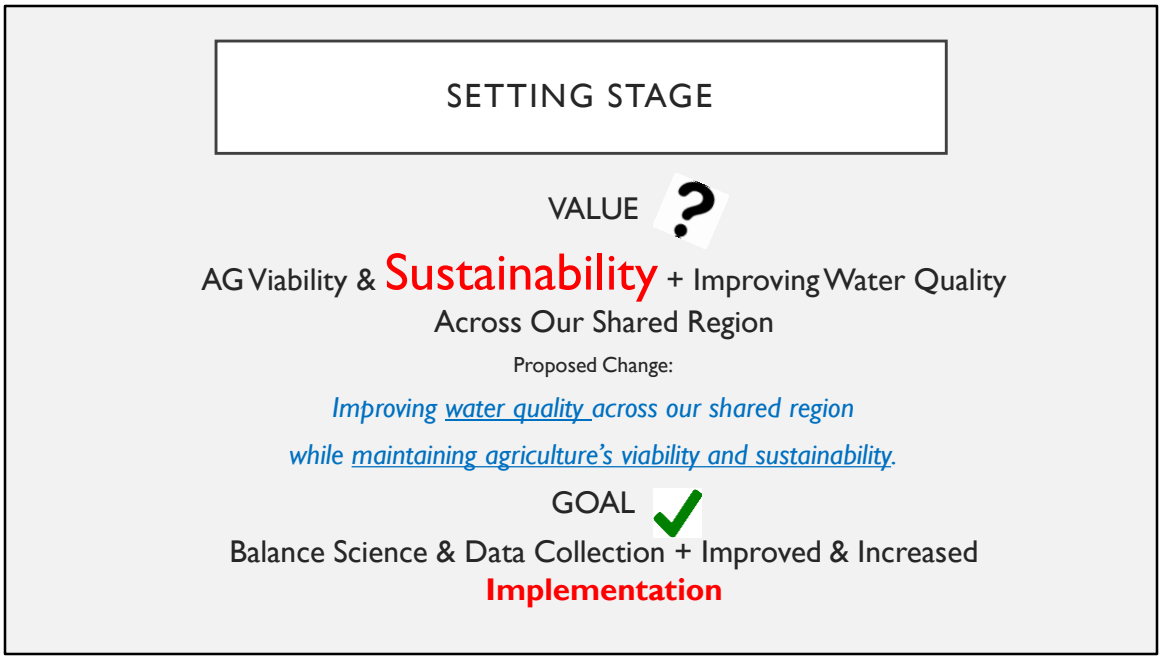
PRIORITIZATION PROCESS

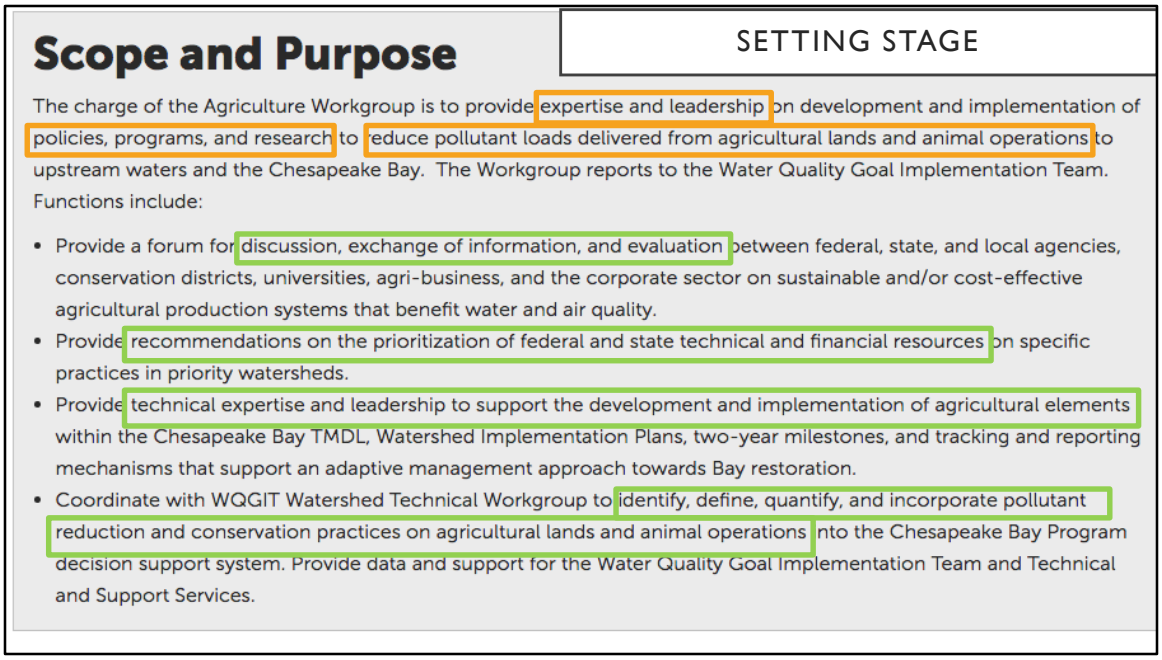
Set	Set the stage
Refine	Refine focus areas and topics
Breakout	Break-out by topic to build strawmen for full AgWG
Vet	Vet strawmen
Synthesize	Synthesize what we've got



- AGWG emphasized the value of SUSTAINABILITY – indicating that Ag -> Water -> Sustainability were intricately linked as a commonly held value for "setting the stage for prioritization.
- *Note from Workshop:* **Reflecting the Bay Program's goals**, the Ag workgroup exists to meet the *water quality goals* of the Bay restoration effort for agriculture, and that is our main priority.

Proposed Change:

Improving water quality across our shared region while maintaining agriculture's viability and sustainability.



- Examination of the current AgWG Scope & Purpose (as conveyed on the website) resulted in overall concurrence that we are in synch with the assignment – with one large area of need in improvement: Exchange of Information especially with those who are most impacted by the AgWG's work.
    - Farmers and conservation districts
- For example: In looking at Pennsylvania – the decisions that are being made at the AgWG level, are they impacting how things are happening on the ground?
- The need for building a current and relevant cross walk between NRCS and Chesapeake Bay practices was emphasized. This has been done in the past, but is not current and progress is lacking.
- Overall value of the AgWG for the states is especially connected to the cross-jurisdictional ideal-sharing that occurs. The states have devoted to collaboration and and state-specific meetings.

AGRICULTURE WORKGROUP GUIDING PRINCIPLES

The charge of the Agriculture Workgroup:
to provide expertise and leadership on development and implementation of policies, programs, and research

to reduce pollutant loads delivered from agricultural lands and animal operations to upstream waters and the Chesapeake Bay

VALUE 

Improving water quality across our shared region

while maintaining agriculture's viability and sustainability.

GOAL

Balance Science & Data Collection + Improved & Increased Implementation

- AGWG emphasized the value of SUSTAINABILITY – indicating that Ag -> Water -> Sustainability were intricately linked as a commonly held value for "setting the stage for prioritization.
- *Note from Workshop:* **Reflecting the Bay Program's goals**, the Ag workgroup exists to meet the *water quality goals* of the Bay restoration effort for agriculture, and that is our main priority.

