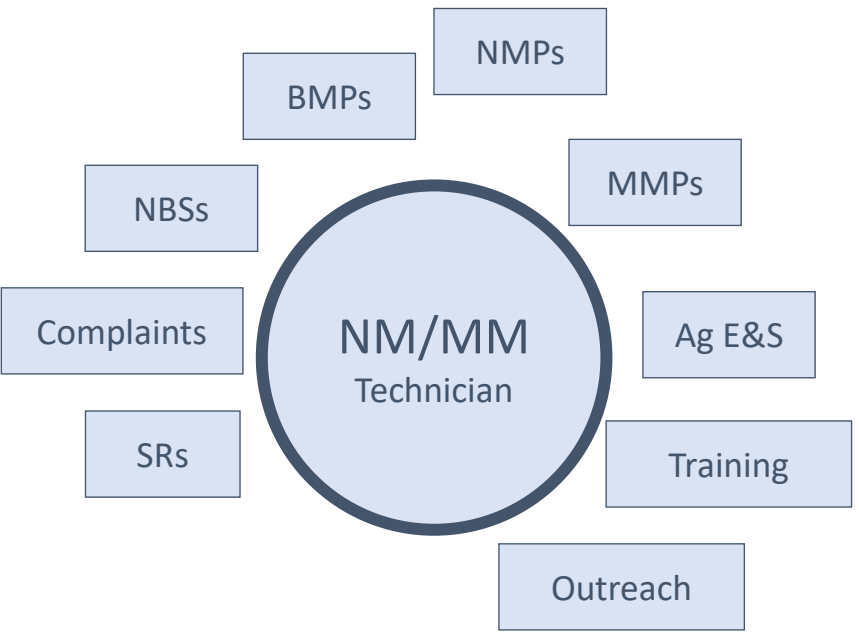
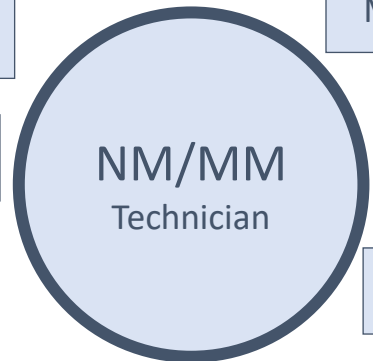


