

### Planning for the Future of the Agriculture Workgroup (AgWG)

At the October AgWG meeting, the AgWG leadership team initiated the process of developing a list of the group’s priorities for the coming two years. This document will be regularly updated to capture workgroup participant feedback and discussion related to the planning process through February. This document will be considered a draft until it is formally reviewed by the workgroup.

#### Goal: Identify AgWG Priorities for 2025-26

The role of the AgWG has evolved over time, with changes in what the group discusses and produces being influenced by broader Chesapeake Bay Program partnership activities (namely, CB model development). The CBP is now entering a new period of change, with the Beyond 2025 effort potentially shifting program-wide priorities and an Agriculture Advisory Committee possibly being established. These changes, and the desire expressed by several AgWG members to reevaluate how workgroup time is spent, were the impetuses for this effort to identify the group’s priorities for the coming two years. In February, the group will meet in person to formally prioritize proposed discussion topics and deliverables and draft a plan to help guide workgroup activities through 2026.

#### Planning Timeline

	October	November	December	January	February
<b>What is the purpose and role of the AgWG moving forward?</b>					
Discussion Topic	Brainstorm areas of interest, future deliverables	CESR Report	*Beyond 2025	*Agriculture Advisory Cmte and other CBP entities	Prioritization of interests, focus areas, at in-person meeting
Guiding Questions	What would you like to see the AgWG accomplish in the next two years?	How should findings presented in the CESR report influence the direction of the AgWG?	How might Beyond 2025 influence the direction of the AgWG?	How do we engage with the AAC, other groups, to best support our purpose and goals?	
Suggested Reading		<a href="#">CESR Report in Brief</a> <a href="#">CESR Report</a> , Chapters 3, 6.5	<a href="#">B25 Phase 1 Small Group Findings</a> ;	Advisory Committee Webpages ( <a href="#">LGAC</a> ; <a href="#">STAC</a> ; <a href="#">SAC</a> )	

			<a href="#">Priority Projects List</a>		
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\*Information availability may impact which topic is covered first. If we determine that, for example, more information about Beyond 2025 will be available very close to the December meeting, we may choose to discuss B25 in January to ensure the meeting is as informative as possible.

**October Meeting**

**Distillation of Mentimeter Feedback**

**Learning:** The AgWG should serve as a forum for information exchange among stakeholders. The AgWG should be a platform where farmers’ voices are amplified, and we should learn, directly from the folks “on the ground”, what does and does not work to help us move toward our water quality goals.

*What should we strive to accomplish? (Menti Question 2)*

Evaluate innovative implementation strategies	Support localized water quality monitoring to determine impact of practices	Support increased implementation of effective BMPs
Share programs/policies effective in conservation and restoration	Identify what works well and build on successes	

*Which topics should we discuss? (Menti Question 3)*

Farmer input	Challenges facing small farms	Industry trends
Partnership beyond TA	Lessons Learned	On-farm water mgmt

**Leading:** As the only CBP decision-making body focused solely on agriculture-related topics, a unique opportunity exists for the AgWG to provide leadership on ag issues. The AgWG should work with other CBP entities and support existing initiatives to ensure meaningful representation of ag stakeholders in CBP activities. The AgWG should host discussions with folks advancing cutting-edge, innovative ag research, technology, stakeholder engagement programs, and more.

*What should we strive to accomplish?*

Provide leadership in Beyond 2025 effort (X2)	Collaborate with Agriculture Advisory Committee (X2)	Provide <i>fair</i> recommendations to the ag community
Support sustainable agriculture (X4)	Explore cutting-edge research, technology, and programs (X3)	

*Which topics should we discuss?*

Climate resiliency (X2)	Farm resiliency (profit, health) (X2)	Nutrient use efficiency (X2)
Edge-of-field studies	Water quantity monitoring	Pay-for-performance/-outcomes models (X2)
Agroforestry	Carbon cycling	Farmland conservation

**Improving:** The AgWG remains responsible for identifying, defining, quantifying, and incorporating pollutant reduction and conservation practices into the CBP decision support system (including CBP modeling tools). We should dedicate time to thinking about improving what currently exists.

