Before Beginning: Please note that the Framework Document Contains a comprehensive history of when decisions were made, why decisions were made, and by who decisions were made.

WHO CONTRIBUTED DIRECTLY TO THE FRAMEWORK DOCUMENT?

The Partnership Approved Verification Principles, The Source and Habitat Specific Workgroups (responsible for the development of source specific verification protocols), The Verification Review Panel (Regional and national verification experts charged to review/make recommendations on each jurisdiction verification program).

Which Source Sector Workgroups were involved?

Agriculture, Forestry, Stormwater, and Wastewater.

Which Habitat Workgroups were involved?

Wetlands and Streams

OTHER KEY PLAYERS THAT ORGANIZED THE FORMATION OF THE DOCUMENT

USGS and NCRS (Previous development of BMPs)

EPA CBPO (Provided a historical BMP database)

BMP Tracking and Reporting Leads – One point and one nonpoint rep from each jurisdiction: https://www.chesapeakebay.net/channel_files/18597/point__nonpt_source_contact_leads_oct_2016_2.pdf

BMP Verification Transparency Subgroup

The BMP Verification Steering Committee

All THREE Advisory Committees – Citizens, Local Government, Scientific & Technical

All SIX GITs – Water Quality, Sustainable Fisheries, Habitat, Water Quality, Maintain Healthy Watersheds, Fostering Chesapeake Stewardship, Enhance Partnering, Leadership and Management

The Management Board – Provision of feedback on protocols, Provision of direction following review, Final review of BMP protocols for potential adoption

The Principal's Staff Committee – Review and adoption of BMP protocols

THE CHAIN OF APPROVAL AND COLLABORATION

Source Sector and Habitat Workgroups

BMP Verification Steering Committee (Work together with source sector workgroups, BMP Tracking Leads, BMP Verification Transparency Subgroup to develop protocols)

WQGITs Other GITS (Committee Presented Protocols for Feedback and Direction)

Management Board (Feedback for preparation of verification framework to the PSC)

Principals' Staff Committee (Review and adoption of BMP Verification Framework)

July 2004 – Washington Post publishes "Bay Pollution Progress Overstated: Government Program's Computer Model Proved Too Optimistic" that was picked up on the Associated Press National Wire.

- The article claimed that progress was inflated. While the program reported steady reductions in pollution, the "dead" zone of the Bay continued to grow with prized species populations dropping.
- The article pointed out that the goals set for 2000 for nitrogen and phosphorus (under the Chesapeake 2000 Agreement) were not met.

In response: The Bay program submitted a letter to the Editor; but it was never posted.

October 2005 – GAO Audit "Improved Strategies are needed to better assess, report, and manage restoration progress"

https://www.gao.gov/products/GAO-06-96

July 2007 – EPA Letter to Senator Mikulski

- Assurance to the Senator that the GAO recommendations from the 2005 Audit are being taken seriously and the recommendation from the GAO of managing/coordinating restoration efforts is underway.
  http://archive.chesapeakebay.net/pubs/calendar/PSC_10-01-07_Handout_2_9029.pdf

July 2008 – EPA OIG Audit of the Chesapeake Bay Program

"EPA Needs to Better Report Chesapeake Bay Challenges"

Bay partners need to address:

• uncontrolled land development

 • limited implementation of agricultural conservation practices

• limited control over air emissions affecting Bay water quality

https://www.epa.gov/sites/production/files/2015-11/documents/20080714-08-p-0199.pdf

November 2008 - At the Executive Council meeting, The Governors, the Mayor, and the Administrator and the CBC Chair requested to increase accountability.

- "that the Chesapeake Bay Partnership be evaluated by a nationally recognized independent science organization."
- This launched a series of initiatives to increase the transparency of the program and heighten its accountability

2008 – The partnership under the leadership of the PSC, convened an Independent Evaluator Action Team whom constructed study questions and the EPA managed a contact with the National Academy of Sciences.