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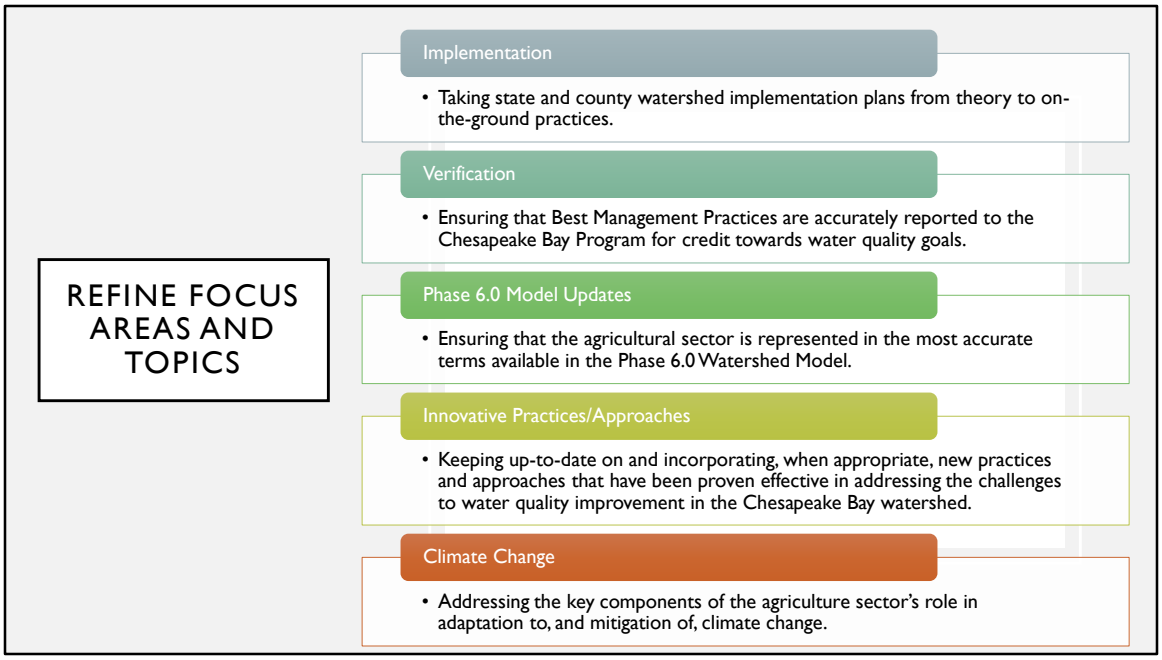


Based on current prioritization matrix

- Is there something missing?
- What's essential for today?
- What's not essential for today but must be handled in the near-term? Long-term?
- Are any areas MISSING?
- Are there any areas that we can elevate above the rest?
- Are there any that we can demote to the end of our workshop agenda?
- Based on the list at hand – what is absolutely necessary

June Feedback Summary

Jurisdictions work with EPA on WIPs- How can the CBP AgWG support those implementation goals?

Not a priority as AgWG ACTION item- Jurisdictions come to AgWG with alternative methods not already approved.
Sharing of methods, successes, challenges is welcome and requested by some jurisdictions.
Lessons learned based on 2018 progress?

Clear interest in refining model inputs as a priority- no voiced objections.

Continuing conversation…

Revisit in context CBP PSC decision to get more information regarding climate change and BMP resiliency before 2021.
Obtaining water quality goals in the context of climate change in-line with AgWG Scope and Purpose

Implementation

- Taking state and county watershed implementation plans from theory to on-the-ground practices.

Verification

- Ensuring that Best Management Practices are accurately reported to the Chesapeake Bay Program for credit towards water quality goals.

Phase 6.0 Model Updates

- Ensuring that the agricultural sector is represented in the most accurate terms available in the Phase 6.0 Watershed Model.

Innovative Practices/Approaches

- Keeping up-to-date on and incorporating, when appropriate, new practices and approaches that have been proven effective in addressing the challenges to water quality improvement in the Chesapeake Bay watershed.

Climate Change

- Addressing the key components of the agriculture sector's role in adaptation to, and mitigation of, climate change. **Suggested Revision:** Addressing the projected impacts of climate change on pollutant load reduction goals within the agriculture sector.

