



pennsylvania

DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Chesapeake Bay Program Office

PA Chesapeake Bay Program Update: Data Management, BMP Submission and County Achievements and Timelines

Agriculture Advisory Board

July 18, 2022

Tom Wolf, Governor

Ramez Ziadeh, P.E., Acting Secretary

Agenda

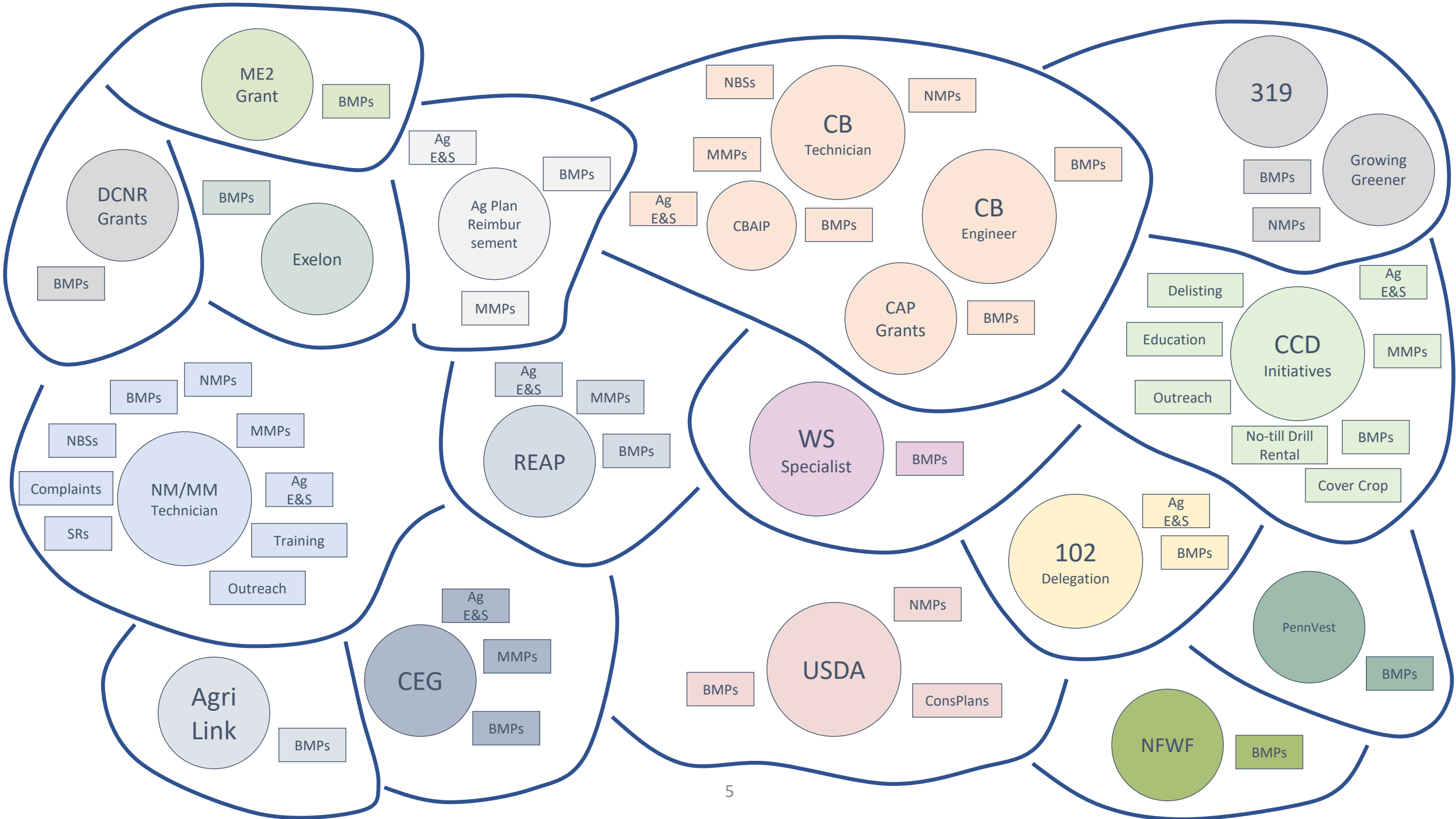
- Data Management
- Pennsylvania BMP Submission
- County Achievements, Goals, and Timelines