2009 – Under the direction of the Chesapeake Executive Council (EC), the National Research Council of the National Academy of Sciences (NAS) established the Committee on the Evaluation of Chesapeake Bay Program Implementation for Nutrient Reduction to Improve Water Quality

- A two year endeavor culminating in the NRC Report "Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation"
- Assessed the framework used to track nutrient and sediment control practices in the watershed.
- Assessed adaptive management strategies and recommend improvements to meet nutrient and sediment reduction goals.
- Identified possible strategies and focused on approaches that are not being implemented to their full potential.

https://www.nap.edu/read/13131/chapter/1

June 2009 – MD and VA Senators Introduce Bill to support Bay Clean-Up

May 2010 – Executive Order 13508 Chesapeake Bay Protection and Restoration Section 203 Final Coordinated Implementation and Strategy

The purpose of this strategy is to describe federal actions to protect and restore the health, heritage, natural resources, and social and economic value of the nation's largest estuarine ecosystem and the natural sustainability of its watershed. The EO requires that the final strategy be published within one year of the date of the EO.

https://www.federalregister.gov/documents/2010/05/11/2010-11143/executive-order-13508-chesapeake-bay-protection-and-restoration-section-203-final-coordinated

UNDER EO 13508

- Publish annual Chesapeake Action Plan to describe how federal funding proposed in President's budget will be used to protect and restore the Chesapeake Bay during 2010-2011.
- Release of Annual Progress report in 2012 – Consulting state agencies, local governments, the public, and other stakeholders in the development of the annual Action Plan and Progress Report.

June 2010 -- Action Team Created

- Work towards aligning Bay goals.

June 2010 (-2012) – 1619 Data Sharing Agreements with USDA NCRS and FSA

- Maryland, New York, Virginia and West Virginia as well as the U.S. Geological Survey (USGS) currently have signed 1619 data sharing agreements with U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) and Farm Services Agency (FSA). As part of the collaborative work on larger BMP Verification Framework, the jurisdictional partners are working closely with NRCS and FSA to ensure all six states have consistent, comprehensive data sharing agreements in place.

The Partnership has committed to the development of a basinwide best management practice (BMP) verification framework for use by the seven watershed jurisdictions to assure data quality for BMP reporting for annual Model Progress runs.

August 2010 – U.S. Geological Survey and Farm Service Agency (FSA) Five Year Cooperative Agreement

https://www.chesapeakebay.net/channel_files/19389/usgs_fsa_cooperative_agreement_8-2-10.pdf

**December 2010 – USDA, NRCS, and U.S Geological Survey Interagency Agreement through 2015

May 2011 – NRC Report "Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation"

May 2011 – PSC Alignment Decision

- The Chesapeake Bay Program's Executive Council (EC) and the Federal Leadership Committee for the Chesapeake Bay (FLC) have called for coordinating and, where appropriate, integrating the goals, outcomes, and actions of the Chesapeake Bay Program (CBP) with the goals, outcomes and actions described in the Executive Order Strategy. At the same time many of the dates and targets associated with outcome-oriented commitments made in the most recent blueprint for the Chesapeake Bay restoration effort - the Chesapeake 2000 Agreement – have largely expired, whether or not they were fulfilled.

September 2011 – U.S. Government Accountability Office (GAO) Performance Audit

"Restoration Effort Needs Common Federal and State Goals and Assessment Approach"

- To achieve the measurable goals outlined to achieve water quality standards by 2025, federal agencies, states, and other entities need to collaborate.
- "Not all Stakeholders are working toward achieving Federal Goals."

Recommendations: EPA work with federal and state stakeholders to develop common goals and clarify plans for assessing progress.

Response: EPA agreed with recommendations.

https://www.gao.gov/assets/330/323256.pdf

November 2011 – In response to the NRC document Independent Evaluator compile Key Challenges for the partnership with a highlighted focus on Tracking and Accountability. The evaluators recommended next steps under the guidance of the MB (charged by the PSC).

- The NRC determined that accounting of BMPs was not consistent across jurisdictions.