Priority Level:
High
Medium
Low

REFINE FOCUS AREAS AND TOPICS - IMPLEMENTATION

Topic	Sub-topic	Related Issues
Communication	Farmer buy-in	Social & Cultural Barriers
	Education and outreach	
	Farmer input	
Barriers	Economic	Impact of implementation on farmers; Farm Crisis Management
	Social & Cultural	
	Leased farm land	Formalizing of lease agreements
Opportunities	Focusing BMP implementation to maximize load reductions	Use of remote sensing technology; GIS mapping; water monitoring stations
Resources	Technical Assistance	State Level; Federal Level
	Cooperative Agreements	Land Grant Universities, EPA funding sources
Cross-Sector Collaboration	Forestry Workgroup	Riparian Forest Buffers
	Toxic Contaminants Workgroup	STAC Workshop: Contaminants of Concern in Agricultural Settings
	Wetlands Workgroup	Non-tidal Wetland Rehabilitation, Enhancement, Creation BMP Expert Panel
	Trading and Offsets Workgroup	Defining load reductions available for trading
	Climate Resiliency Workgroup	Carbon Sequestration
	Co-benefits of BMPs	Cross-reference to model Inputs

- Is there a risk that we are going to improve practices that may take 20 years to resolve?
- Farmer- buy-in as connected to financial barrier
- Cost share and affordability
- States/regions are unique in respect to what farmers needs are. Lancaster's needs are different from Delmarva's.
    - Difference in soil types
    - Implementation as a state level need/goal
    - Historic perspectives of other WIPs
    - State WIPs with new BMPs – change and modify what the messaging needs are for farmers.
- TA needs are largely tied to to the Crosswalks/Definitions of BMPs/Common language.
- PA use of the RI check-off list. Importance of Resource Improvement (and potential need for increasing) was of high interest.
    - AgWG must establish standards for reporting RI (continued beyond the initial report).
- Communications
    - Inventory and collaboration requires that the CD (and those who know how to get the $ out the door) are communicating with farmers to improve getting BMPs paid for and in farmers hands.
- Messaging to farmers – and recognition that "getting credit" is important – but that,

depending on where the farmer is located, the messaging is local water quality v. Bay

- GAP: Bay model doesn't related to local water quality. (Note that Penn State is using other models for X-walking with the Bay model as a planning device).

Priority Level:
High
Medium
Low

REFINE FOCUS AREAS AND TOPICS - VERIFICATION

Topics	Sub-topic	Related Issues
AgWG vs. EPA role		QA/QC methods;
State Approaches		Cross-jurisdictional idea-sharing
Alternative Methods	Transect Survey	QA/QC; Statistical significance; emerging technologies;
	Remote Sensing	
	Producer/ Farmer Self-Survey	
Resources	Technical Assistance	Funding and logistics for verifying BMPs

- Cross walk critical to verification of all practices in respect to life spans and credit duration.
- Variability between NRCS and Chesapeake Bay Program practices require that these be aligned and cross walked.
- Verification and implementation, for this reason are largely connected in respect to all practices plus RI, and how the model interprets these.

REFINE FOCUS AREAS AND TOPICS – PHASE 6.0 MODEL INPUTS (IN 3 SLIDES)

Topics		Sub-topic	Related Issues
BMP Expert Panels	In CBPO Review	Ag Stormwater Management	
	In Progress	Cropland Irrigation Management	
		Agricultural Ditch Management	Wetland Expert Panel (over- lapping BMPs)
	Establishing	Animal Mortality Management (RFP published)	
		Nursery Capture and Reuses (ad hoc group creating EP charge)	
	Re-evaluate (Previous Reports > 5 years old)	Pasture Management Conservation Planning	Weiner- Simpson Report 2009 report

- Identify connection between nutrient AND source AND pathway
- Data Collection – most accurate data sets in the model (all states said this was critical)
- Fertilizer – confidence in tonnage data and county level data.
- Front end of the model (?)
- USDA/NRCS implementation and BMP practice crosswalk.
    - NRCS practices + State standards practices + RI (producer) = Data + farmer getting credit for all they're doing – to ensure proper representation of this in the model
        - Requires a UNIFORM FORM/Checklist for visual indicators – for all cost share and non-cost share.
        - AG Community Yardstick.