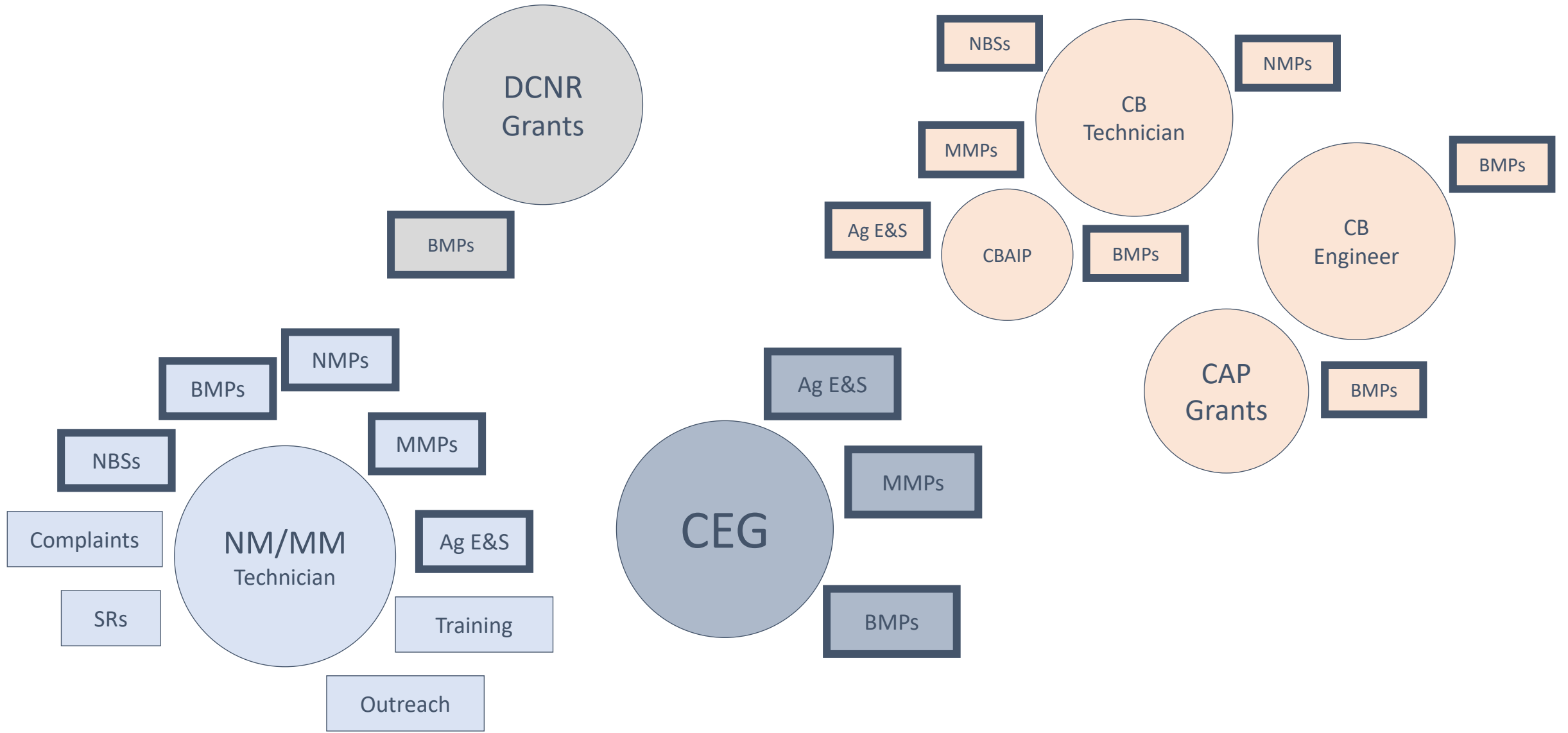


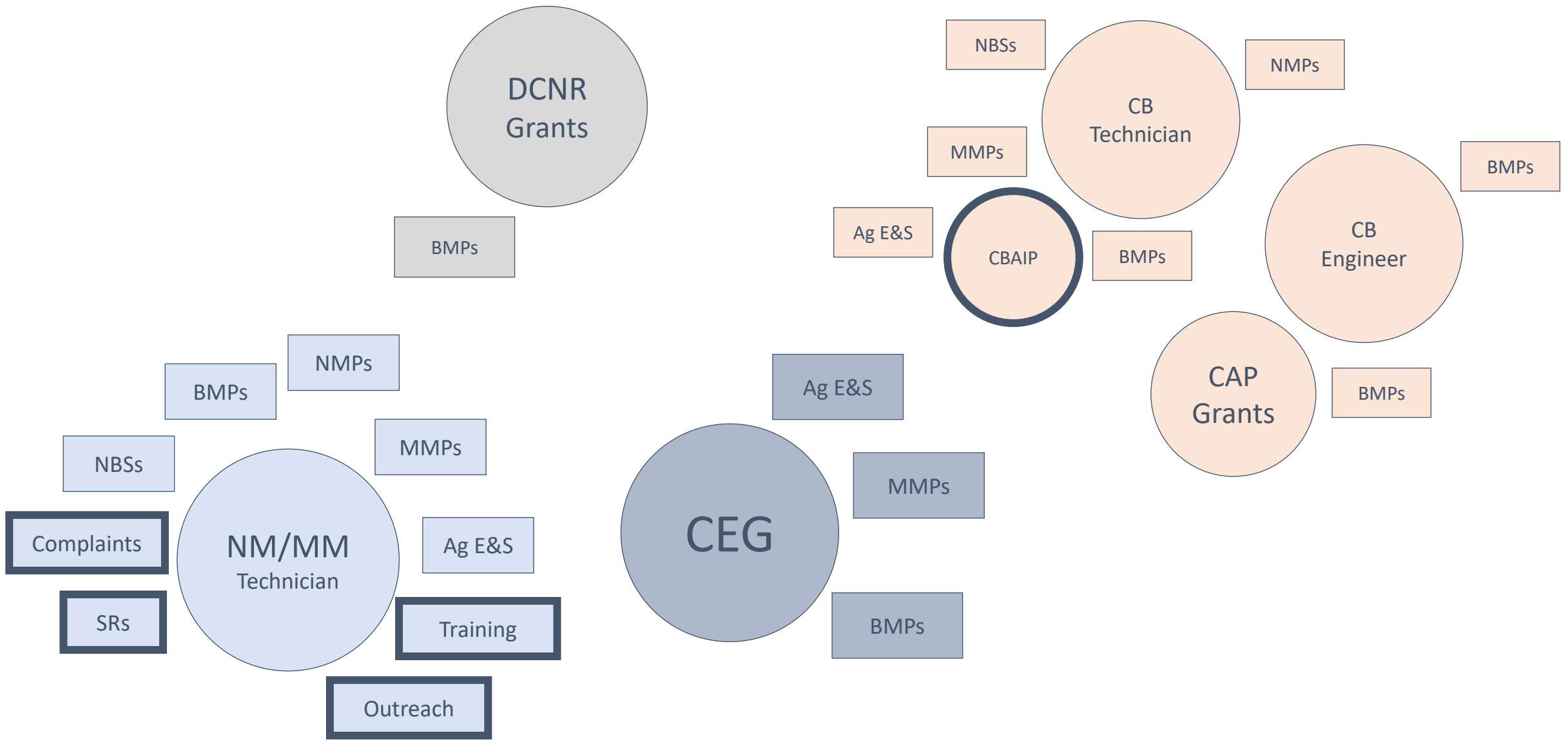