November 2011 -- The MB then recommended BMP effectiveness/monitoring and accountability recommendations to the Chair of the PSC.
https://www.chesapeakebay.net/channel_files/21203/memorandum_response_to_nas_mb_to_psc_11
-3-2011_recommendation_to_explore_cb_lab.pdf

February 2012 – The PSC approved the development of a partnership wide approach to BMP verification and agrees to the formation of a BMP Verification Steering committee at the WQGIT's request.

https://www.chesapeakebay.net/channel_files/18703/cbp_wqgit_bmp_verification_steering_committe
e_membership-charge_revised.pdf

March 2012 – First BMP Verification Committee Meeting

- ~25 members
- Represented DE MD Agribusiness Associated, VA Office of Natural Resources, PA DEP, USDA, US Navy, CBC, HOPE Impacts, NCRS, VA Environmental Quality, CBF, WV DoA, DC DOEE, MDA, Upper Susquehanna Coalition, University of DE, Resource Dynamics, UMD, USFWS, EPA,CSN, VA Tech
- Charge: CBP partnership will develop a BMP Verification Program for confirming nutrient and sediment reductions from a full array of BMPs and technologies implemented across all sources (agriculture, urban, on-site treatment systems, WW discharge, etc.)

- Review, comment on, and modify a working draft approach to preventing double counting BMPs developed by USGS working with the six states and NRCS.
- Review, comment on, and modify a working draft approach to cleaning up historical BMP databases developed by EPA Chesapeake Bay Program Office staff.
- Synthesize the various source sector workgroups and accounting workgroups/teams recommended verification protocols, feedback on the principles, etc. into an initial BMP verification framework for presentation to the WQGIT and then the other GITs for feedback and direction.
- Take the individual and collective feedback from the six GITs and the three advisory committees and revise the BMP verification framework prior to presentation to the Management Board.
- Take the feedback from the Management Board and work with the appropriate workgroups and GITs to address the concerns and specific direction from the Management Board.
- Let the Management Board know when all the components of the partnership's overall BMP verification framework are ready for presentation to the Principals' Staff Committee for review and adoption.
-
- Face to Face Meetings were scheduled with source sector workgroups.
- Conference calls scheduled with bay program staff and PA DEP, MDA, MDE, DC DOE, VA DCR, WV DoA, WV DEP reps to review BMP tracking and reporting systems.
- Met for three years; 2012 to 2015.

https://www.chesapeakebay.net/who/group/best_management_practices_bmp_verification_committee

September 2012 – BMP Verification Review Panel Approved by MB

- Met for three years, leading up to the submission of a final report to the PSC on Jurisdiction Specific BMP Verification Program Plans.
- 15 members that were formally invited to participate
- Independent panel representing Green Earth Connection, Chesapeake Stormwater Network, US Department of Agriculture Research Service, Sustainable Northwest, Ag Resource Strategies, US Geological Survey, University of Arkansas, Ecofor, DC DOEE, Villanova University, Green Earth Connection, Warwick Township (Lancaster, PA), Community and Environmental Defense Services

- The Verification Panel will provide advice, feedback, and recommendations to the CBP partnership as it develops its verification program – provide recommendations for changes to the draft BMP principles.
- Individual panel members worked with source sector workgroups, providing advice, feedback, and recommendations during the respective WKGP's development of verification protocols specific to their sector.
- BMP Verification Principles used as criteria to assess strengths and vulnerabilities in state verification programs, providing recommendations to CBP MB on each jurisdiction's program.
- BMP Verification Panel evaluated for a consistent level of verification rigor across source sectors and jurisdictions.

December 2012 -- CBP BMP Verification Principles

- The BMP Verification Committee developed the five verification principles, with review and input provided by the BMP Verification Review Panel, Water Quality Goal Implementation Team, and Management Board, and approval by the Principals' Staff Committee.
- 1) Practice Reporting
- 2) Scientific Rigor
- 3) Public Confidence
- 4) Adaptive Management
- 5) Sector Equity
  https://www.chesapeakebay.net/documents/Ches_Bay_Program_Partnership_BMP_Verification_Principles.pdf

February 2013 – BMP Verification Transparency Subgroup

- ➢ 10 members: UMD, VA Tech, DE MD Agribusiness Association, DE Department of Agriculture, CBC, HOPE Impacts, WV DoA, USGS

The BMP Verification Transparency Subgroup was convened by the BMP Verification Committee at its February 21, 2013 meeting in response to a request from the CBP Partnership's Agriculture Workgroup. The Transparency Subgroup was charged by the BMP Verification Committee with developing recommendations for how to address the issue of ensuring transparency in the context of the agricultural verification protocols and reporting back to the Agricultural Workgroup its recommendations for addressing transparency.

https://www.chesapeakebay.net/who/group/bmp_verification_transparency_subgroup

November 19, 2013 – BMP Verification Review Panel provides formal guidance and recommendations to the source sector workgroups, the BMP Verification Committee, and the Jurisdictions

https://www.chesapeakebay.net/channel_files/21511/cbp_bmp_verif_review_panel_recommendations_11_19_2013.pdf

December 2013 – USGS Publishes Report to Integrate Federal and State data Records

"Integrating Federal and State Data Records to Report Progress in Establishing Agricultural Conservation Practices on Chesapeake Bay Farms"

https://pubs.usgs.gov/of/2013/1287/

August 2014 – Final Draft of Basinwide Framework made available to Management Board From WQGIT and BMP Verification Committee

https://www.chesapeakebay.net/channel_files/21753/cbp_bmp_verification_framework_final_draft_for_mb_review_08112014.pdf

September 2014 – MB and the PSC approved and adopted the Chesapeake Bay Basinwide BMP Verification Framework

https://www.chesapeakebay.net/channel_files/21461/attchmt_vi.c._-_psc_chair_joe_gill_bmp_verification_ltr_to_cbp_partners_11_3_2014.pdf

June 2015 – Jurisdictions submit draft BMP verification program plans to the BMP Verification Review Panel

July 2015 – BMP Verification Review Panel Two Day Meeting to review Jurisdiction Draft BMP Verification Plans

August 27-28 – BMP Verification Review Panel provides final feedback on seven jurisdictions' draft BMP Verification Programs

October 2015 – BMP Expert Panel Provides Final Written Feedback and Recommendation on each jurisdiction verification program to the CBP's BMP Verification Committee, WQGIT, MB, and PSC.

https://www.chesapeakebay.net/channel_files/23025/cbp_bmp_review_panel_final_evaluation_of_jurisdictions_draft_verification_plans-september_4.pdf

October 2015 – January 2016 – Continuous development of jurisdiction verification program (with oversight from the BMP Verification Review Panel, EPA, MB, and PSC)

January 2016 to December 2018 – Path to Full Verification Implementation effective for the 2018 Progress Run.

> ➢ Framework Implementation Timeline (From CBC September 2014 Presentation)

https://www.chesbay.us/library/public/documents/Meetings/September-2014/Presentations_Sept2014/Jack-Frye_CBP-MB-BMP-Verif-Framework-Briefing-9_11_2014.pdf

Access Framework Document and Data Sharing Agreements

https://www.chesapeakebay.net/who/group/best_management_practices_bmp_verification_committee

THE REFORMATION OF THE BMP ACTION TEAM and CURRENT BMP VERIFICATION WORK BY THE BAY PROGRAM

September 2019 -- Letter from the WQGIT to the MB as a result of WQGIT July 2019 Meeting

> ➢ Written by WQGIT Co-Chairs and WQGIT Vice Chair
> ➢ Requested the following considerations and recommendations on:

1) Timing and format of annual updates to jurisdiction's verification plans. (Charged by MB to WTWG)

2) The process and timing for review, approval and publication of the annual updates to jurisdictions' verification program plans and QAPPs to ensure the equitable and consistent application of verification standards between states with EPA providing a detailed explanation on how it conducts its verification review. (Charged by MB to Jeff Sweeney and WTWG; Jurisdictions were to submit comments by March 6, 2020)

3) Procedures for review and approval of any additional data collection and verification expectations that are beyond those included in jurisdictions' approved verification program plans, particularly those that are beyond the CBP partnership's basinwide verification framework document. (Issue with PA and DE charged to Jeff Sweeney and Mark Dubin to be presented to AgWG and WQGIT)

4) Improving the reporting of verification actions that remove or discount reported BMPs from the model. Efforts should focus on final progress scenarios in CAST. The verification actions to remove BMPs at the end of their credit duration are included in "error reports" that are uploaded to each state's password-protected sites but are not currently included in CAST reports. (Charged by MB to WTWG and Lucinda Power to ensure transparency.)

5) The current all-or-nothing approach to BMP re-verification. The partnership should explore the potential for partial credit, or variable credit through time rather than losing 100% credit for practices outside of their credit duration or otherwise removed for verification. (Charged by MB to BMP Ad-Hoc Team)

6) Procedures for updating or establishing BMP credit durations. The partnership should re-assess the scientific/logical basis for the established credit durations and update them as appropriate. (Charged by MB to BMP Ad-Hoc Team)

7) Back-out and cut-off procedures, documenting those processes and ensuring they are consistent with the processes for updating land cover and transparent in CAST data reporting. (Charged by MB to WTWG)

8) Determining and including an estimate of the costs of verification for each BMP in CAST. (Charged by MB to Lucinda Power and the CAST Development Team)

Additional Concerns:

1) The process and methods used by the CBPO modeling team to evaluate annual progress data submissions. The analysis that was done for 2018 progress did not accurately reflect the details of the data and resulted in faulty conclusions that reflected poorly on reporting jurisdictions. The jurisdictional members request that moving forward, the analysis methods be developed in coordination with the partnership and be clearly documented. (Response:

2) Ensuring jurisdictions have full access to all federally cost-shared conservation practice data and enhancing reporting of federally cost shared practices were among the twelve Verification Framework elements approved by the partnership.

(Action: The Management Board will discuss the possibility and utility of convening a larger and formalized partnership group to tackle verification issues and concerns that have watershed-wide implications.)

January 22, 2020 -- MB Direction

➢ **Action for Issues V and VI**. Charge the WQGIT with convening an ad-hoc action team to discuss BMP credit duration and lifespan. Composition of this action team should include all WQGIT signatory representatives; WQGIT at-large members; a representative from each source sector workgroup; and a representative from each of the three Advisory Committees (Local Government, Citizens, and Science & Technical). Additional membership to include national experts on verification could be explored.
  ○ A specific charge, the purpose, and targeted objectives will be developed, as well as a timeline for fulfilling the charge. It is likely that this action team may be convened in the future to discuss new verification concerns and issues.

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

Issue VI. Revisiting Credit Duration

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.

Chain of Approval

As stated by the management board, not all potential solutions to the BMP verification concerns will work on the same timeline and in parallel. Approval of recommendations will require collaboration across the program.

Once the BMP Ad-hoc Action Team BMP Ad-Hoc Action Team develops recommendations with on-going collaboration with source sector workgroups and updates provided to the WQGIT, the recommendations will undergo a review process.

The chain of approval will follow the three-stage formal review process which is outlined in the Framework document under the BMP Review Protocol, and at minimum, includes:

1) Relevant Source Sector Workgroups will review the scientific basis of the recommendation, ensuring that all pollutant source loading or BMP pollution reduction mechanisms have been included.
2) Watershed Technical Workgroup analyzes the technical components of the recommendation.
3) WQGIT will review the process used and the recommendation's consistency.
4) There is a possibility that the MB could be involved in the approval process.

*Each group may be given a 10 business day review period per the CBP Partnership Review Process.

https://www.chesapeakebay.net/documents/CBP_BMP_Expert_Panel_Protocol_WQGIT_approved_7.13.15.pdf

Where to review current credit durations?

➢ Phase 6 NEIEN Appendix

https://cast.chesapeakebay.net/Home/TMDLTrackingReports