Priority Level:
High
Medium
Low

REFINE FOCUS AREAS AND TOPICS – PHASE 6.0 MODEL INPUTS (IN 3 SLIDES)

Topic	Sub-topic	Related Issues
Crediting Load Reductions	BMP Life-Spans vs. CBP Credit Duration	
	NRCS 1619 Privacy Agreement	
	BMP mapping in CAST	BMPs mapped to Soil Conservation Plans
	Non Cost-Share BMPs/RIs	Practices not picked up in agency record-keeping; creating uniform checklists efficient verification on farm visits
	Manure Transport	Ensuring accurate reporting of transport via public and private systems

REFINE FOCUS AREAS AND TOPICS – PHASE 6.0 MODEL INPUTS (IN 3 SLIDES)

Topic	Sub-topic	Related Issues
Data	Soil Phosphorus	Management Board Path Forward (Sept 21, 2017); public confidence in model
	Manure and Litter Nutrient Concentrations	Nutrient Concentrations (Broiler, Swine, Turkey, Dairy); public confidence in model
		Sampling- Compare National ASTM sampling & analysis procedures to operator-retrieved samples
	Production (Populations)	(Broiler, Swine, Turkey, Dairy); public confidence in model
	Fertilizers	County-level distribution data; public confidence in model
	Soil and Manure Analysis	Regional data management standards; Watershed-wide, county-level database to track trends

Priority Level:
High
Medium
Low

REFINE FOCUS AREAS AND TOPICS – INNOVATIVE PRACTICES AND APPROACHES

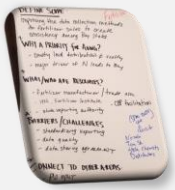
Topics	Sub-topic	Related Issues
Nutrient Application Recommendations	Partnering with Regional Land Grant Universities	Updating nutrient application recommendations based on the newest research
Precision Agriculture		Newest technology for efficient planting, harvesting, and nutrient application; 4 R's
Soil Health	Data collection, verification, numbers, to help better capture soil health.	Carbon Sequestration; conservation tillage; erosion; inter-row mowing for weed suppression; cover crops; soil health indicators as BMPs
Pay-for-Performance		Economic incentivizing through market valuation of BMPs
Discovery Farms (Midwest)		farmer-led research and outreach program focused on the relationship between agriculture and water quality
Legacy Sediment Removal (PA)		
Artificial Drainage (DE)		
Bio-Digesters (PA)		
P-Removal Structures (PA)		

- Legacy P in the Soil
- Nitrates in groundwater
- Soil Health as a topic area IS an innovation – as the advancement of soil/non-disturbed areas, and overall soil health requires a systems approach:
    - Data collection, verification, numbers, to help better capture soil health.
- Artificial drainage – as a data set
    - Subsurface drainage
    - PA's interest in bio digesters and P-removal structures.
- PA interest in legacy sediment removal in their pay schedule.
- Soil P is a directive form the Management Board.
- Agronomic practices:
    - What's a practice?
    - What's a system? (practices in sequence)
    - States need: Federal data, state data, private sector data -> level of collaboration -> MORE CREDIT TO PRODUCERS -> Right practices at the locations where water quality needs are.

REFINE FOCUS AREAS AND TOPICS – CLIMATE CHANGE

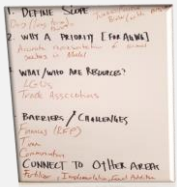
Topics	Sub-topic	Related Issues
Impacts of Climate Change on Agriculture		Climate-Resilient Farming
BMP Resiliency	Effect of climate change on why/how water quality practices work is critical.	
Climate Change Mitigation within Agriculture	Carbon Sequestration	
	BMP Co-benefits	

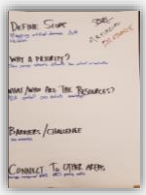
- PSC has indicated that BMP Resiliency with accompanying efficiencies must be in place by 2021
  - Model and data need
  - AgWG can't park the climate change topic area.
  - Effect of climate change on why/how water quality practices work is critical.

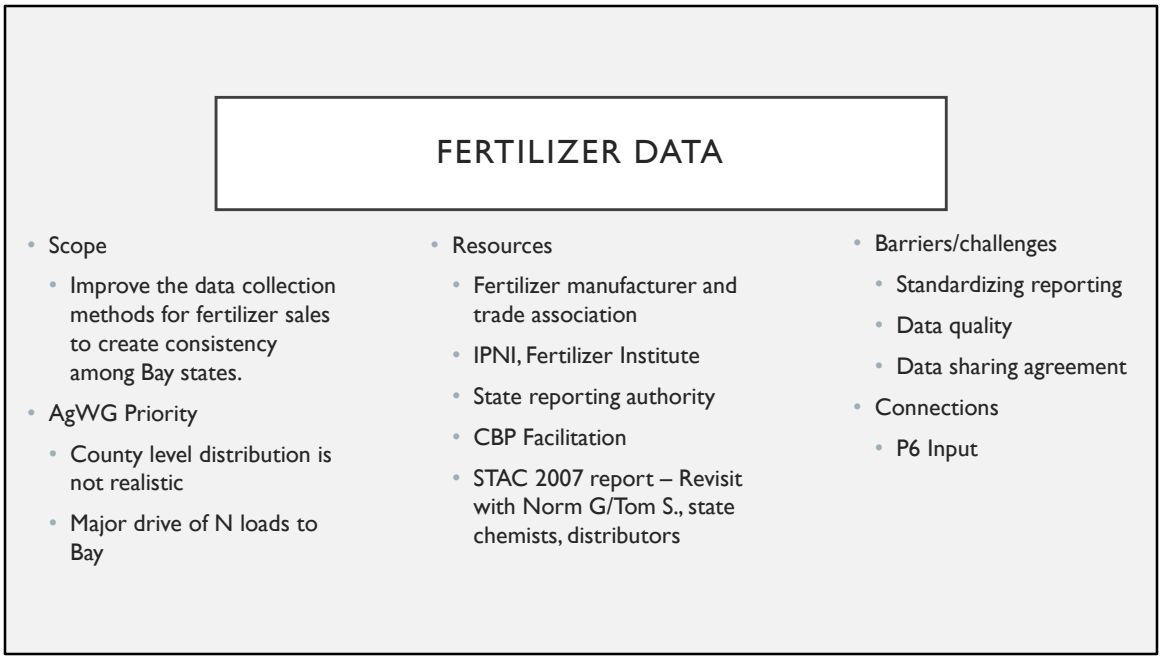


BREAKOUT GROUPS – AREAS OF FOCUS CHOSEN BY AGWG MEMBERS IN ATTENDANCE:

1. Fertilizer Data
2. Animal Data
3. Communications – NRCS – State- Producer
    1. Implementation, Checklists, and Communications
4. Artificial Drainage Data