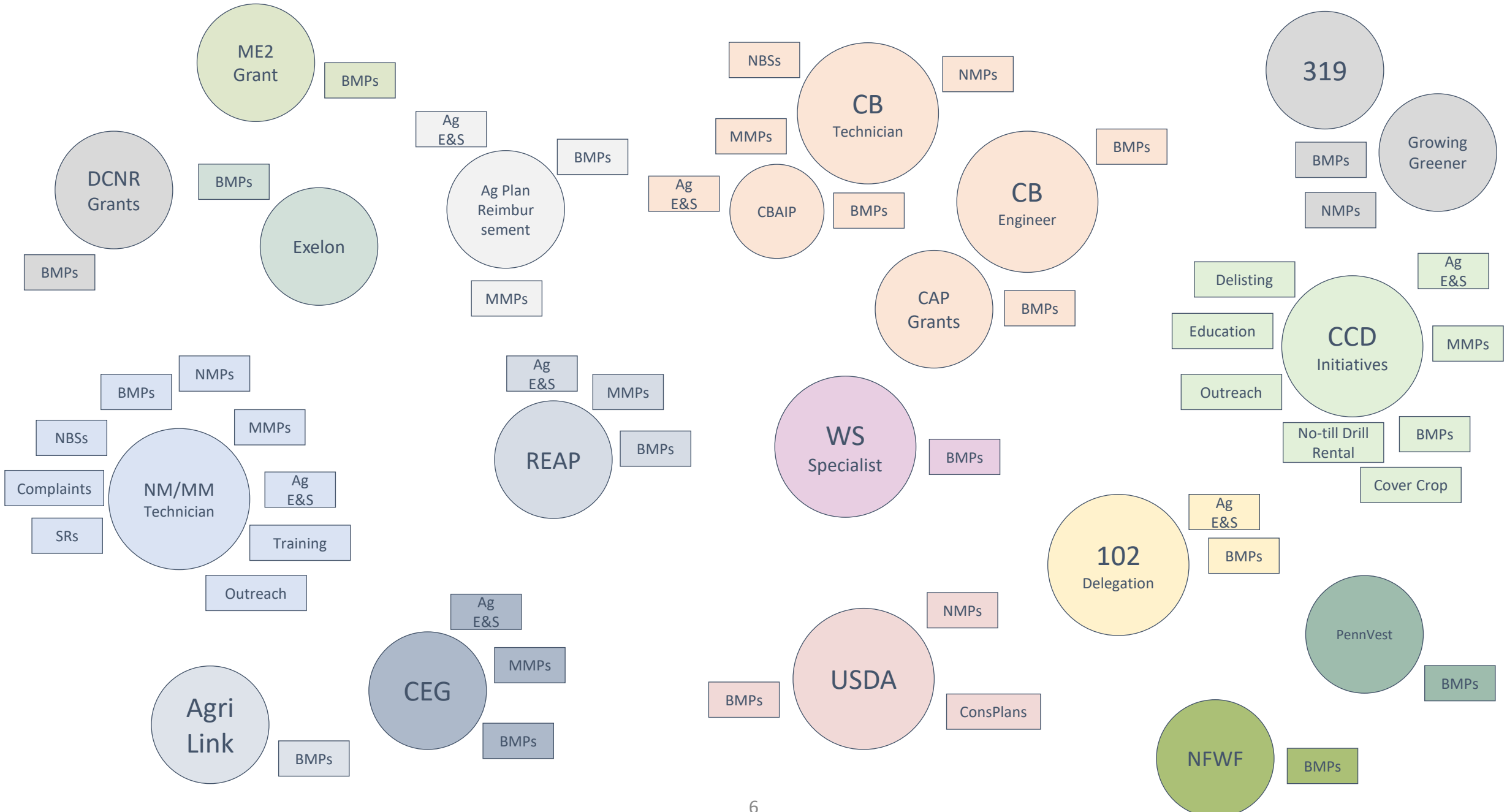


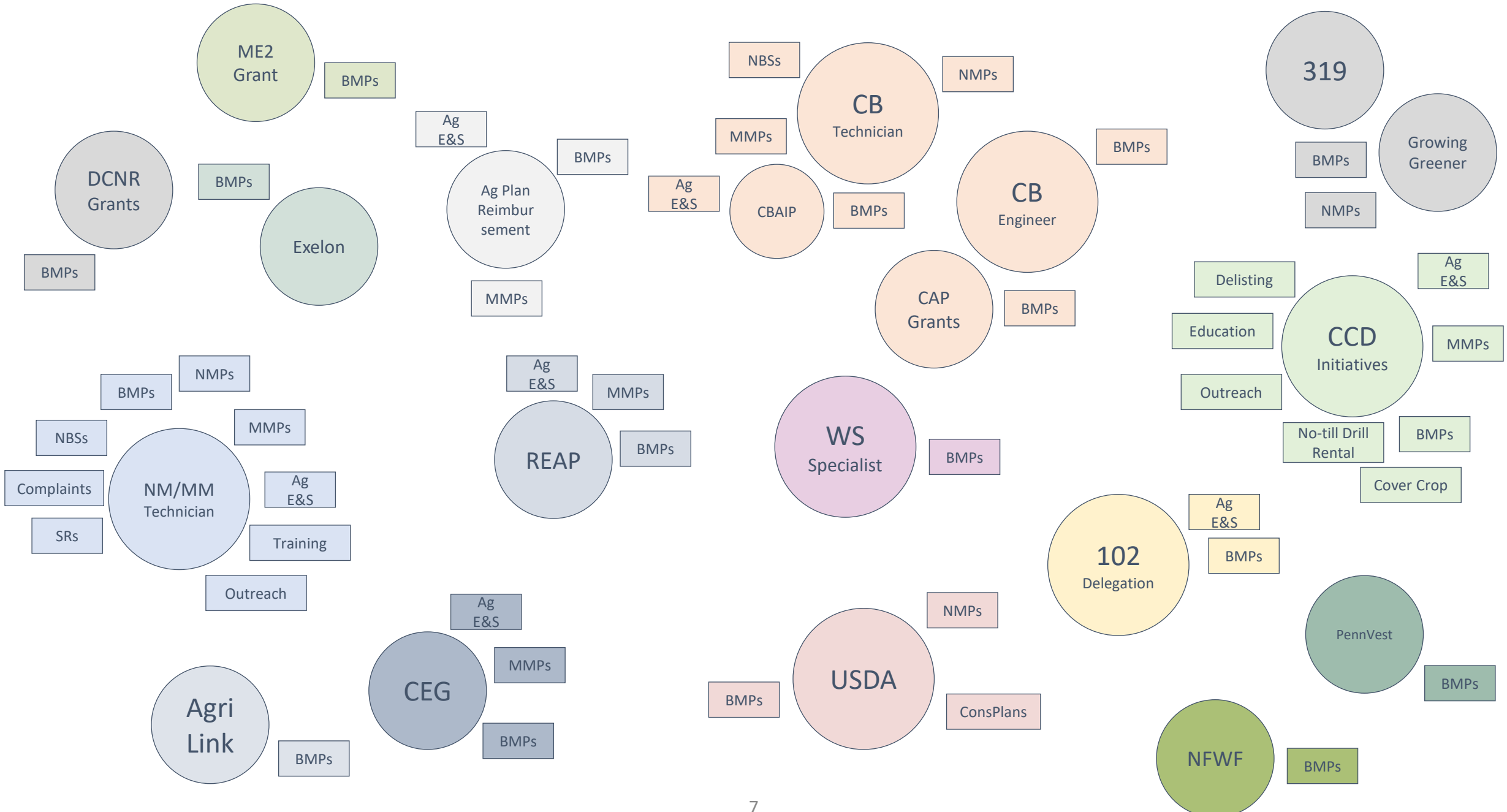
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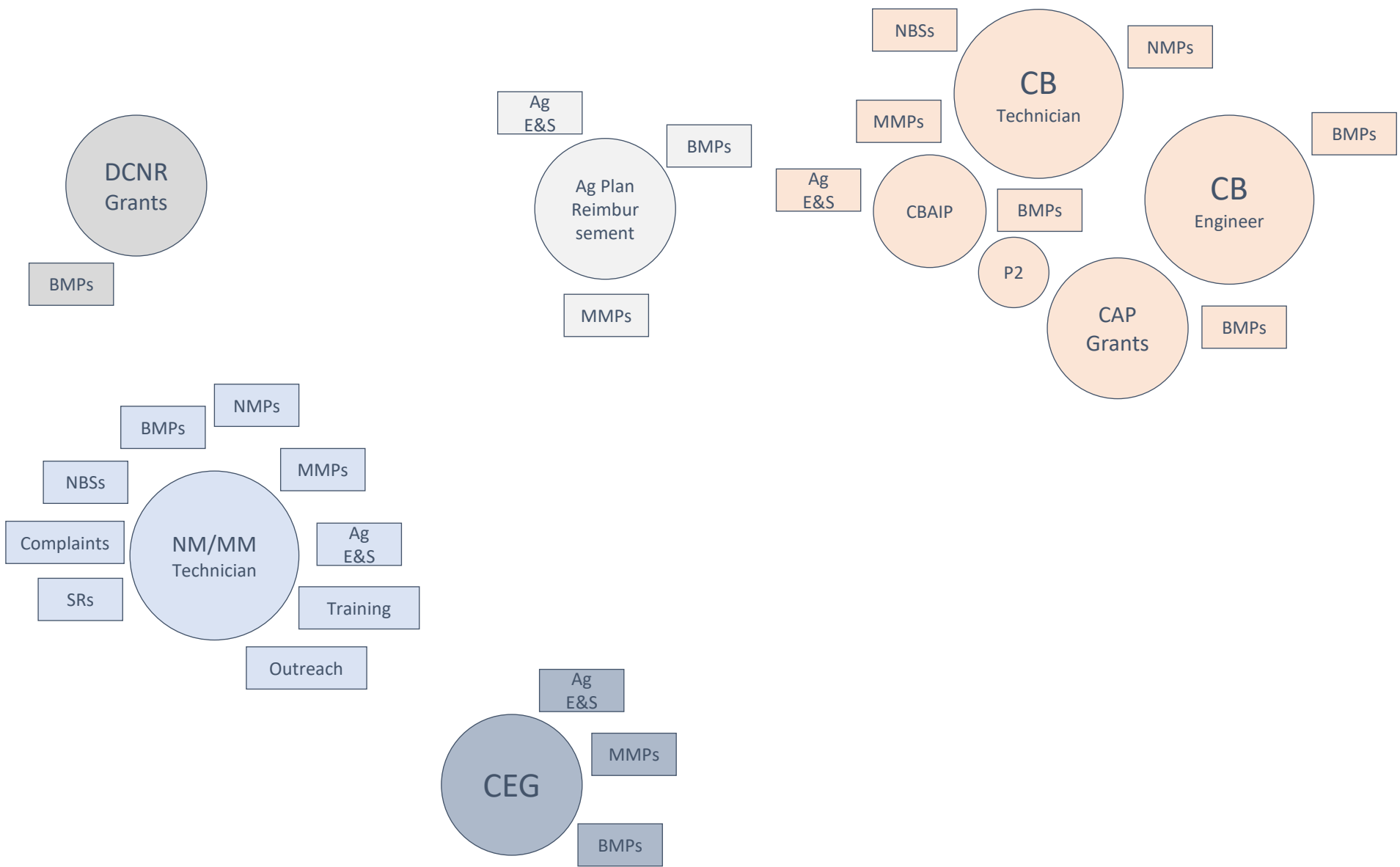
Data Management