*What should we strive to accomplish?*

Validate/improve model assumptions through a focus on BMP verification.	Create policies/programs that minimize admin. burden on states	Add additional NRCS BMPs to model toolbox
Establish adequate crediting for implemented practices	Accurately model real-world processes and outcomes	

*Which topics should we discuss?*

BMP Verification (X4)	BMP Valuation (X2)	Credit/Data Loss (X2)
Stream exclusion/pasture fence (X3)	Liquid manure incorporation (X2)	Down-scaling model
Data Accuracy	Nutrient Applications	Legacy nutrients

**Menti Results: "Clean" Version**

Question 2 – From your perspective/position, what do you most want the AgWG to accomplish?

Leadership for beyond 2025; what do we need to do to meet ag nonpoint source pollution reduction goals?
Continue looking at innovative implementation strategies.
Contribute expertise to the newly to-be formed Ag Advisory Committee. Rethinking our contributions to beyond 2025.
Support more localized water quality monitoring to determine the impact of conservation practices.
Provide recommendations that are fair and reasonable for agriculture in the watershed.
An examination of nutrient mass imbalance across the CBP including economic barriers or reasons for the imbalance, ways to approach the issue that support regenerative ag and local food production economy.
Reduce nutrient loads, adapt to climate change and make farms sustainable.
More work on ag conservation, and specifically supporting small/medium diverse farm operations. Keeping farms in farm use while also reducing pollution and keeping them economically viable.
Better understanding of how our efforts in ag have impacted those downstream.
Validate or improve on the assumptions the CB model uses through BMP verification in each state.
Create less burdensome policies and programs that will increase our ability to achieve conservation by minimizing administrative burdens on the states.
Increased implementation of existing, effective BMPs (e.g., livestock exclusion and buffers)
Accurately represent real-world processes and outcomes in the watershed model.
Sharing programs and polices that have been effective in environmental conservation and restoration - much like the information that Hunter Frame shared today - that can inform programs, policies/regs.
Work collaboratively with new Ag Advisory Group. Can offer technical assistance, and also ground-truth ideas with them.
Find what is working well and build on those successes.
Take steps toward "sustainability", and in terms for the bay (e.g., water quality, planting more trees, doing agroforestry, hear what our farmers need).
As part of CESR and Beyond 2025, add existing NRCS practices to the toolbox that are recognized already, utilized in their efforts towards wildlife habitat programs and climate-smart ag.
Adequate crediting for implemented practices.
Nutrient legacies.

Question 3 – What topics or issues would you want to see the workgroup work on?

Ag Climate Work
Agroforestry
BMP Clarification
BMP Valuation X2
BMP Verification/verification bottleneck X4
Carbon Cycling
Climate Resiliency X2
Conservation of Farmland
Difficult Problems
Downscaling Model
Edge-of-Field Studies
Farm Resiliency (Maximize Farm Profit and Health) X2
Farmer Input
Improve Data Accuracy
Industry Trends
Lessons Learned
Liquid Manure Incorporation/NP Losses X2
Lost Data/Credit X2
Water Quantity Monitoring
Nutrient Applications
Nutrient Legacies
Nutrient Use Efficiency X2
On-Farm Water Management
Opportunities
Partnership Beyond TA
Pay-for-Performance/-Outcomes Models X2
New Research and Technology X3
Small Farms
Stream Exclusion, Pasture Fence/Buffers X3
Sustainable Agriculture X4

### **November Meeting**

Kurt Stephenson (STAC; Virginia Tech) [presented](#) several "actionable ideas" included in the CESR report that may be of interest to the AgWG to explore further. The following topics were included in Kurt's presentation:

- 1) Accounting for outcomes
- 2) Mass balance
- 3) Targeting investments
- 4) Pay for success/performance
- 5) Tiered implementation of the TMDL

After Kurt's presentation, meeting participants were directed to a [Google Form](#), where a response to a single question was solicited:

*"What topics covered in the CESR presentation and discussion would you like to see become part of future AgWG meeting agendas?"*

We received 5 responses to this question:

- Pay for Performance; application of finer-scale monitoring/modeling
- Sandlot concept; pay for performance
- pollutant transport during large storm events; continuous water-quality monitoring; legacy sediment; biochar
- A map of BMP implementation including togglable data layers for cover crops, conservation tillage, nutrient management, buffers, etc., as well as conservation areas and ag lands should be developed for discussion (visualizing the data on the landscape needs to be done so that we can help our implementation partners see where BMPs are still needed and what type).
- Mass Balance (primarily); possibly Pay for Success/Performance

### **December Meeting**

Bo Williams and Eric Hughes (CBPO) provided the AgWG with an overview of the Beyond 2025 Phase 1 and Phase 2 processes and a closer examination of several items from the Beyond 2025 [Small Group Findings report](#) (Phase 1) and [draft priority projects list](#) (Phase 2) that the AgWG may deem relevant.

Meeting participants had the opportunity to complete a Mentimeter poll, where topics presented in the meeting could be rated on a scale from 1 (*not* a priority for the individual voting or the organization they represent) to 5 (a high priority for the individual voting or the organization they represent). See the list of topics below, ordered from high priority to low priority based on the poll results.

- 1) Investigate & develop methods to incorporate WQ monitoring data into the EPA and Partnership evaluations of progress toward meeting TMDL objectives (score: 4.2)
- 2) Develop methods for remote sensing-based verification of as many BMPs as possible (3.9)
- 3) Identify, track, and address nutrient mass imbalances (3.8)
- 4) Provide the agricultural perspective in efforts to develop strategy/recommendations for funding the CBP core monitoring networks into the future (3.8)
- 5) Support efforts to develop and enhance tools for geographic targeting for BMP implementation (3.7)
- 6) Evaluate the potential to develop a soil health outcome and new indicators to measure success (3.4)
- 7) Strategize and develop new/innovative options for scaling up and incentivizing NPS pollution mitigation (3.4)
- 8) Create space in AgWG meetings to facilitate better two-way communication between people working at the local level and the Bay Program (3.3)

- 9) Create/support intentional partnerships with networks focused on mitigating ag nonpoint source pollution (2.9)
- 10) Support the strategic application of social science in AgWG discussions (2.7)
- 11) Explore opportunities to promote carbon stewardship through agricultural BMP implementation (2.3)

The poll also provided space for participants to record specific actions that are of particular interest to them or those they represent. Responses are presented in the chart below.

Small watershed monitoring/goals (X3)	Monitoring data for progress (X3)	Remote sensing (X2)	Targeted implementation (X2)
Soil health (X1)	Local rainfall impacts/historical data (X1)	Social Science (X1)	

### Partner Comments

#### **PA Comments on the Planning for the Future of the Agriculture Workgroup (AgWG) Draft Document dated 11/5/2024.**

PA focused comments on the **Improving** section of the document because, although we have interest in supporting and value the learning and leading goals of the AgWG, as a jurisdictional stakeholder, our primary interest is ensuring that PA's efforts to reduce nutrient and sediment pollution are adequately and accurately reflected in the Chesapeake Bay Partnership's accounting metrics.

**Improving:** The AgWG remains responsible for identifying, defining, quantifying, and incorporating pollutant reduction and conservation practices into the CBP decision support system (including CBP modeling tools). We should dedicate time to thinking about improving what currently exists.