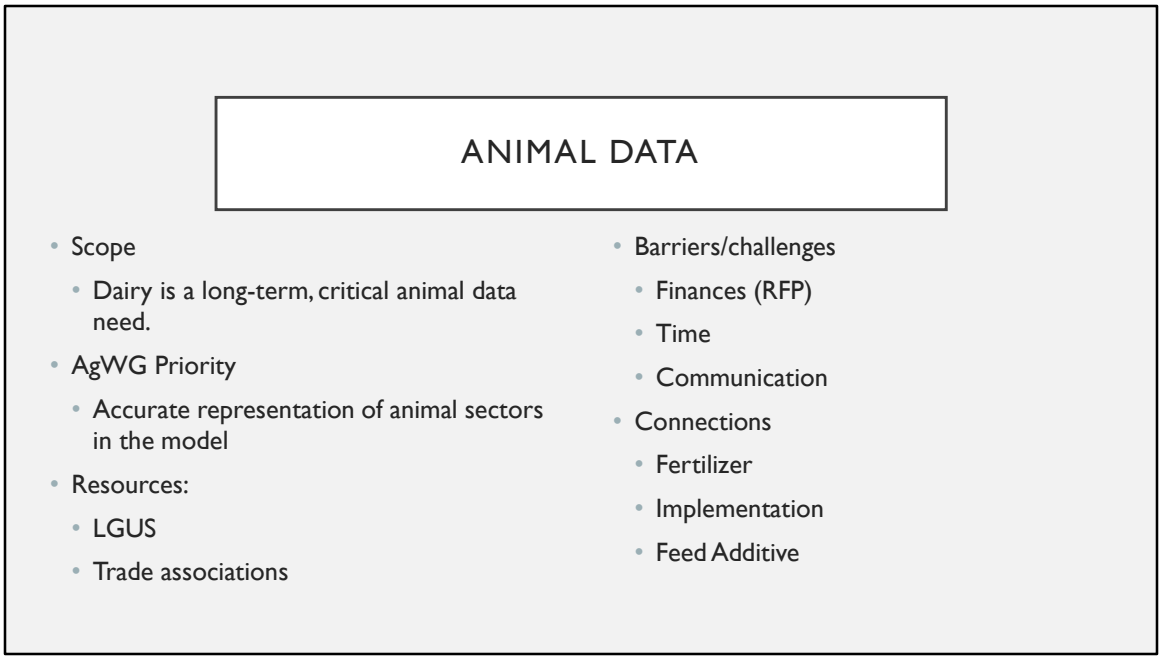






NOTES:

- Data quality and data sharing is a 2 Y process
- Need to bring together state chemists with the modeling folks as key stakeholders.
- By Feb 2018 – STAC workshop for improved science-based consideration.
- A lot has changed since 2007 – TMDL with objectives and goals are in place plus 2-represented divisions in the Ph. 6 model (urban and ag)



- The choice of focusing on DAIRY data is abased one the experience to date in working to obtain data in other animal sectors and the recognition of the challenge and need.
- The turkey characterization – and FOIA projection – was/is critical for the trade association – and integrators and cooperatives to step into collaborating with the Chesapeake Bay partnership.
- The sense is that doing this within the dairy animal sector will require researchers/inters to develop the communications pathways and connections needed to access and aggregate the data.
- On the Dairy side – the most local, up-to-date data is expected to be the ASBA.
- Opportunity –to see what data is available – and to build a better characterization of the waste stream.
- Long-term process requiring a small group that will approach/develop the strategy

COMMUNICATIONS – NRCS – STATE- PRODUCER

- Scope
  - Full accounting of implementation: cost-shared and non-cost shared
    - Crosswalk of NRCS, state and CBP practices: which fully match, which are supporting practices…
      - Help us understand how much we might be missing out on, or not
      - Activities that may be missing from reporting/tracking/CBP practices, but provide WQ benefits
    - If we compare USDA cost-share to state data, how does it compare? How much being implemented not getting into model? Double-counting? Can we (or the states) do this analysis for all states or only states with 1619 agreements?
    - BMPs nearing end of credit duration en masse: best handled at state level? Is this a discussion for the AgWG.
    - Ways to ensure private firm/consultants-supported projects and practices are credited while respecting privacy?
    - Front end (getting reported into model accurately): crosswalk etc., back-end, how to deal with practices nearing end of lifespan (CBWI-funded practices, etc.)
    - Other means of verification, not solely relying on state/county/district staff
  - Communication products/services? Checklists (e.g., RIP visual indicators?)
    - Identify universal needs for watershed, get AgWG to play a role--webinars in short term. What do state/district/private community need to know from AgWG
  - Focus areas for sharing/crediting/considering practices
    - E.g. Soil quality in PA and soil health by NRCS, how to connect partners' efforts and approach
  - Data aggregation agreements w/ USGS in place until December 2020

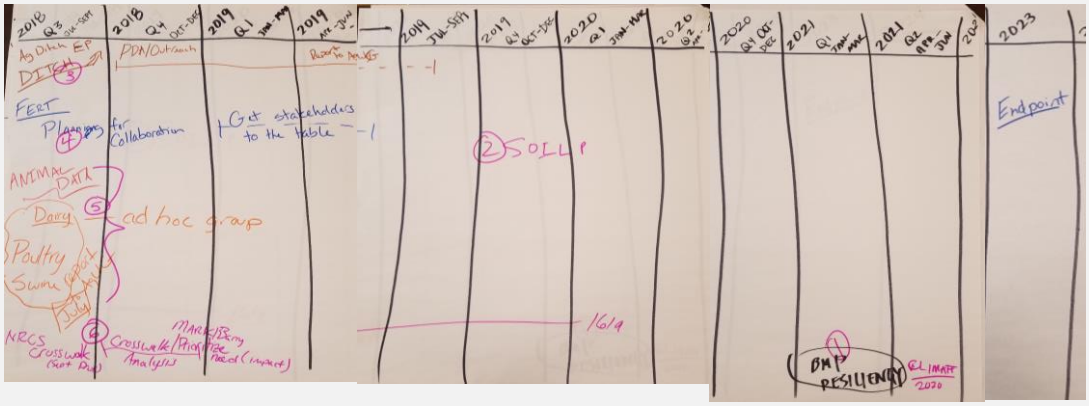
CONT'D
COMMUNICATIONS – NRCS – STATE- PRODUCER

- Priority
  - Want ag community to have confidence they "get credit" for what they've done and are doing; need to meet TMDL goals
- Resources:
  - Fed and state partners
  - ?
- Barriers/challenges:
  - $$$
  - What works in each state; what does not
  - Personal relationships b/w state agency staff, private producers/consultants, conservation offices; importance of these relationships for data-sharing and trust
- Connections:
  - Everything (?)
  - Verification

ARTIFICIAL DRAINAGE

- Scope
  - Mapping artificial drainage for both tile and ditch
- Why a PRIORITY?
  - They convey nutrients differently than natural or each other.
- Resources
- PDA Spatial
- Conservation districts
- Annual rep?
- Barriers/challenges:
  - Data acquisition listed under resources.
- Connections:
  - Drainage management BMPs
  - NRCS practice codes

TIMELINE


2018
2018
2019
2019
2019
2020
2020
2021
2023
PDN/Outreach
DIET
FERT
Planning for Collaboration
Get stakeholders to the Table
ANIMAL DATA
Dairy
ad hoc group
Poultry
Swine
NRCS
Crosswalk
Analysis
SOIL
1619
DMP
RESILIENCY
Endpoint

TIMELINE

	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4
Artificial Drainage	EP ag ditch	PDA Outreach →		Report to AgWG – 4/2019-9/2019		
Fertilizer	Planning for collaboration		Get stakeholders to table →			
Animal Data	Convene ad hoc group across animal types: Dairy, poultry, swine →					
Communications	NRCS-CB practice cross walk analysis – prioritize need (impact): (Mark and Barry) – 9/2018 report to AgWG →			1619 →		

CONT'D TIMELINE

	2019 Q4	2020 Q1	2021 Q1	2022	2023	2024
Soil P	→	→			ENDPOINT	
BMP Resilience – Climate Change		→	→		ENDPOINT	
Communications	1619 →	→			ENDPOINT	