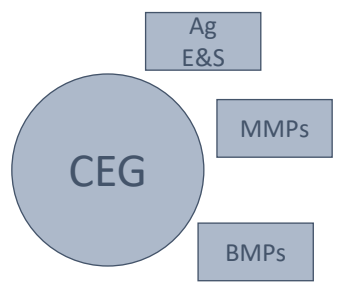
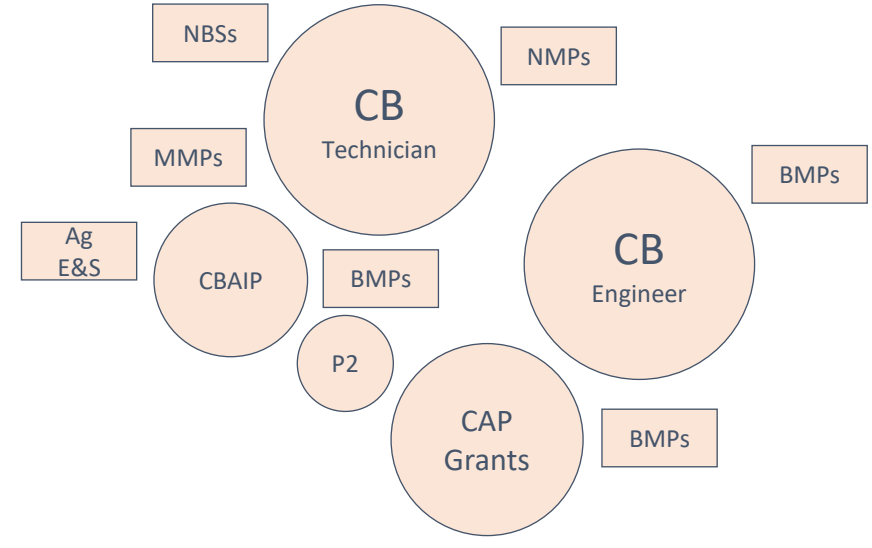
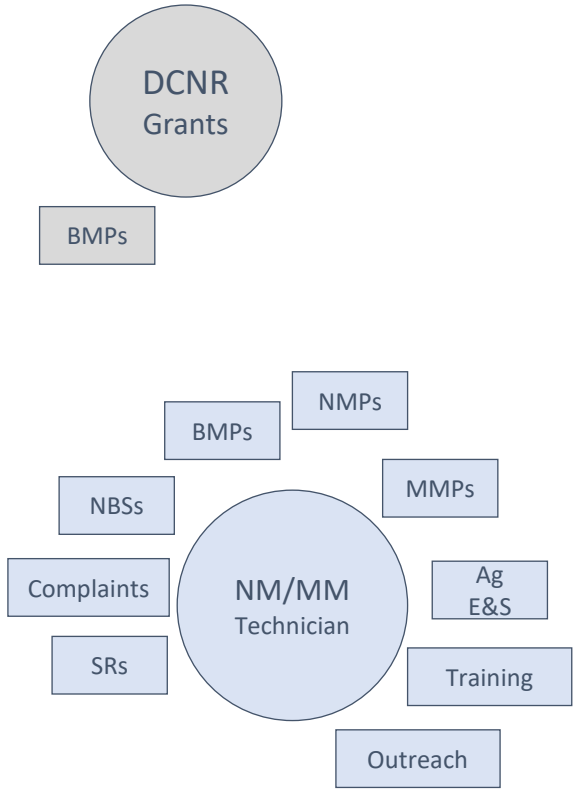
- PracticeKeeper was first developed by multiple counties across the state, including Lancaster and Juniata, beginning in 2010
- PracticeKeeper was then “adopted” in 2017 as Pennsylvania’s centralized geodatabase for reporting conservation district agriculture activities, beginning with the Chesapeake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

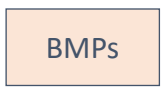
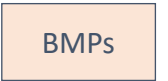
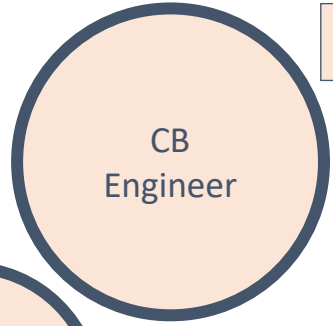
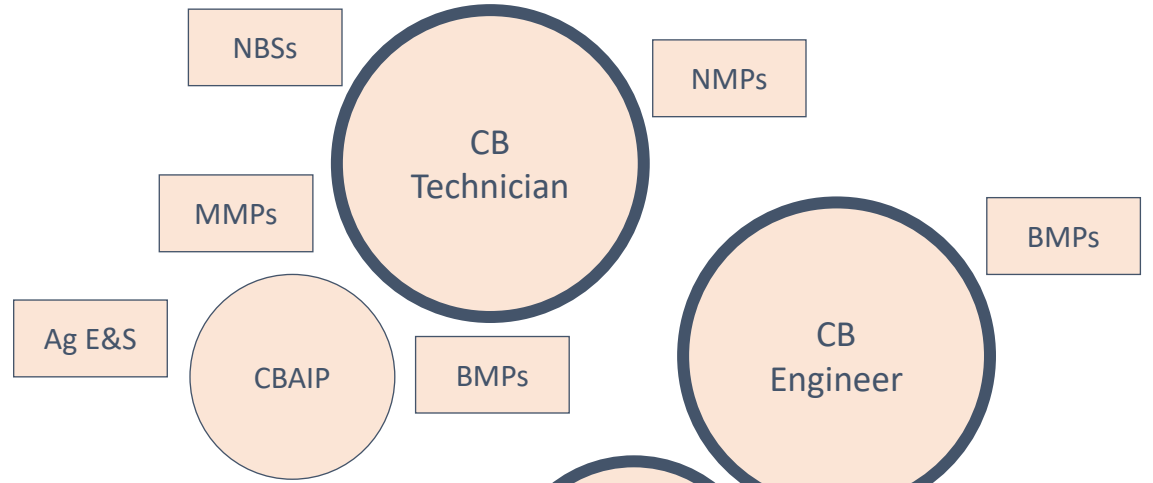
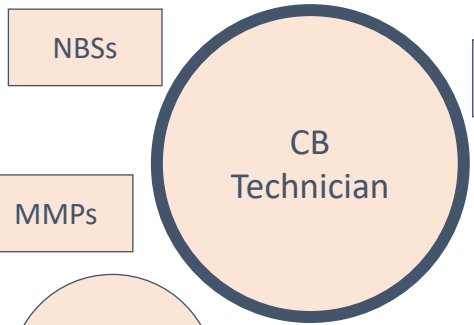
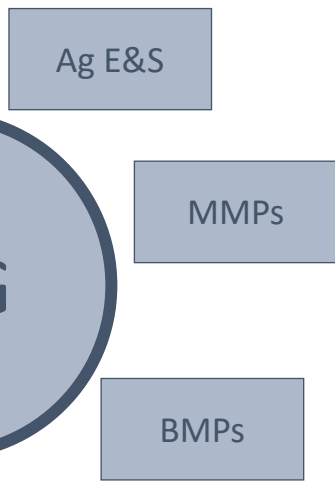
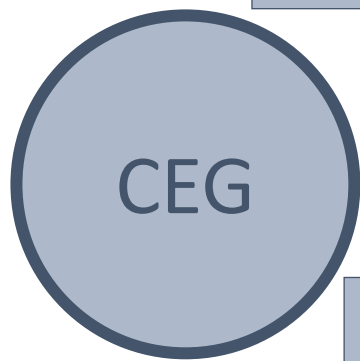
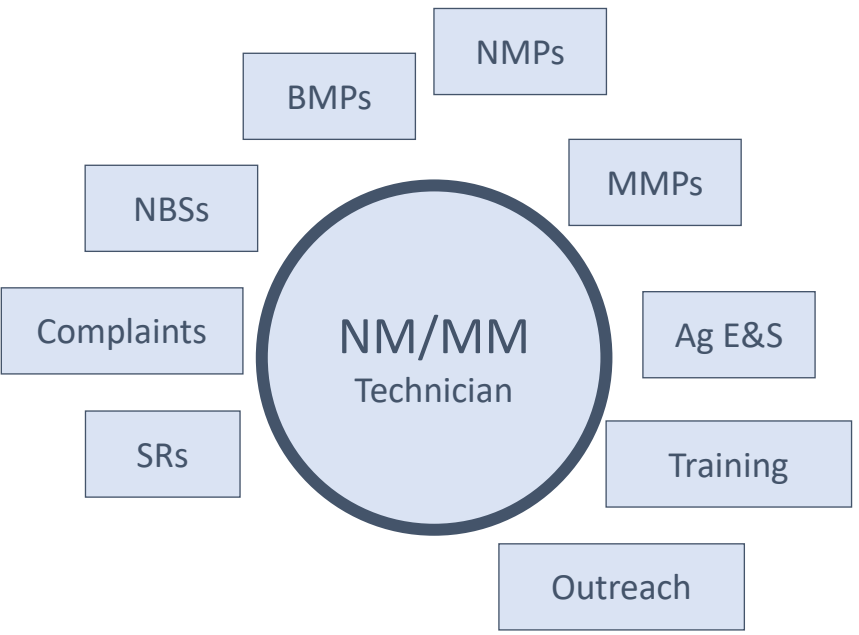
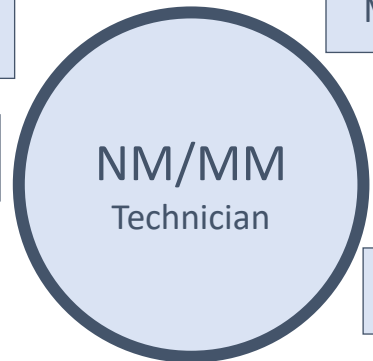