*What should we strive to accomplish?*

Validate/improve model assumptions through a focus on BMP verification.	Create policies/programs that minimize admin. burden on states	Add additional NRCS BMPs to model toolbox
Establish adequate crediting for implemented practices	Accurately model real-world processes and outcomes	

*Which topics should we discuss?*

BMP Verification (X4)	BMP Valuation (X2)	Credit/Data Loss (X2)
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Data Accuracy	Nutrient Applications	Legacy nutrients

**PA Comments –**

*What Should we accomplish?*

1. **Validate/improve model assumptions through a focus on BMP verification** should be expanded to include all types of BMP verification methodologies that the AgWG would like to pursue improving. Recommend looking at the recommendations coming out of the USDA-EPA Federal Task Force. PA’s recommendations from that group are as follows, noting that all require further feasibility analysis is necessary:
  - a. *Adaptive Management with Emerging Technologies* - Using BMP inspection data in targeted small watersheds and/or existing reverification methodologies, document the true annual loss of the CB Suite of BMPs. Use these data to reevaluate the BMP Verification Framework eliminating the need for reverification so that resources can be directed toward BMPs that are lost annually (needing replaced or maintained) or implemented as new.
  - b. *USDA Coordinate 1619 Conservation Data Agreements Process with States + 3rd Party Verification*
  - c. *USGS Aggregate USDA and State Data*
2. **Create policies/programs that minimize admin. burden on states** should be more specific if the Workgroup intends this item to be related to specific topics or more generally applied. If we want this to be a generally applied to all that is accomplished in the Workgroup, we should be precise here: Will there be a specific check in our decision-making process that the Workgroup considers the administrative burden of each of the Workgroup’s decisions?
3. **Add additional NRCS BMPs to model toolbox** – again, recommend looking at what came out of the USDA-EPA Federal Task Force for recommended approach(es). This should include a

discussion about if each BMP would be required to be mentioned in an expert panel report or are there other strategies to crediting?

4. **Establish adequate crediting for implemented practices** – Recommend being precise here – are we considering alternative approaches to expert panel reports? What other approaches are we considering?

*What topics should we discuss?*

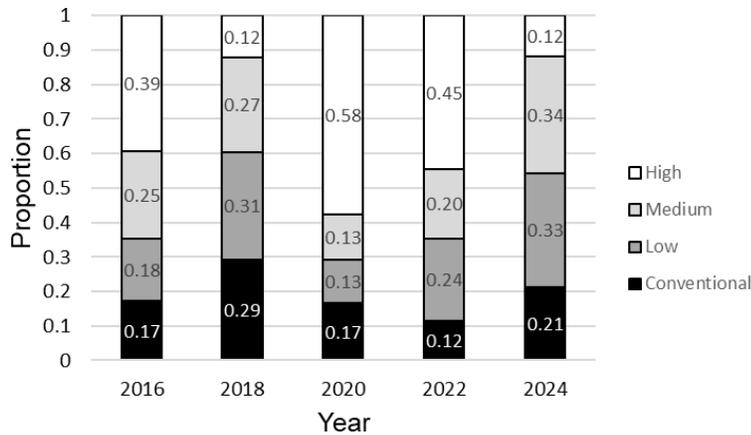
1. The specific types of **BMP Verification** methodologies that we would like to improve upon should be listed as part of our priority discussion topics.
  - a. Remote Sensing technologies and proposed BMP verification methodologies including remote sensing should be prioritized.
  - b. Recommend including discussions about approaches to address to the reverification of USDA practices that are reported in aggregate.
  - c. Recommend discussions about potential improvements to the BMP Verification Framework.
2. This document should be clear about the definition of **BMP Valuation** – if this is to discuss the efficiency values of BMPs, then this should also include discussion about exploring alternatives to expert panels to revise these values.
3. This document should be clear about the definition of **Down-scaling the model**.

Additional comments from PA DEP in support of prioritizing remote sensing efforts (12/17/24).