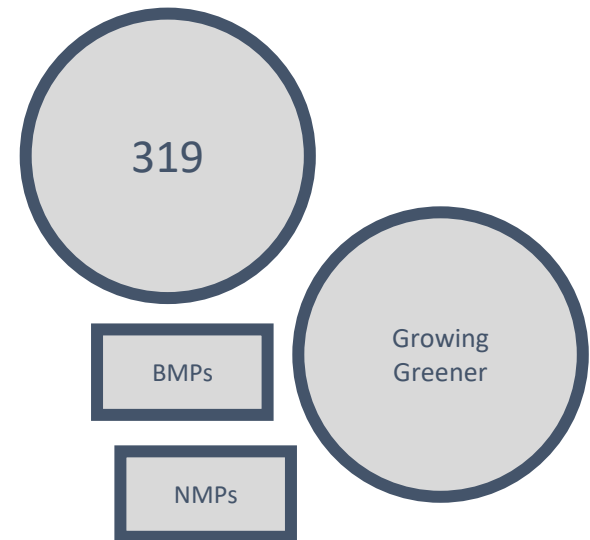
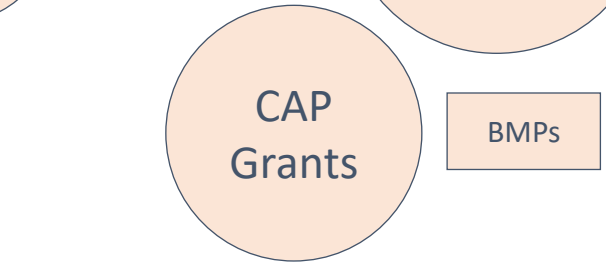