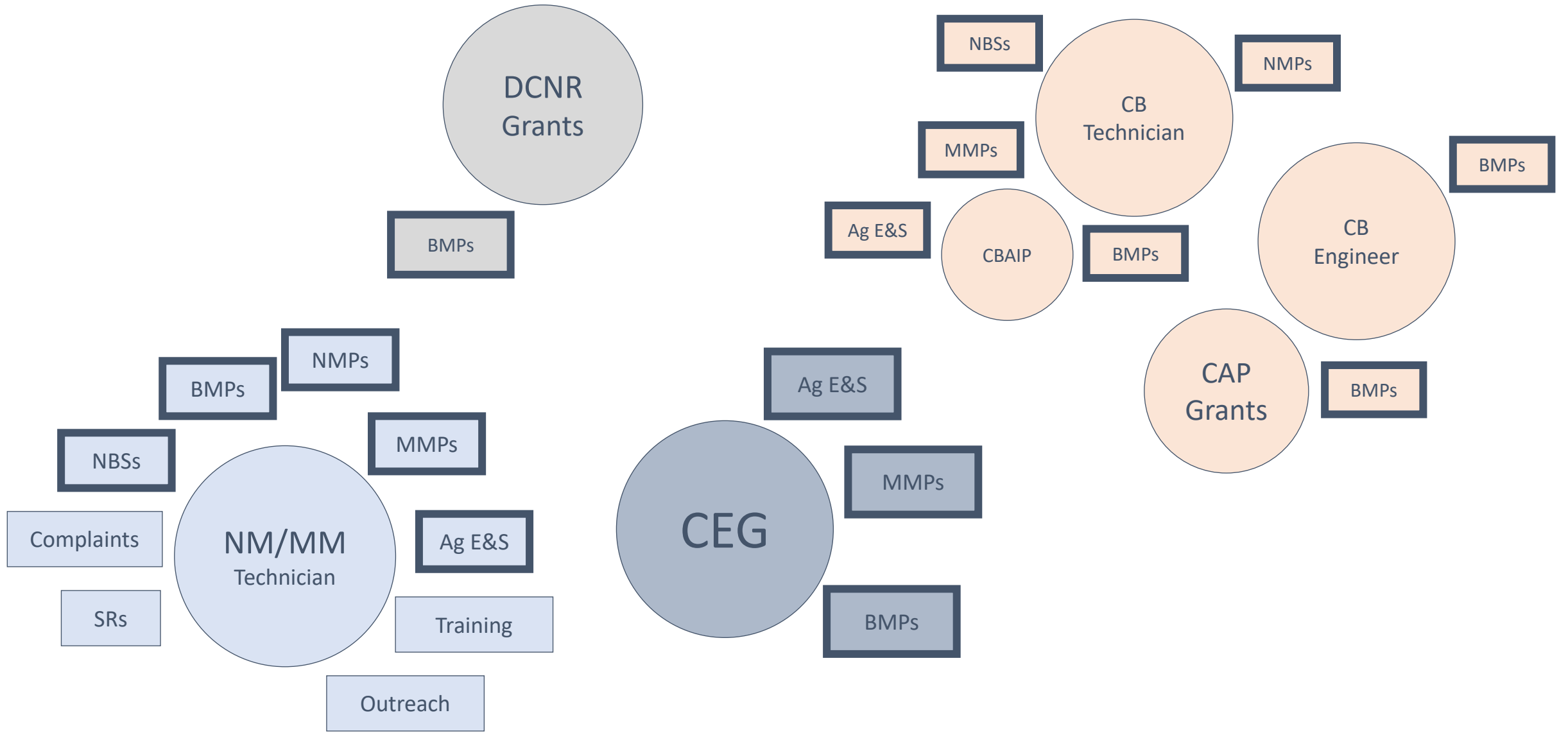


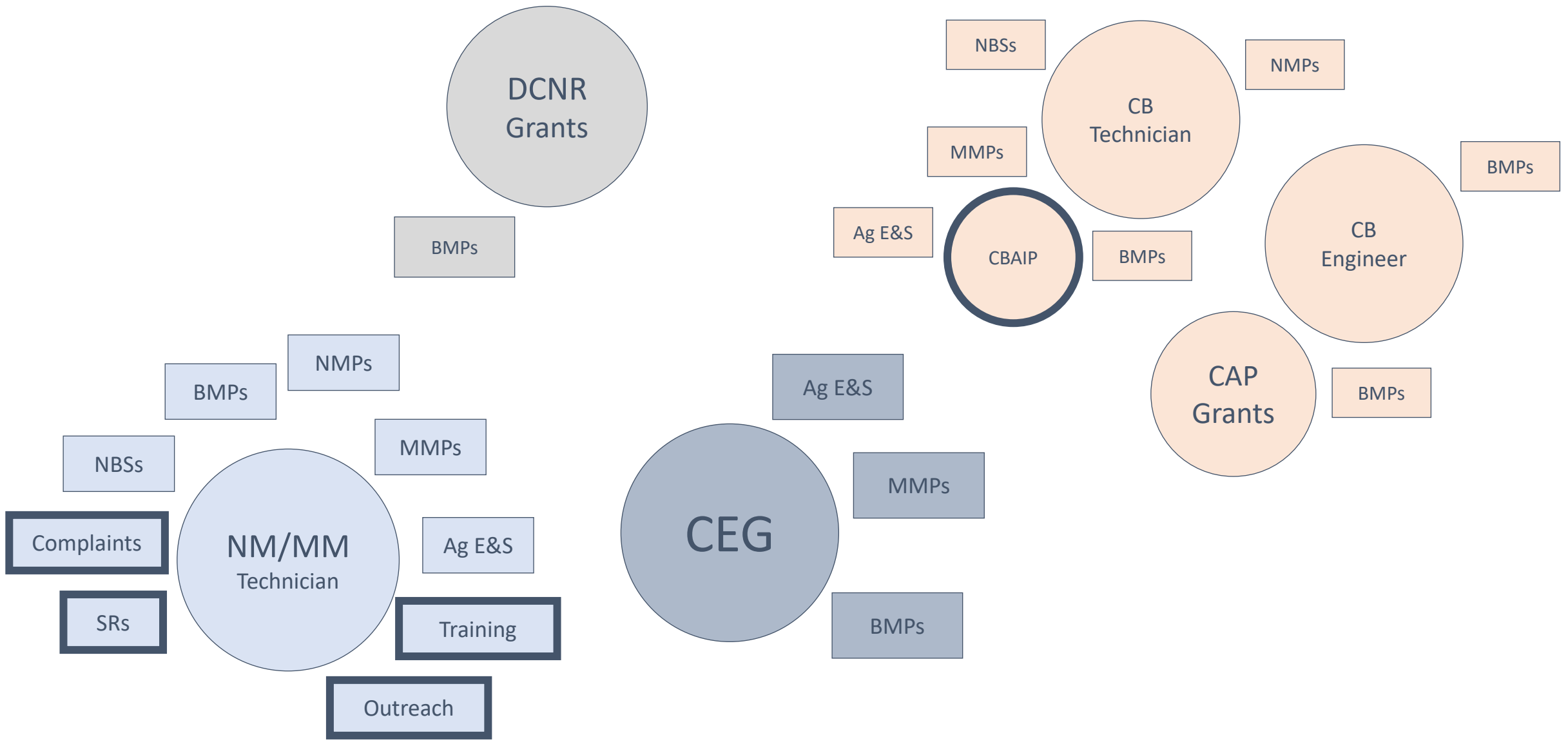


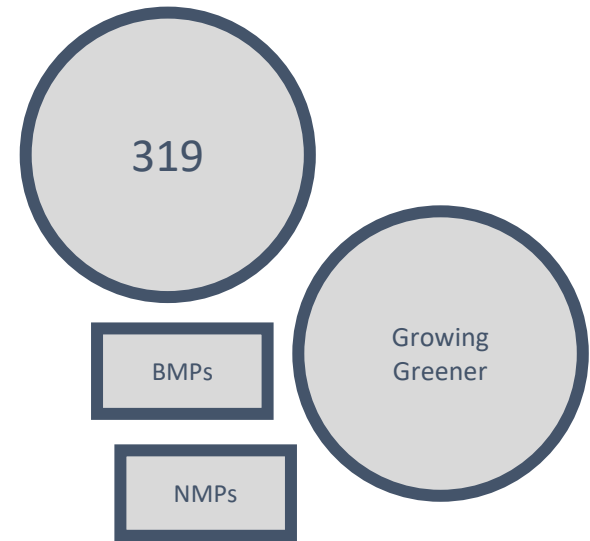
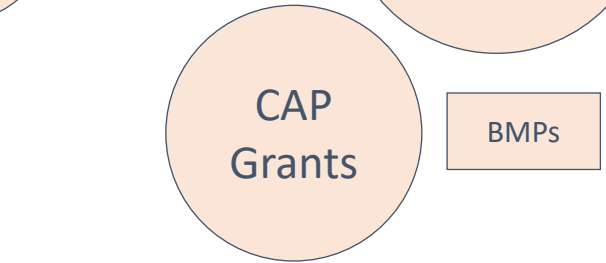
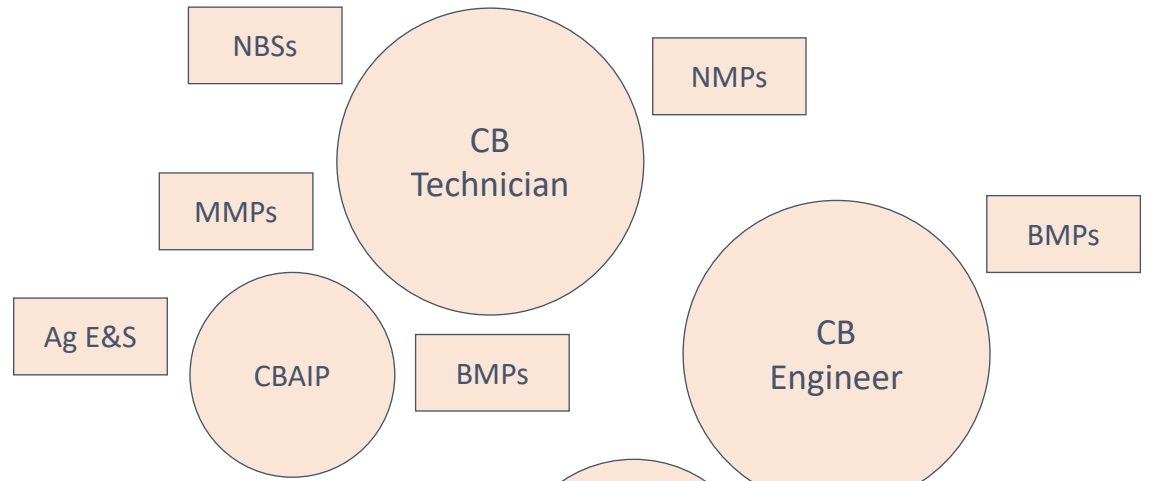
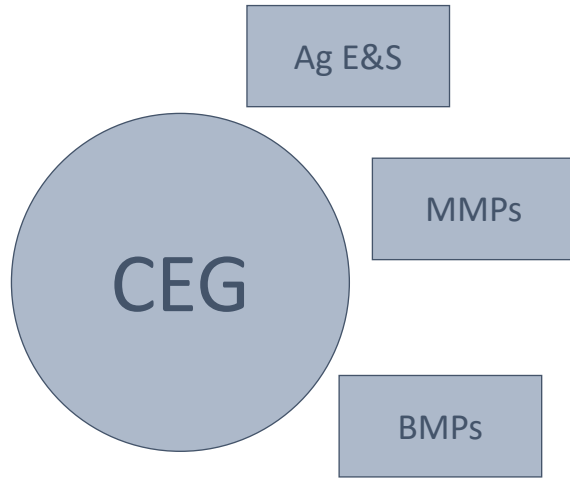
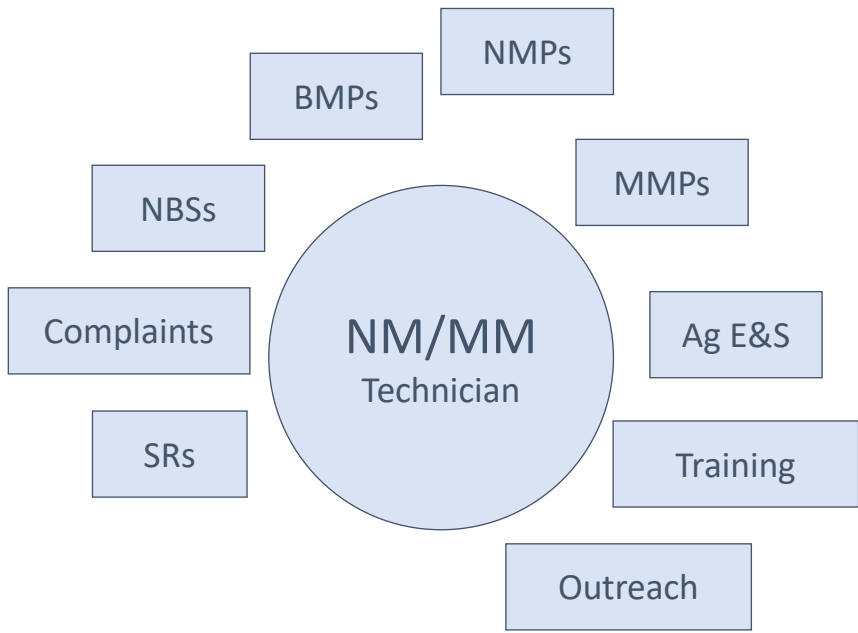
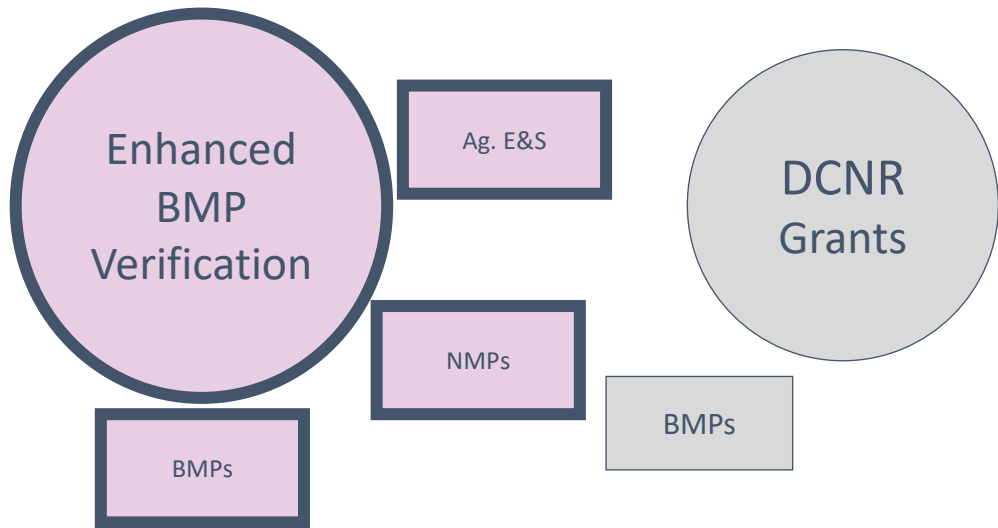












Why Must We Re-Verify Existing BMPs?