*I am in full agreement with and thankful for the PA Comments, attached [above]. I would also like to state that remote sensing of cropland BMPs while ensuring a high rate of implementation of those BMPs is the most cost effective and realistic way to rapidly attain the load reduction goals of the Bay TMDL in PA.*

I have also communicated with Mike [Morris] and he provided the supporting information below to help make the point that remote sensing of cropland BMPs, specifically conservation tillage, is of the highest priority to NPS TMDL implementation in agricultural watersheds including the Chesapeake Bay watershed. These BMPs keep soil on the croplands and they are super cost effective and efficient at reducing pollution. Thus, verifying these cropland BMPs is as important as taking the follow up steps to ensure a high rate of implementation of these BMPs across the Bay watershed through strategic funding, targeting and communication.

Please see significant swings in pollution loads from croplands due to shifts in conservation tillage BMP implementation in the Hammer Creek watershed, below from Mike:



Above, Estimated distribution of crop residue levels measured at the time of planting in southeastern Lebanon County for years 2016 through 2024. High residue is defined as  $\geq 60\%$  at time of planting; medium is 30-59%; low is 15-29%; while conventional  $< 15\%$ .

Below, Estimated sediment loading by tillage classification type for the baseline year (2020), and changes predicted from a changed distribution of tillage classes in 2024.

	2020			2024		
	%	acres	lbs/yr	%	acres	lbs/yr
Conventional Till	17	597	2,184,952	21	765	2,801,824
Low Residue	13	453	1,359,191	33	1,193	3,581,390
Medium Res	13	473	1,022,407	34	1,216	2,625,474
High Residue	58	2,079	1,598,029	12	428	328,802
		<b>3,602</b>	<b>6,164,578</b>		<b>3,602</b>	<b>9,337,491</b>

*Conservation tillage BMP implementation is the key to successful agricultural TMDL implementation and so much so that all other BMPs combined are on multiple orders of magnitude lower in their realized impact.*

I have also provided the following charts and slides to further support the need for remote sensing of cropland BMPs as well as the need to ensure a high rate of implementation of those BMPs. The following information resulted from the remote sensing project and NPS work being done in collaboration with Ashley, and Tom Howard from Resolve Hydro. Please see bulleted points and figures below:

- Croplands have the highest loading rate for sediment in agricultural watersheds. Phosphorus is bound to sediment, thus, controlling sediment runoff at the source by

implementing cropland BMPs, significantly reduces both sediment and nutrients reporting to waterways. Source, Model My Watershed:

<b>Fishing Creek</b>	<b>Lancaster County</b>	Sediment (lb/yr)	TN (lb/yr)	TP (lb/yr)	Sed % of total	TN % of total	TP % of total
Hay/Pasture		255,607	934	387	4	0	2
Cropland		5,585,898	15,787	5,822	83	5	32
Wooded Areas		5,714	75	9	0	0	0
Wetlands		161	19	1	0	0	0
Open Land		64	1	0	0	0	0
Low-Density Mixed		4,407	122	14	0	0	0
Medium-Density Mixed		771	14	2	0	0	0
High-Density Mixed		69	1	0	0	0	0
Farm Animals		0	38,456	9,654	0	11	53
Stream Bank Erosion		840,672	408	196	13	0	1
Subsurface Flow		0	293,418	2,080	0	84	11
Septic Systems		0	42	0	0	0	0
Totals		6,693,361	349,276	18,165	100	100	100

- Conservation tillage BMPs are an essential part of the larger vision of vibrant agricultural operations balanced with ecological sustainability:
- PA’s implementation of conservation tillage BMPs currently accounts for 74% of our sediment load reduction, 50% of our phosphorus load reduction and 23% of our nitrogen load reduction from the agricultural sector in PA’s Bay watershed:

- While PA is implementing conservation tillage at impressive rates, there are high value targets of future increases in implementation that will significantly reduce pollution, moving us toward attainment of the Bay TMDL goals. These targets are identified by remote sensing and the subsequent data analysis using the dashboard from our remote sensing pilot project, below:

