BMP Verification Ad-Hoc Action Team (BMPVAHAT) Final Report & Suggestions

Presentation to the WQGIT

05/22/2023

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Overview

I.   2014 Basin-wide BMP Verification Framework

II. Overview of the BMPVAHAT

    I.   Charge & Key Issues Addressed by the BMPVAHAT

    II. Membership

III. Suggestions from Leadership Team

IV. Obstacles to Success

V.   Discussion & Feedback

Reference slides + Additional Resources

Today's Goal: To prioritize suggestions from the BMPVAHAT leadership that are within the WQGIT scope.

We want to **focus on prioritizing actionable items for our discussion today**, however, we acknowledge the bigger questions of the verification program that need to be addressed.

See questions for future consideration slide.

I. 2014 Basin-wide BMP Verification Framework

Report and Documentation from the Chesapeake Bay Program Water Quality Goal Implementation Team's BMP Verification Committee

The purpose of the verification program is to verify that best management practices (BMPs) are working and continue to work properly after they are implemented.

The Basin-wide BMP Verification Framework* provides a structure for our partners to improve the rigor, transparency, and consistency of verification.

*The Verification Framework was developed by the BMP Verification Committee (not the BMPVAHAT).

Strengthening Verification of Best Management Practices Implemented in the Chesapeake Bay Watershed: A Basinwide Framework
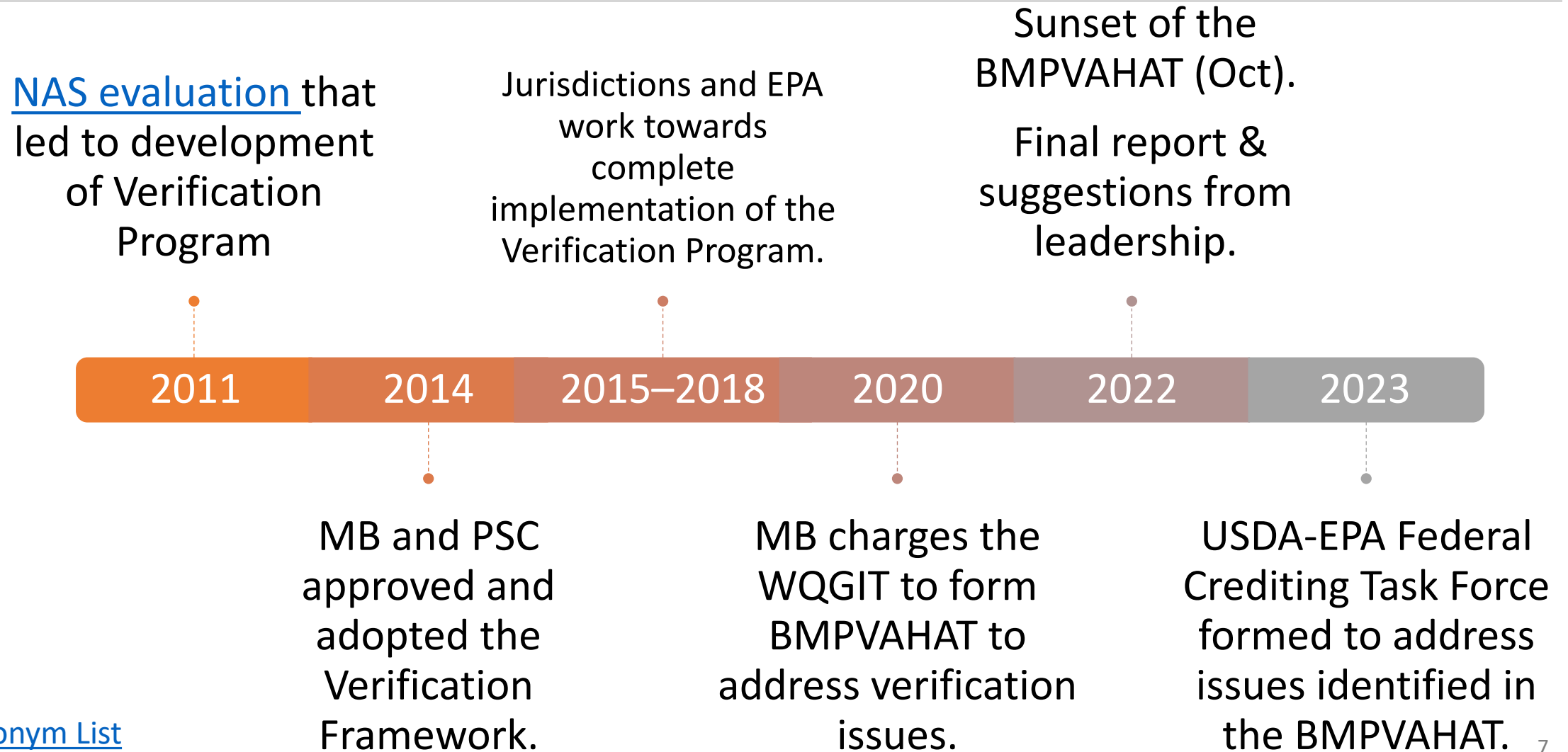
Report and Documentation from the Chesapeake Bay Program Water Quality Goal Implementation Team's BMP Verification Committee
October 2014

Chesapeake Bay Program
Science. Restoration. Partnership.

The Verification Framework is made up of 12 components.

Table 1. The 12 Components of the Chesapeake Bay Basinwide BMP Verification Framework	
Framework Element	*Documentation Location*
BMP Verification Principles	Section 2, Appendix A
BMP Verification Review Panel	Sections 2, 4, Appendix C
Source sector and habitat specific BMP verification guidance	Section 2, Appendix B
Practice life spans	Sections 2, 4, Appendix D
Ensuring full access to federal cost-shared agricultural conservation practice data	Sections 2, 3, 4 Appendices E, F
Enhance data collection and reporting of federally cost-shared practices	Section 2, Appendices F, G
Accounting for non-cost-shared practices	Sections 2, 3, Appendix H
Preventing double counting	Sections 2, 3, Appendix F
Clean-up of historic BMP databases	Sections 2, 3, 4
Development and documentation of jurisdictional BMP verification programs	Sections 2, 3, 4
Partnership processes for evaluation and oversight	Sections 2, 4
Communications and outreach	Sections 2, 4, Appendix I

Timeline

NAS evaluation that led to development of Verification Program

Jurisdictions and EPA work towards complete implementation of the Verification Program.

Sunset of the BMPVAHAT (Oct).

Final report & suggestions from leadership.

| 2011 | 2014 | 2015–2018 | 2020 | 2022 | 2023 |

MB and PSC approved and adopted the Verification Framework.

MB charges the WQGIT to form BMPVAHAT to address verification issues.

USDA-EPA Federal Crediting Task Force formed to address issues identified in the BMPVAHAT.

Acronym List

II. Overview of the BMP Verification Ad-Hoc Action Team (BMPVAHAT)

BMPVAHAT Charge

ISSUE V. Alternatives to "All or Nothing" Approach to BMP (Re)verification

- Can there be gradual or partial credit over a period of time as opposed to zero credit for those BMPs that cannot be verified? Perhaps there's room for a compromise that's acceptable (particularly for those BMPs that are Natural Resources Conservation Service (NRCS) practices).
- Perhaps it is not too soon to revisit the verification structure and framework after only 2 years of verification reporting. Evolving the verification program was always intended, with continuous improvement.
- A one-size fits all approach will not work to verification (Maryland Department of Agriculture would be very willing to discuss what's worked well with their verification program and associated procedures)

ISSUE VI. Revisiting Credit Duration

- Credit durations established some agricultural BMPs are based on NRCS specifications. The remaining credit durations were established by the WQGIT's source sector workgroups. There is debate as to whether these credit durations were based on the best available scientific information.
- There may be some inconsistency with how these credit durations were established.
- Jurisdictions may want to consider conducting a data collection exercise to draw some statistical conclusions to what an appropriate credit duration may be.

This charge led to the development of the BMPVAHAT Task Statement, outlined in the following slides.

Key Issues Addressed by the BMPVAHAT

Like partial credit!

POSSIBILITIES GREY

BLACK

WHITE

IQ > 130
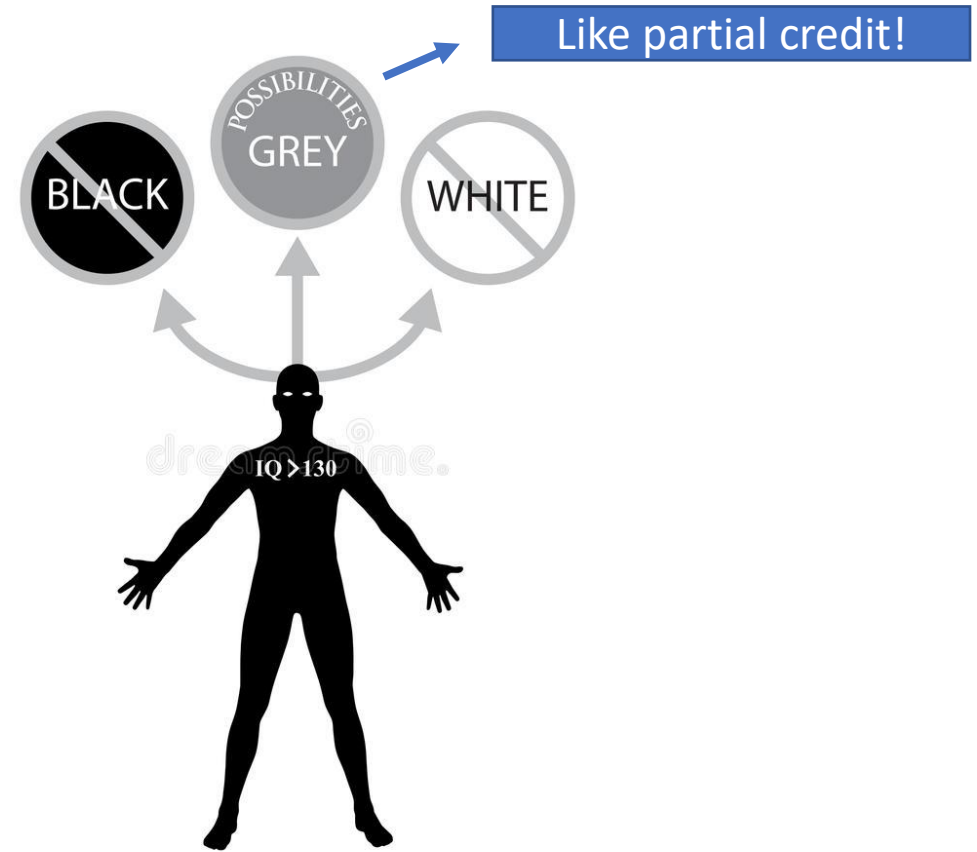
Task 1: Explore alternatives to BMP reverification (the "all-or-nothing" approach), such as partial credit.

Key Issues Addressed by the BMPVAHAT

Task 2: Revisit credit durations.

Key Issues Addressed by the BMPVAHAT
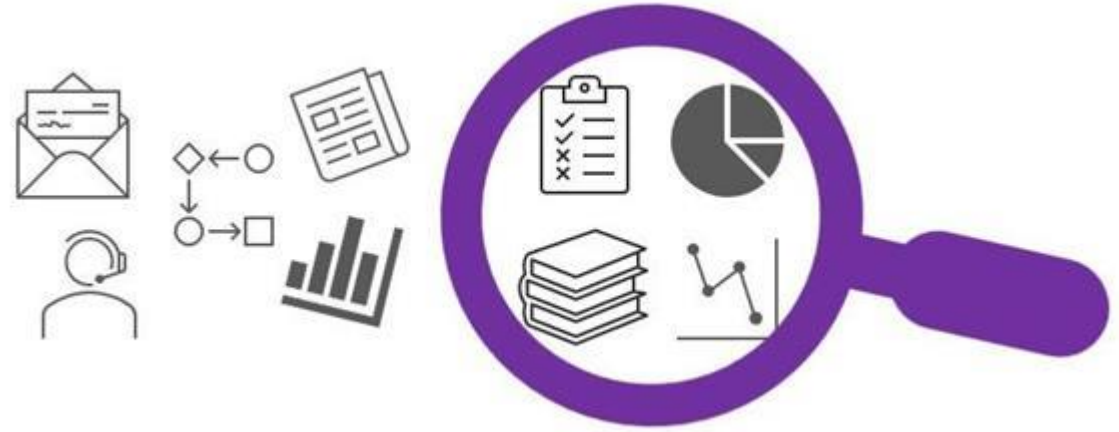
Tree Canopy in 2013 = 6%
Age 10

Tree Canopy in 2017 = 98%
Age 14

Image date = 2013

Image date = 2018

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

MARYLAND
FOREST SERVICE

Slide courtesy of Iris Allen, MD-DNR Forest Service

Task 3: Explore lesser-used approaches to BMP verification, such as remote sensing, statistical subsampling, etc.

Key Issues Addressed by the BMPVAHAT

Task 4: Review recommendations from ongoing BMP verification work being undertaken by the Chesapeake Bay Program.

Key Issues Addressed by the BMPVAHAT

Task 5: Hold broader discussions about verification programs across jurisdictions.

Membership

BMPVAHAT Leadership		
Role	**Affiliation****	**Name***
Chair	WVU	Elliott Kellner
Vice Chair	MDA	Jason Keppler
Coordinator	EPA/CBPO	Vanessa Van Note
Staffer	CRC	Jackie Pickford

* Some individual representatives have changed since the original formation of the BMPVAHAT due to staff turnover, but organizations were represented for the entirety of the charge.

** [Acronym list](#)

BMPVAHAT Voting Members		
Role	**Affiliation****	**Name***
	PA	Jill Whitcomb / Lisa Beatty
	VA	James Martin
	DC	Matt English
	DE	Brittany Sturgis
	WV	Alana Hartman
	NY	Cassie Davis
	MD	Elizabeth Hoffman
	CBC	Adrienne F. Kotula
Signatory Members	EPA	Suzanne Trevena
	CBF	Joe Wood
	GEC	Dana York
	USDA	Leon Tillman
	DoD	Jessica Rodriguez
At Large Members	USFS	Sally Claggett
	AgWG	Gary Felton / Loretta Collins
	USWG	Norm Goulet
	FWG	Rebecca Hanmer
Workgroup Representatives	WTWG	Cassie Davis/Vanessa Van Note
	LUWG	KC Filippino
CBP Advisory Committee Representatives	CAC	Matt Ehrhart
	STAC	Elliott Kellner
	LGAC	Jennifer Starr

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III. Suggestions from BMPVAHAT Leadership*

With a focus on suggestions relevant to the WQGIT.

*These are NOT consensus-based recommendations. They were not officially "approved" by the BMPVAHAT. The suggestions were presented to the entire BMPVAHAT membership in October 2022 for feedback. In March/April 2023, members were given another opportunity to provide feedback via poll. The poll results presented in the next few slides highlight feedback from the members who opted to do so.

Category	Suggestion	Who is addressing this?	Status (as of 05/2023)
1) Managing verification issues in the future	1A) Disband the BMPVAHAT.	BMPVAHAT	In progress.
	1B) Assignments to CBP groups to address verification (source sector WGs).	WQGIT, AgWG, USWG, WWG, WWTWG, WTWG	In progress – confirming these tasks with source sector WG leadership.
2) The 1619 data sharing issue	2A) Discontinue verification requirements for federally funded ag practices.	Federal Task Force	TBD / in progress – task force will discuss this and alternative solutions to 1619 issue.
	2B) Regular updates to WQGIT from Federal Task Force.	Federal Task Force	In progress - confirmed with task force leadership that this will occur.
	2C) Communication between EPA & NRCS to discuss solutions to data sharing.	Federal Task Force	In progress – part of task force charge.
	2D) WQGIT and AgWG should be updated on PA & VA pilot projects.	WQGIT, AgWG, PA & VA pilot project leads.	In progress – confirmed with project leads that this will occur once pilots are complete.
3) Addressing jurisdictions concerns on the capacity to perform on-the-ground verification	3A) Cost-benefit analysis on verification program.	WQGIT?	TBD - If determined a priority, WQGIT can submit a GIT funding project. Alternatively, WQGIT can draft a framework for the analysis or identify datasets needed.
	3B) External review of verification program.	WQGIT?	TBD - If determined a priority, WQGIT can submit a GIT funding project or STAC workshop proposal.
	3C) Group similar to BMP Verification Committee should be the one to address any reevaluations to framework.	WQGIT? MB? PSC?	TBD - If the WQGIT is tasked to create a group in the future to revisit the main body of the framework, this should be taken into consideration.
	3D) STAC technical review or STAC workshop for analysis of verification program.	WQGIT?	TBD - If determined a priority, WQGIT can submit a GIT funding project or STAC workshop proposal.
4) Addressing BMP performance	4A) STAC Workshop or technical review on BMP performance.	WQGIT?	TBD - If determined a priority, WQGIT can submit a GIT funding project or STAC workshop proposal.
5) Continuing discussions on credit durations	5A) Extension of RI-forest buffer practice credit duration.	AgWG	TBD / In progress – vote & discussion at June 2023 AgWG meeting.
	5B) Revisit grass buffer credit duration.	AgWG	TBD – AgWG has not yet determined if this is a priority to revisit.
6) To improve documentation of CBP activities surrounding verification	6A) amend report to 2014 framework.	CBPO staff	In progress

Category 1: Managing Verification Issues in the Future

Who will tackle these issues now that the BMPVAHAT disbanded?

Suggestion 1B

*support = all members that responded to the poll voted to endorse, agree w/ reservations or stand aside.

Per the Basinwide Framework, responsibilities for addressing verification issues should be assigned to the following groups:

- **Alternative Verification Methods** ➔ the source sector workgroup that originally developed the guidance.

- **Reevaluating Credit Durations** ➔ the source sector workgroup that originally assigned the value.

- **Reevaluating the concept of credit duration** ➔ Watershed Technical Workgroup.

Category 2: On the 1619 Data Sharing Issue

EPA and USDA-NRCS Federal Task Force formed in 2023 to address these issues.

Category 2: What is the data sharing issue?

The USGS-NRCS aggregated dataset **only provides partial access** to federal cost-shared agricultural conservation practice data.

Both VA and PA have pursued pilot projects to explore alternatives to the data sharing issue. These projects are complete, but the results have not been finalized.

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This never happened.

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Suggestion 2D

The AgWG should be briefed on the outcomes of the PA and VA pilots and discuss if these outcomes met the expectations of the state agencies and assisted them in overcoming the issue of the 1619 agreements.

The WQGIT should be briefed on the discussion at the AgWG and the NRCS pilot projects that were completed in 2022.

Category 3: On addressing jurisdictions' concerns on the capacity to perform on-the-ground verification.

We don't know the "true cost" of the verification program.

Suggestion 3A

Perform **cost-benefit analysis** on the CBP's verification program to:

- Track investment
- Identify drains on resources
- Determine what resources are really needed
- Define the return on investment the Bay Program is currently receiving through the Verification Program

Suggestion 3A Member Feedback

Concerns Raised

- Ability to fund this

- Individual analyses already done by jurisdictions

- Benefits beyond verifying current practices should be considered in the analysis

- Workload analysis should be included

- Time & resources can be better spent refining Framework/Programs

Legend: Yes, Endorse | Yes, Agree with reservations | Stand Aside | No, Hold | No, Stop
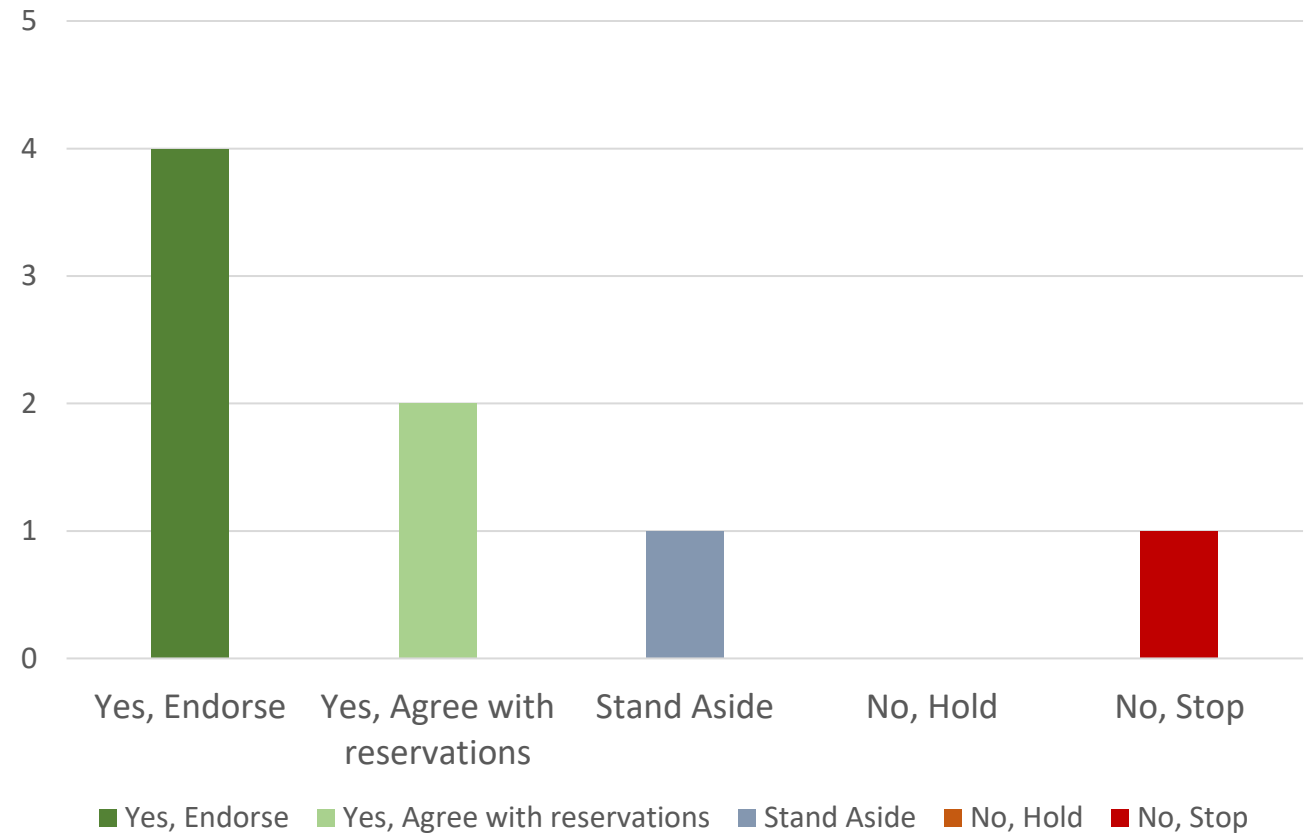
Suggestion 3B

An **external review of the Bay Verification Program**, conducted by NAS or another entity, should be performed to ensure that the Verification Program has improved practice accounting and accountability overall since 2009.

This would contribute to a clearly defined return on investment and would assist the Program in prioritizing needs for post-2025.

Suggestion 3B Member Feedback

Concerns Raised

- Ability to fund this

- Inadequate time to inform 'beyond 2025' discussions

- Time & resources can be better spent refining verification framework/programs

- Combine analyses from suggestion 3B and 3A?

Suggestion 3C

SUPPORTED
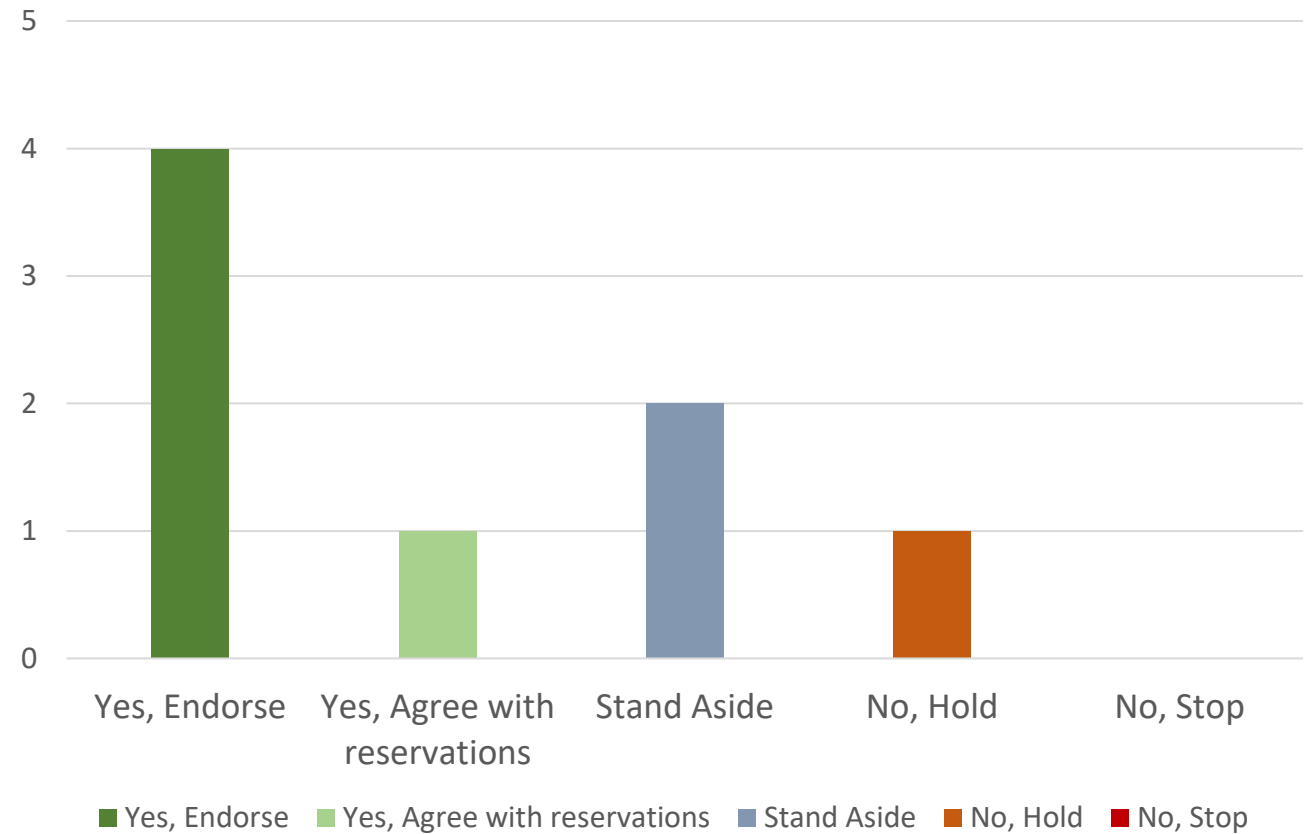
Should the main body of the framework (Sections 1-6 of the Verification Framework) at any point be reevaluated, a committee with similar structure, membership, and chain of approval to the BMP Verification Committee should be reestablished under the WQGIT.

Comments

- Might be better under the MB
- Should define chain of approval or elevation if consensus isn't reached

Suggestion 3D

SUPPORTED

If the partnership does not support the recommendations above, **a STAC Technical Review or Workshop focusing on our Verification Program** could be a possible first step. Some potential guiding questions:

- Our system for verifying BMPs – Does it work? Are we more accountable than we were before? What is our return on investment?

- Itemized BMP verification – Does this really give us a view of what is happening in agriculture?

- Visiting national and international accountability systems – Are there any other systems out there that we can study and compare to our own?

Comments

- STAC review would be better than a workshop.

- NAS evaluation would be preferable to STAC

Category 4: On addressing BMP Performance

We do not have a system in place to assess BMP performance.

Category 4: What is the BMP performance issue?

Evaluating BMP performance through a "systematic collection of data" is a key part of the verification lifecycle defined in the Verification Framework.

The partnership needs to receive all the data collected during practice installation and inspection to do this.

Current investments into verification have not yet allowed for full exploration, collection, and application into BMP performance outcomes.
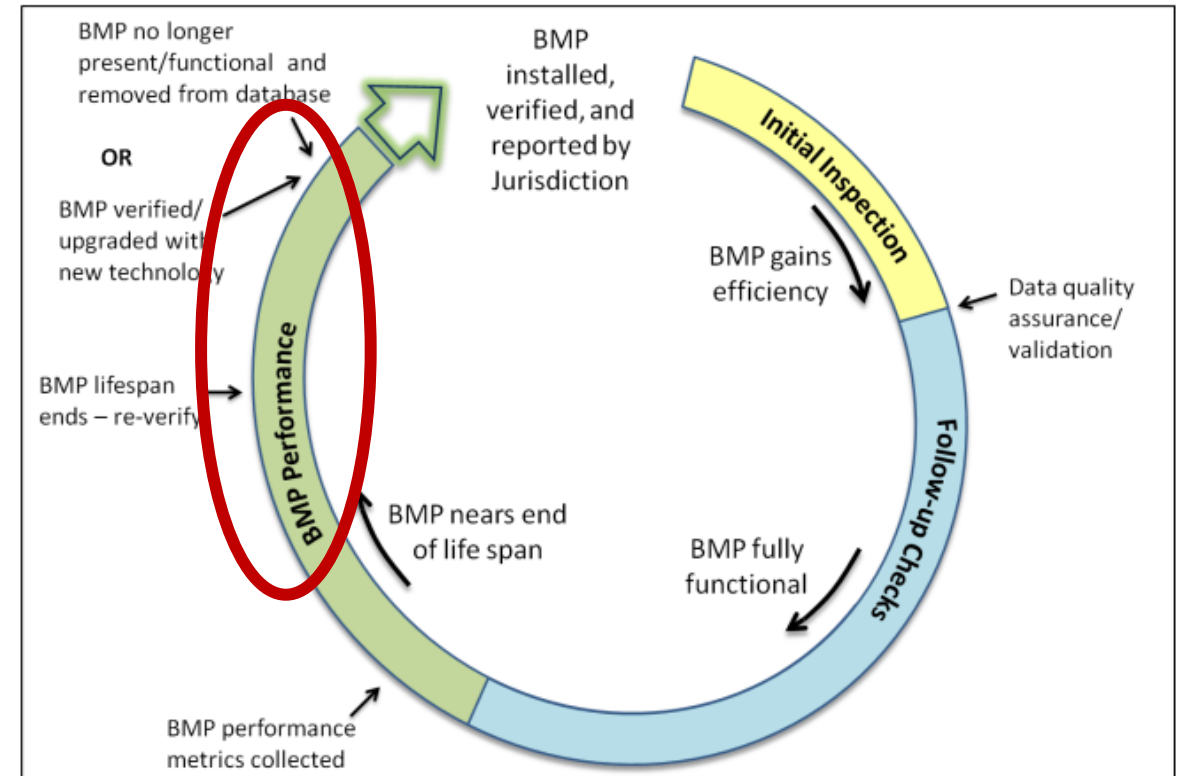
Image taken from the Basin-wide Verification Framework.

Suggestion 4A

A STAC Workshop or Technical Review on BMP performance.
Some potential guiding questions below:

- BMP performance over time (Inspections) – What is the most efficient way to collect data on performance over time? Should statistical analyses be applied across the board? What assumptions are we willing to make?
- Uncertainty in verification – How do we account for uncertainty in our reporting?

Suggestion 4A Member Feedback

Concerns Raised

- Ability to fund - Need to prioritize which of these is most important

- Should wait to see approach for beyond 2025 and if system for tracking progress changes

- Issue should be addressed by Phase 7 modeling teams
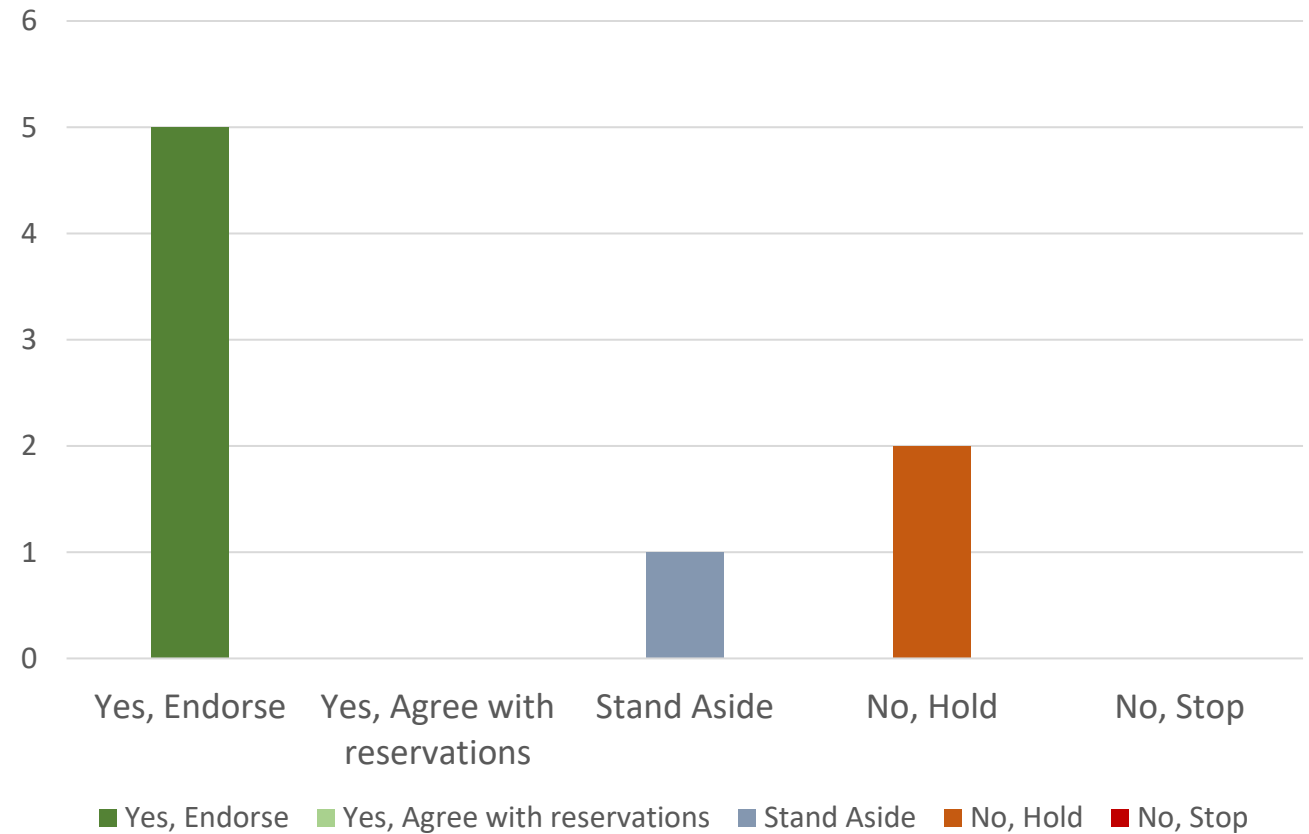
IV. Obstacles to Success

Obstacles to success with Verification
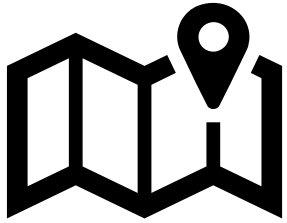
Data Sharing:
Unable to verify practices without knowing where they are located.
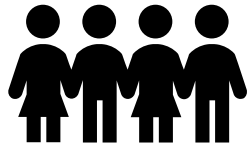
Landowner Approval:
Even if the location of practices is known, landowner approval is still required for inspection.
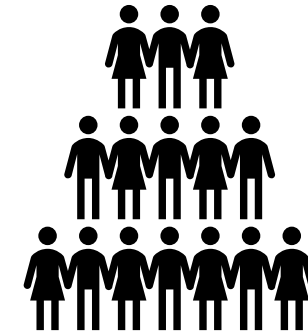
Capacity to verify:
States have indicated they do not have enough resources to verify. Some solutions are being explored via remote sensing, pilot projects, etc.

Obstacles to success in the BMPVAHAT

Lack of membership authority:
Our membership did not have the authority to make changes to the verification framework, source sector verification guidance, or many of the hurdles surrounding verification that were identified by the group.
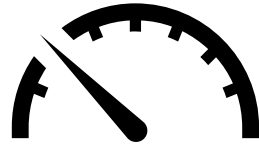
No system in place for assessing BMP performance:
Unable to assess how BMPs are performing because no system for assessing available data, lack of consistent data collected, and inability to incorporate guidance from source sector experts.

Itemization of BMPs:
Current verification system focuses on tracking individual BMPs, rather than capturing the majority of practices.

Source sector workgroup roles:
Our membership was not equipped to be making decisions about credit durations for sector specific BMPs. Source sector workgroups have the membership, knowledge, and expertise needed to make these decisions.

V. Discussion & Feedback

The reason we are here!

Tell us what you think…

- What issues do you feel are most important to be addressed by the partnership/WQGIT?
  - E.g., addressing capacity concerns, creating system to assess BMP performance.

- Are there any suggestions that you feel should be a TOP priority? Why?

Keep in mind: some suggestions can be combined.

BMPVAHAT Suggestions that are WQGIT-specific

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Impact: potential payoff →

1: Low effort, high impact – quick wins

2: High effort, high impact – major projects

3: Low effort, low impact – fill ins

4: High effort, low impact – thankless tasks

Effort: cost, time, resources

3A: Cost-benefit analysis

3B: NAS External Review

3D: STAC workshop or review: BMP performance

4A: STAC workshop or review: Verification Program

Questions for Future Consideration...

What does accountability look like to the Partnership beyond 2025?

Is the verification program accomplishing what it set out to?

Reference Slides

Acronym List

AgWG – Agricultural Workgroup

BMPVAHAT – Best Management Practice Verification Ad-Hoc Action Team

BRC – Barnyard Runoff Control

CAC – Citizens Advisory

CBC – Chesapeake Bay Commission

CBF – Chesapeake Bay Foundation

CBP – Chesapeake Bay Program

CBPO – Chesapeake Bay Program Office

DoD – Department of Defense

EPA – Environmental Protection Agency

FWG – Forestry Workgroup

GEC – Green Earth Connection

LGAC – Local Government Advisory Committee

LLM – Loafing Lot Management

LUWG – Land Use Workgroup

MB – Management Board

NAS – National Academy of Science

NRCS – Natural Resources Conservation Service (USDA)

PSC – Principals' Staff Committee

STAC – Science and Technical Advisory Committee

USDA – United States Department of Agriculture

USFS – United State Forest Service

USGS – United State Geological Survey

USWG – Urban Stormwater Workgroup

WQGIT – Water Quality Goal Implementation Team

WTWG – Watershed Technical Workgroup

Additional Resources

- BMPVAHAT Final Report and Suggestions (separate attachment)
- [2014 Basin-wide Verification Framework](#)
- [BMPVAHAT Homepage](#)
- [BMP Verification Committee Homepage](#)

Relevant Resources: Credit Durations
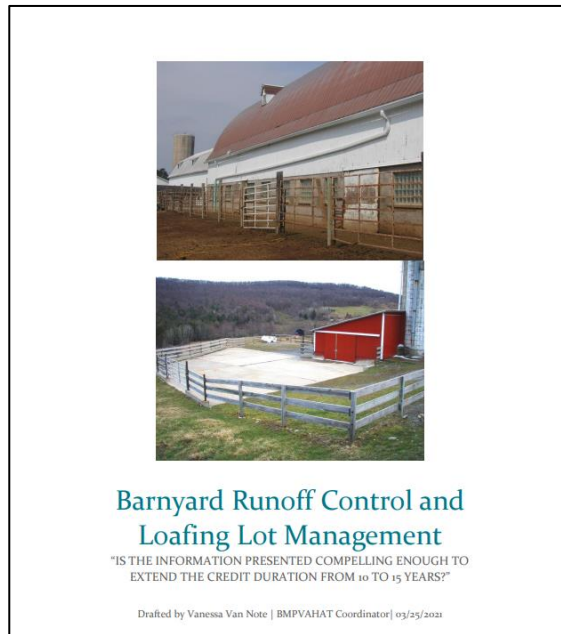
[BRC/LLM Proposal.](#) Data provided by NY, PA, MD that speak to performance of these practices over time.

Appendix 3. Concerns raised by the BMPVAHAT regarding the BRC/LLM Proposal and data provided by the states.

Relevant resources: Verification Programs

Appendix 2. Verification Program Complications and Solutions Identified by Jurisdictions

Appendix 4. BMPVAHAT Presentation to Bay Managers Slides

Return to meeting table here.

Update from the BMP Verification Ad-Hoc Action Team

Vanessa Van Note, EPA

The Data Sharing Issue

• For which states?

IV. Summary of Meetings

Appendix 2. Outlines programmatic verification issues and potential solutions identified during discussions at the BMPVAHAT monthly meetings.

Appendix 4. Provides additional info on the data sharing issues identified in the BMPVAHAT.

Section IV. Summarizes every BMPVAHAT meeting with links to meeting materials, descriptions of decisions made, and presentations given.