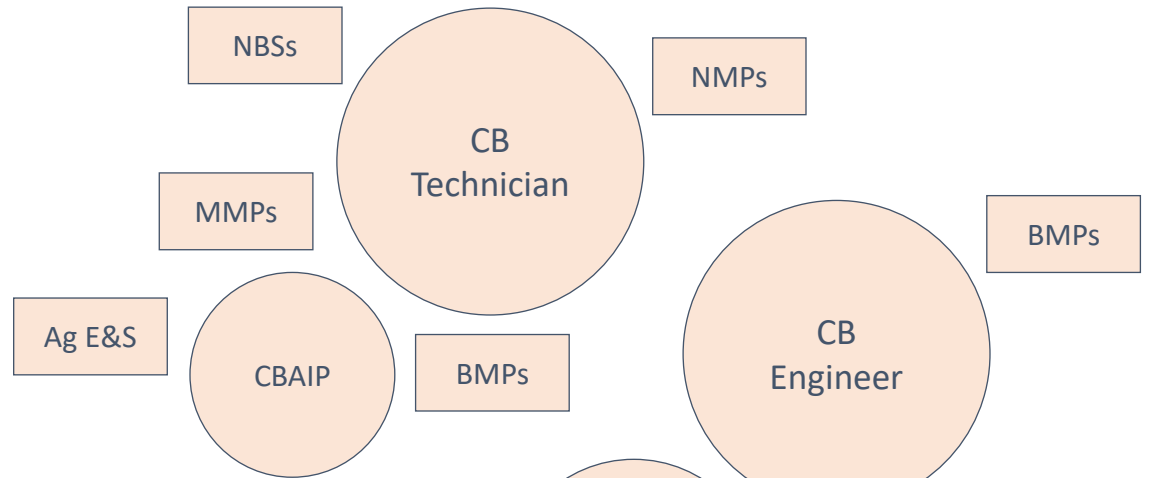
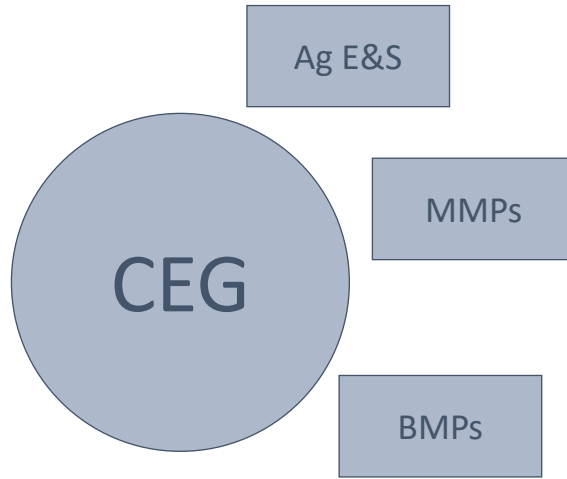
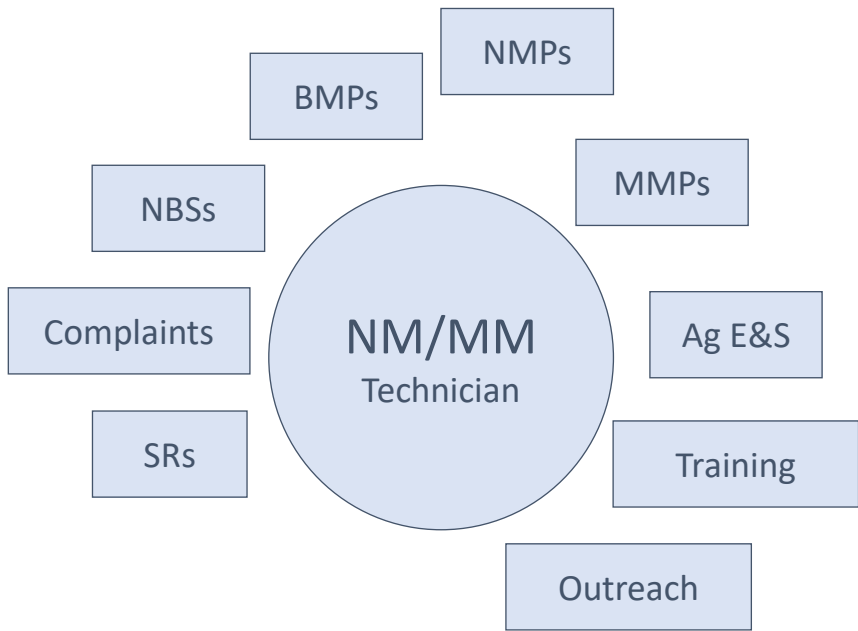
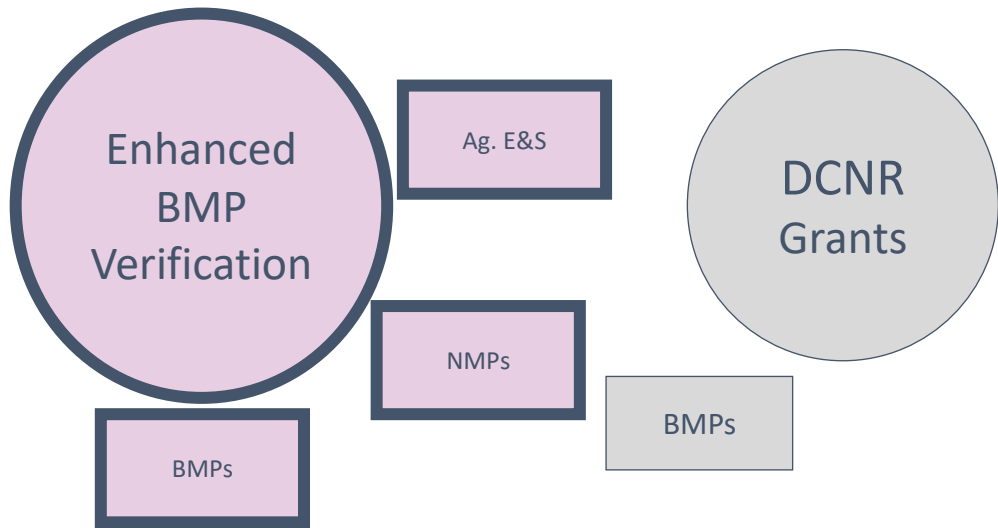












# Why Must We Re-Verify Existing BMPs?

- Credit Duration
  - The number of years after installation or re-verification that the model recognizes the nutrient and sediment reductions associated with the BMP
- Lifespan
  - The BMP is in place, doing its job, protecting water quality

**Credit Duration**  
**≠**  
**Lifespan**

# Why Must We Re-Verify Existing BMPs?

**We must re-verify existing BMPs:**

- 1. The model reflects the water quality benefits of those existing BMPs.**
- 2. To avoid installing new BMPs to compensate for a *perceived* loss.**

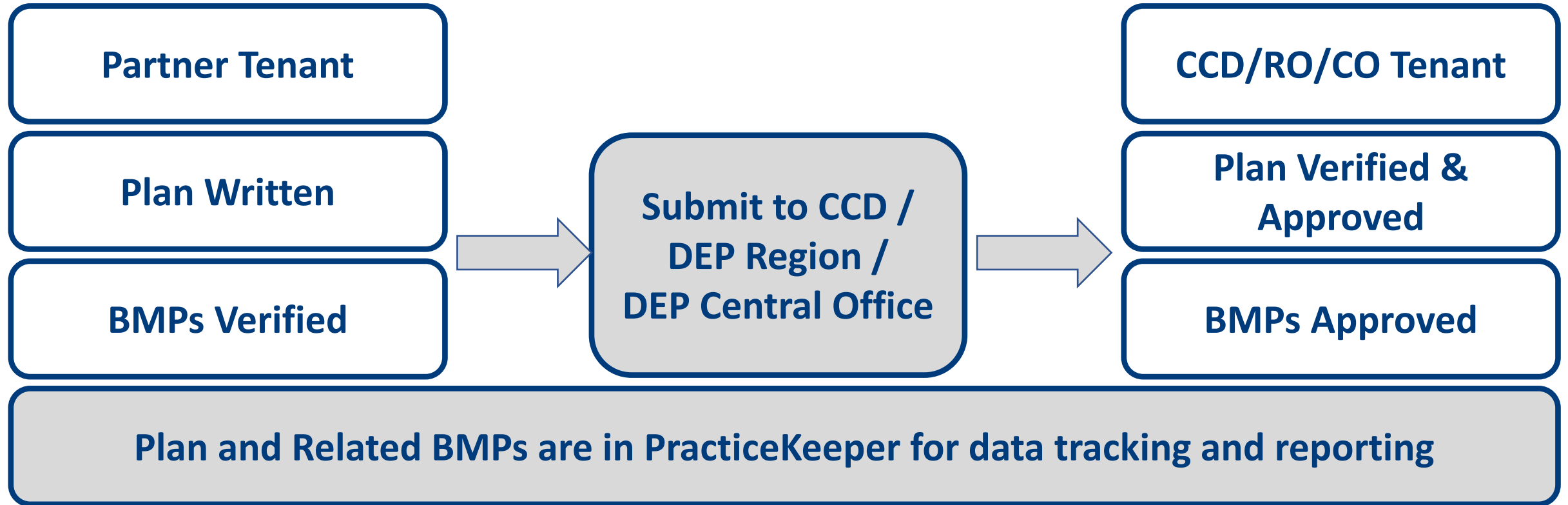
**Data Collection of Existing Ag. BMPs  
21 of 34 CAPs**



# Credit Duration Expiration

- **What programs do we have in place for long-term inspection and verification?**
  - Chesapeake Bay Ag Inspection Program
  - Nutrient Management Program
  - NPDES CAFO Program
  - RC&D Transect Survey
  - NRCS Pilot Remote Sensing
    - 2016 – Potomac Watershed
  - Penn State Producer Survey
    - 2016 – Chesapeake Bay Watershed
    - 2020 – Pilot Counties
    - 2022 – Tier 2 and Tier 3 Counties
    - Potential - 2023 – Tier 4 Counties
  - NPDES MS4 Program

# Partner Submission Module





# Funding Needed

# Funding Needs

- Documented Demand for Funding - **\$138.7 million requested**
  - Statewide: 2021 Growing Greener Plus – DEP received 175 applications totaling approximately **\$53 million** in demand, nearly **3 times** the available amount
  - Chesapeake Bay: 2022 CAP Implementation Grants – DEP received 34 applications totaling approximately **\$85.7 million** in demand, more than **5 times** the available amount
  - These two programs are additive, since we are using Growing Greener Plus to complement CAP Implementation Grants.
- Funding for Project Management, Oversight, and Grant Execution
  - DEP Regional Watershed Manager complement currently is 4.5 FTE
    - One Regional Watershed Manager can effectively manage and provide oversight for 65 active projects
    - Growing Greener grants are 3-year grants, with the potential to extend up to an additional 2 years
  - DEP Grants Center executes the contracts and processes reimbursement requests
    - Currently, the DEP Grants Center handles over 40 grant programs, including Growing Greener

# Funding Needs

- Dedicated Funding for State and Local Agriculture Programs
  - Continued funding for conservation districts and state agency personnel is required to ensure consistent and adequate program implementation and oversight
  - Increased level of funding is needed to ensure qualified candidates are interested in positions and reduce high rates of turnover
- Potential Sources of Increased Funding
  - Growing Greener III
  - Clean Streams Fund
  - Clean Water State Revolving Fund / Bipartisan Infrastructure Law (BIL)





# Questions





**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION



Chesapeake Bay Program Office

**Jill Whitcomb, Director**  
**DEP Chesapeake Bay Office**

***jiwhitcomb@pa.gov***

***(717) 783-5205***