- 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

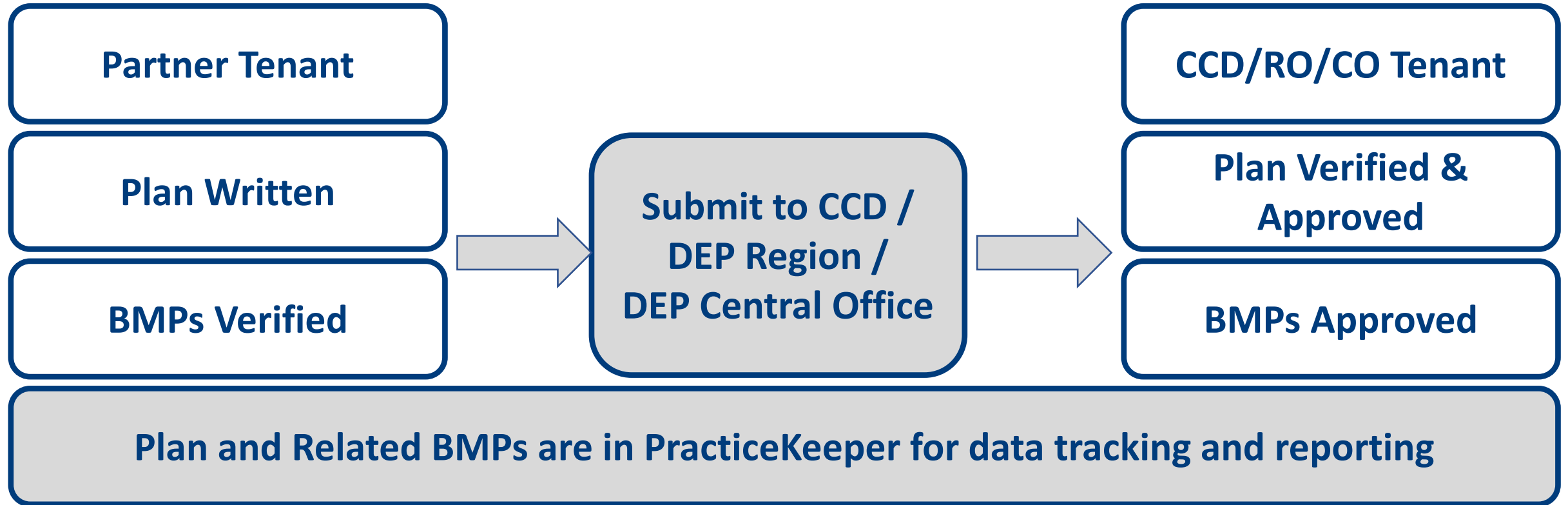
Overview of Funding Provided

- \$30,000 per county was made available in December 2021 in addition to their CAP Implementation Grant allocation
- The funds could be used toward:
 - Development of a county-scale or multi-county verification program (e.g. remote sensed inventory)
 - Wages for student interns focused on researching implemented BMPs from the state cost share programs, inventorying BMPs, and/or data entry
 - Salaries and benefits for existing staff to conduct the above, provided those staff are not fully funded through other state or federal sources
 - Contracting with consultants or non-profits to further assist with on-site verification and inventorying of implemented BMPs

Remote Sensing

- Since January 2022, HRG, Inc., the Chesapeake Conservancy, and 10 counties are working together to expand on the 2016 NRCS Potomac Remote Sensing Survey
- The Scope of Work was developed and reviewed with DEP staff
- The project's scope of work includes identifying the BMPs through remotely sensed data and in-field verification of a statistically valid subset of that data
- Intended uses of the remotely sensed data are to report ag BMPs to PracticeKeeper and identify where structural practices are located for future verification
- HRG, Inc. and the Chesapeake Conservancy presented their [proposed project](#) to the Chesapeake Bay Ag Workgroup during the April Ag Workgroup meeting

PK Partner Plan and BMP Submission Tools





BMP Submission

What is the QAPP?

- The DEP Quality Assurance Project Plan (QAPP) is a description of reporting programs' data compilation and verification procedures along with BMP verification that corresponds to annual numeric BMP progress submissions to EPA via the National Environmental Information Exchange Network (NEIEN)
- In a narrative format, the QAPP describes how our federal, state and local partners are ensuring accurate BMP data collection, reporting and verification.

PA DEP QAPP Update

- DEP has collaborated with EPA CBPO to complete a comprehensive review of our QAPP for improvements for the 2021 and future submissions
- Guidelines and templates were developed to assist data reporters to update their QAPP submissions based on EPA guidance
 - “Guidance for Quality Assurance Program Plan” with detailed step by step directions on how to update QAPP submission based on EPA requirements
 - QAPP Template
 - QAPP Data Flow Chart Template

PA DEP QAPP Training Webinar

- On October 20, 2021 DEP CBO hosted a training webinar, “Chesapeake Bay Reporting Check-In” for 45 data reporting partners.
 - Partners learned how to update their program’s QAPP to meet EPA CBPO requirements
 - Duplicate reporting has been a focus of EPA, and so DEP strengthened the description of mitigation and elimination of duplication in the QAPP

2021 PA DEP QAPP Updates

- In November 2021 EPA CBPO gave comments on DEP CBO rough draft QAPP. From these suggestions DEP CBO focused on the following:
 - Data partner updates from the QAPP Template
 - Detailing the step-by-step process for data reporting
 - Procedure for eliminating double counting
 - Reasons for increased BMP implementation
 - Details on the incorporation of the PennState Survey

2021 PA DEP QAPP Updates

- On December 1, 2021 sent the accompanying resources with the updated QAPP on December 1, 2021:
 - “NEIEN State Warehouse to CAST Crosswalk”
 - “Primary BMP Source Cost Share or Regulatory Programs”
- In response to feedback provided by EPA, the PA BMP Verification Program Plan, which is an addendum to the QAPP, was also revised by DEP and DCNR

2022 PA DEP QAPP Updates

- In early 2022, DEP worked with EPA CBPO to finalize numeric progress and sent an updated QAPP on March 16, 2022 detailing:
 - Clarification on the increased impact PracticeKeeper on Ag reporting
 - Detailing that PA has only aggregated data from NRCS
 - Description of Resource Improvement Practice reporting
 - Statistical method of reporting commodity crops from the RC&D Transect Survey

New for QAPP in 2022

- Updated QAPPs are due to EPA CBPO on September 1st of each year
 - DEP can submit an amended QAPP on December 1st for those data reporters that have changes after September 1st
- DEP will schedule a webinar on how data reporters can make updates to their 2022 QAPP submissions
 - We do not anticipate many changes from data reporters
 - If there are no changes, we still will be asking for confirmation email to verify that the information is current

Where to find the QAPP?

- To view the most current version of the QAPP and BMP Verification Program Plan visit:

[DEP](#) > [Businesses](#) > [Water](#) >
[Pennsylvania's Chesapeake Bay Program Office](#) >
[Agriculture](#) > **[BMP Verification](#)**

Agriculture BMPs Submitted vs. Credited

Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Nutrient Application Management Core Nitrogen	annual	Acres	542,751	533,893	8,858
Nutrient Application Management Rate Nitrogen	annual	Acres	241	241	-
Nutrient Application Management Placement Nitrogen	annual	Acres	202	202	-
Nutrient Application Management Timing Nitrogen	annual	Acres	4,607	4,607	-
Nutrient Application Management Core Phosphorus	annual	Acres	542,093	533,793	8,300
Nutrient Application Management Rate Phosphorus	annual	Acres	183	183	-
Nutrient Application Management Placement Phosphorus	annual	Acres	248	248	-
Nutrient Application Management Timing Phosphorus	annual	Acres	-	-	-

Agriculture BMPs Submitted vs. Credited

Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Conservation Tillage	annual	Acres	355,288	355,288	-
High Residue Tillage	annual	Acres	740,364	740,364	-
Low Residue Tillage	annual	Acres	216,705	216,705	-
Conservation + Low Residue + High Residue Tillage	annual	Acres	1,312,357	1,312,357	-
					-
					-
Cover Crop	annual	Acres	341,524	338,149	3,375
Cover Crop with Fall Nutrients	annual	Acres	-	-	-
Commodity Cover Crop	annual	Acres	110,614	70,859	39,754
Commodity + Cover Crop	annual	Acres	452,138	409,008	43,130

Agriculture BMPs Submitted vs. Credited

Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Pasture Alternative Watering	cumulative	Acres	57,811	57,714	97
Prescribed Grazing	cumulative	Acres	32,912	32,912	-
Horse Pasture Management	cumulative	Acres	-	-	-
Forest Buffers on Fenced Pasture Corridor	cumulative	Acres in Buffers	1,445	1,445	-
Grass Buffers on Fenced Pasture Corridor	cumulative	Acres in Buffers	919	919	-
Pasture Management Composite	cumulative	Acres	93,086	92,989	97

Agriculture BMPs Submitted vs. Credited


Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Forest Buffers	cumulative	Acres in Buffers	11,163	10,822	341
Wetland Restoration	cumulative	Acres	1,028	1,028	-
Wetland Creation	cumulative	Acres	108	108	-
Wetland Rehabilitation	cumulative	Acres	104	104	-
Land Retirement	cumulative	Acres	35,358	35,358	-
Grass Buffers	cumulative	Acres in Buffers	15,842	15,842	-
Tree Planting	cumulative	Acres	3,959	3,959	-
Alternative Crops	cumulative	Acres	38	38	-
Soil and Water Conservation Plan	cumulative	Acres	535,414	534,968	446
Crop Irrigation Management	cumulative	Acres	-	-	-
Manure Incorporation	annual	Acres	1,241	1,241	-
Agricultural Drainage Management (Water Ctrl Struct)	cumulative	Acres	24,115	24,115	-
Capture & Reuse	annual	Acres	-	-	-
Non Urban Stream Restoration	cumulative	Feet	370,131	370,131	-
Non Urban Shoreline Management	cumulative	Feet	-	-	-

Agriculture BMPs Submitted vs. Credited

Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Livestock Waste Management Systems	cumulative	Animal Units	202,884	200,151	2,733
Poultry Waste Management Systems	cumulative	Animal Units	1,434,039	956,243	477,796
Livestock + Poultry Waste Management Systems	cumulative	Animal Units	1,636,923	1,156,393	480,529
					-
					-
Livestock Mortality Composting	cumulative	Animal Units	65	65	-
Poultry Mortality Composting	cumulative	Animal Units	133,938	54,865	79,073
Broiler Mortality Freezers	annual	Dry Tons of Broiler Carcasses	-	-	-

Agriculture BMPs Submitted vs. Credited

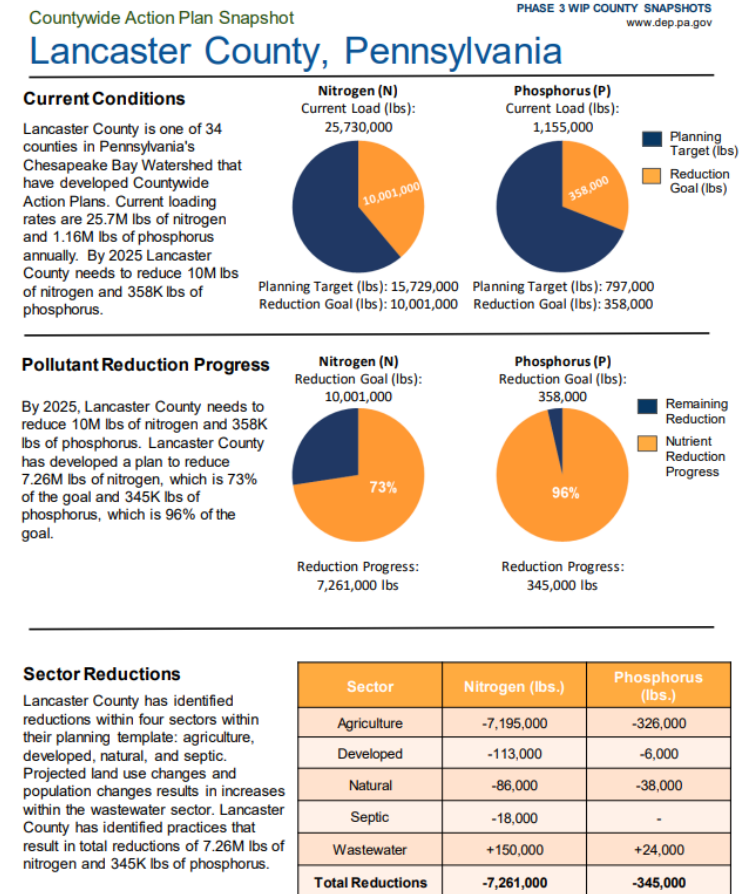
Agriculture Practices	Duration	Unit	2021 Progress - Submitted	2021 Progress - Credited (2.11.2022)	Difference between Submitted vs. Credited
Barnyard Runoff Control + Loafing Lot Management	cumulative	Acres	3,418	2,949	469
Ag Stormwater Management (VTA)	cumulative	Acres Treated	87	76	10
Manure Transport Out Of Area	annual	Dry Tons	118,971	113,333	5,638
Manure Transport Into Area	annual	Dry Tons	131,383	116,518	14,865
Manure Treatment Technologies Out Of Area	annual	Dry Tons	-	-	-
Manure Treatment Technologies Into Area	annual	Dry Tons	-	-	-
Dairy Precision Feeding	annual	Animal Units	-	-	-
Ammonia Emission Reductions (Litter Amendments)	annual	Animal Units	-	-	-
Ammonia Emission Reductions (Biofilters)	cumulative	Animal Units	-	-	-
Ammonia Emission Reductions (Lagoon Covers)	cumulative	Animal Units	-	-	-



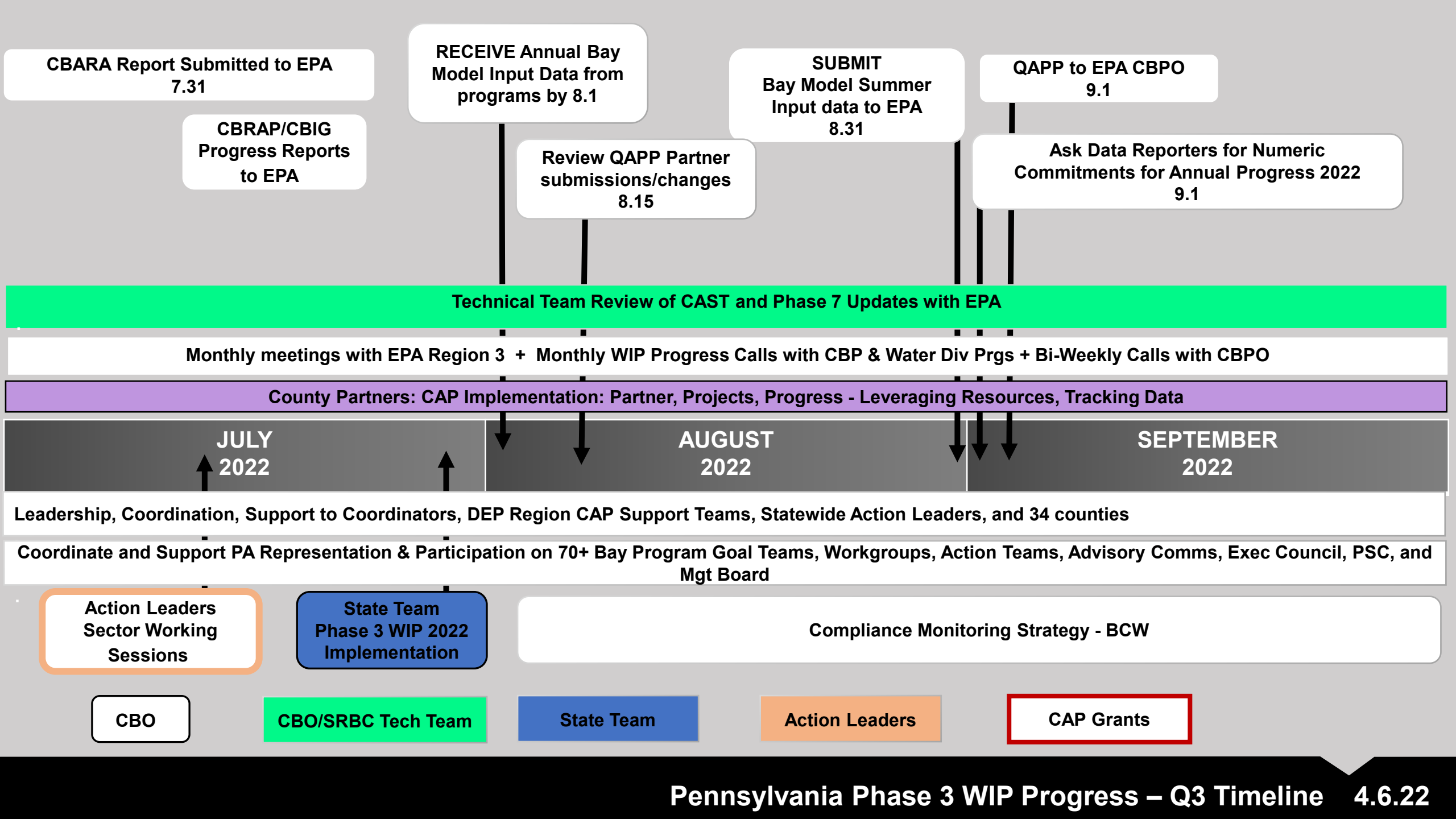
County Achievements, Goals, and Timelines

Summary of County Achievements and Accountability

- The data reported from on-the-ground efforts are critical to demonstrate Pennsylvania’s collective implementation of programs and practices
- Counties report to us through the PracticeKeeper and FieldDoc tools, and we compile that information as described previously
- The BMPs submitted as described above are reported on a county-scale, and a feedback loop is created to ensure the counties are aware of their submitted and credited progress
- County Snapshots are developed and published to the [DEP Countywide Action Plans](#) webpage
- DEP is working with the Chesapeake Conservancy and Chesapeake Commons to develop a public-facing webpage, showing BMPs submitted, aggregated on a per county and/or per region basis



Data is from CAST19 and progress year 2020



Compliance Monitoring Strategy - BCW

**Numeric Commitments
for Annual Progress
and QAPP to CBP
11.1**

**Numeric Commitments
for Annual Progress to
EPA
12.1**

**State WIP Programmatic Milestones Progress
Update**

WIP Milestones Progress Reporting
• Action Leaders Reporting
• CAP reporting

**Ongoing Data Revisions to Annual Progress
and QAPP**

EPA CBPO Workgroup and Review of CAST and Phase 7 Updates with EPA

Monthly meetings with EPA Region 3 + Monthly WIP Progress Calls with EPA CBPO & Water Divisions + Bi-Weekly Calls with EPA CBPO

County Partners: CAP Implementation: Partner, Projects, Progress - Leveraging Resources, Tracking Data

**OCTOBER
2022**

**NOVEMBER
2022**

**DECEMBER
2022**

Leadership, Coordination, Support to Coordinators, DEP Region CAP Support Teams, Statewide Action Leaders, and 34 counties

Coordinate and Support PA Representation & Participation on 70+ Bay Program Goal Teams, Workgroups, Action Teams, Advisory Comms, Exec Council, PSC, and Mgt Board

**Action Leaders
Sector Working
Sessions**

CAP Implementation & Coordinator Grants REVIEWED

**CAP Grants
AWARDED**

CBO

**CBO/SRBC Tech
Team**

State Team

Action Leaders

CAP Grants

WW: BMP Verification

1st Quarter Work Progress Report & Invoicing

**View Progress Reporting Webinar
Submit Questions for FAQ**

Meetings to discuss 2-year Milestone Adjustments – 6.1

Submit baseline CAST scenario in BMP Template – 6.17

Work on 2022 CAP Progress Reporting – P,3,4

Work on 2-year Milestone & Progress Reporting - 2

CAP Implementation: Partner, Projects, Progress - Leveraging Resources, Tracking Data

BMP Verification

APRIL 2022

MAY 2022

JUNE 2022

Prep for 2-yr Milestone Reporting and Programmatic Recommendations Response

DEP Tech Team running CAST Scenarios

Request Info for EPA Grants Progress Reports (Fed \$)

Prep Work for Implementation Grants 2022

Leadership, Coordination, Support to Coordinators, DEP Region CAP Support Teams, Statewide Action Leaders, and 33 CAP Implementation Teams

CBO

Pilot and Tier 3&4 Counties

Tier 2 Counties

Grants

2nd Quarter Work Progress Report & Invoicing

Submit BMP Entry Spreadsheet for 2-yr milestone changes for revised CAST Scenarios 8.5

Submit DRAFT Reports – 8.30
-Progress: P,3,4
-Milestone Updates & Progress + Programmatic Recommendations: 2
-Narratives (all)

Meetings with CBO to provide feedback on Progress Reports and Milestone, Programmatic Rec Updates Sept /Oct

BMP Verification \$\$ spent by 9.30

Meetings to discuss 2022 CAP Progress Reporting – P,3,4

Practices in PK/FD for 7.1.21 to 6.30.22

Work on 2022 CAP Progress Reporting – P,3,4

Work on 2-year Milestone & Progress Reporting - 2

CAP Implementation: Partner, Projects, Progress - Leveraging Resources, Tracking Data

JULY 2022

AUGUST 2022

SEPTEMBER 2022

DEP Tech Team running CAST Scenarios

CAP GRANT Round Opened

Grants Progress Reports to EPA

Reviewing County progress, 2-yr. milestone and programmatic rec updates

Prep Work for Implementation Grants 2022

Leadership, Coordination, Support to Coordinators, DEP Region CAP Support Teams, Statewide Action Leaders, and 33 CAP Implementation Teams

CBO

Pilot and Tier 3&4 Counties

Tier 2 Counties

Grants

Meetings with CBO to provide feedback to Progress Reports and Milestone, Programmatic Rec Updates
Sept /Oct

3rd Quarter Work Progress Report & Invoicing

Provide Final Revised Reports
-Progress: P,3,4
-Milestone Updates & Progress: 2
-Narratives (all)

CAP Grants APPLICATIONS DUE

CAP GRANTS AWARDED

CAP Implementation: Partner, Projects, Progress - Leveraging Resources, Tracking Data

OCTOBER 2022

NOVEMBER 2022

DECEMBER 2022

CAP Grants Q&A, Collection and Reviews

Request Info for EPA Grants Progress Reports (Fed \$)

Reviewing and providing feedback progress, 2-yr. milestone and programmatic rec updates

Leadership, Coordination, Support to Coordinators, DEP Region CAP Support Teams, Statewide Action Leaders, and 33 CAP Implementation Teams

CBO

Pilot and Tier 3&4 Counties

Tier 2 Counties

Grants

Hearing from Local Leaders

“A big benefit of the CAP has been the communication with the other entities. We were all working in our own little bubbles. Conservation District over here, MS4s over there. Nonprofits somewhere else. The CAP process has spurred much better communication and collaboration on projects. We have to work together to clean the water, we can’t get there by doing our own thing.”

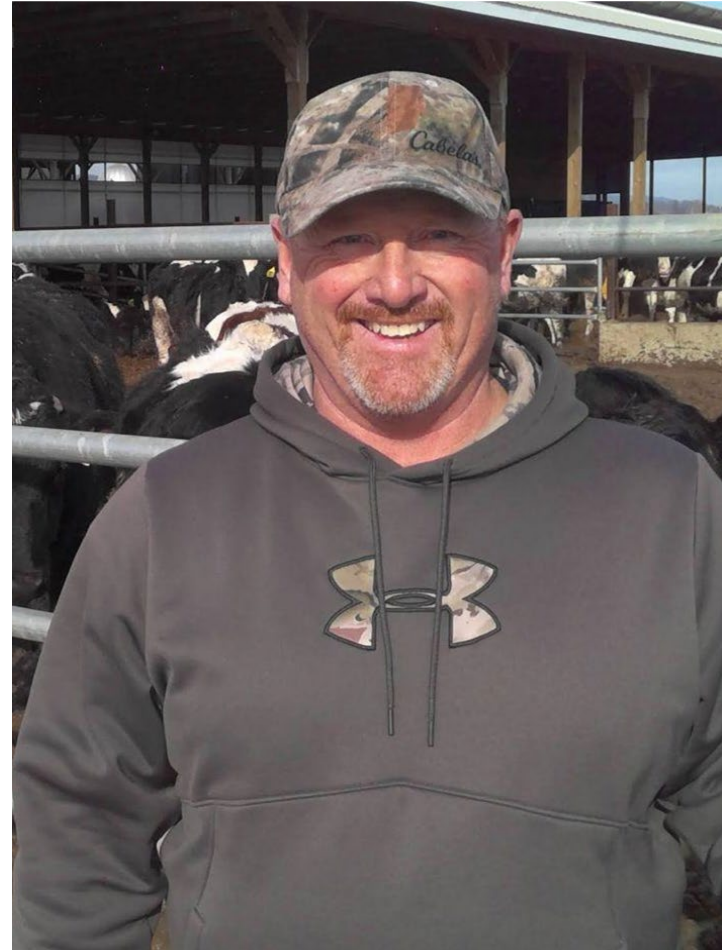
—Julie Cheyney, Director, Lebanon County Planning Department



Hearing from Local Leaders

“Now that we can apply for CAP grants every fall, we have received a substantial amount of money for projects that are good for Franklin County streams and wells. We’ve installed a lot more practices in the last 18 months, thanks to the CAP and WIP.”

—*Scott Metzger, Assistant Manager, Franklin County Conservation District*



Hearing from Local Leaders

“I’m seeing some innovative partnerships emerging across the state. I want to give a shout out to Chesapeake Conservancy for their mapping and modeling. Sustainable Chesapeake is building a market for manure injection. Stroud Water Research Foundation has created a strong partnership with the No-Till Alliance to amplify their efforts.”

*—Jenna Mitchell Beckett, Pennsylvania State
Director and Agriculture Program Director, Alliance
for Chesapeake Bay*





pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION



Chesapeake Bay Program Office

Jill Whitcomb, Director
jiwhitcomb@pa.gov
(717) 783-5205