HISTORIC BMP AND WASTEWATER DATA CLEANUP

December 4, 2014

CBPO is seeking approval to add the following information to the Chesapeake Bay TMDL Midpoint Assessment Project Management & Tracking Tool that should be available online by January 2015 in order to provide a "one-stop shop" for historic data cleanup. Additional information data cleanup for wastewater discharges will be added.

***Feedback Requested**:*

- *Does the WQGIT have suggested changes or additions to the material provided below?*
- *How can EPA and/or the CBP partnership support jurisdictions in their historic data cleanup efforts?*

***Approval Requested**: To post agreed-upon information to the Chesapeake Bay TMDL Midpoint Assessment Project Management & Tracking Tool and make it available online.*

WHAT? As part of the Chesapeake Bay TMDL Midpoint Assessment, the seven Chesapeake Bay jurisdictions are expected to "clean up" the information on best management practice (BMP) information and wastewater treatment plant discharges that they have submitted to the Chesapeake Bay Program Office (CBPO).

WHEN? CBPO must receive complete, quality-assured and final information in proper formats by **September 30, 2015**, in order to remain on track with the Midpoint Assessment schedule. Draft historic BMP data for non-wastewater sources needs to be submitted through the National Environmental Information Exchange Network (NEIEN) by **June 30, 2015,** to allow enough time for processing and jurisdictions' review to work through issues of data quality and completeness.

WHY? Information on BMP implementation and wastewater plant discharges that is as accurate as possible is integral to:

- **Calibrating the Phase 6 Watershed Model:** This process uses information on land use, pollutant sources, BMPs, and wastewater discharges and controls to calibrate watershed processes to monitored water quality data. Accurate BMP and wastewater data increases the model's accuracy of attributing observed loads (and changes in those loads) among sources. Historic BMP data take on additional importance in Phase 6 as groundwater and surface storage lags will be explicitly simulated. Water quality in streams is effected by the current and past practices on the land.
- **Planning and Reporting Future Actions:** Federal, state and local partners will be better able to select future actions and track progress if the partnership has a more accurate accounting of implementation to date. Historic BMP data will allow partners to identify where there are opportunities to implement more controls. If partners do not correct certain errors in past reporting (e.g., reporting implementation of stormwater practices on 100% of available urban lands in a particular county), they will not be able to receive credit for future implementation.

- **Using Monitoring Data to Assess the Impacts of Past Efforts:** Understanding the factors affecting observed trends in water quality requires a clear understanding of what actions have been implemented over time. An accurate accounting of management practices will improve the ability of the USGS and other partners to evaluate the contribution of management actions to observed changes in loads from the watershed.
- **Assessing the Critical Period:** The partnership selected 1993-1995 as the critical period for the Chesapeake Bay TMDL. WIP targets are estimates of additional load reduction needed from what was implemented during that period. Accurate accounting of past management practices increases the accuracy of WIP targets.

WHO? Jurisdictions are responsible for submitting amended data to CBPO. The following table contains contacts in each jurisdiction for non-wastewater BMPs.

Jurisdiction	Name	Email Address
Delaware	Marcia Fox	marcia.fox@state.de.us
District of Columbia	Martin Hurd	martin.hurd@dc.gov
Maryland	Greg Sandi	gregorio.sandi@maryland.gov
New York	Ben Sears	brsears@gw.dec.state.ny.us
Pennsylvania	Ted Tesler	thtesler@state.pa.us
Virginia	Bill Keeling	william.keeling@deq.virginia.gov
West Virginia	Alana Hartman	alana.c.hartman@wv.gov

[*Wastewater contacts be added*]

Jurisdictions are encouraged to work with:

- Federal facilities for information regarding nutrient and sediment controls on facilities within their jurisdiction. Contacts are provided in FAQs;
- U.S. Department of Agriculture for information on cost-shared practices; and
- Local partners who may have local implementation data.

HOW? Jurisdictions should submit data using the following process:
Wastewater: [*To be added*]

Non-Wastewater BMPs:

- Jurisdictions are expected to submit historic BMP data and documentation describing collection and estimation methods through NEIEN XMLs using the available Codes List and NEIEN Appendix. Example XMLs are located at: http://webservices.chesapeakebay.net/schemas/.
- The revised NEIEN Appendix and Codes List will include new land use groups and an NRCS/FSA crosswalk to accommodate Phase 6 land uses and all historic USDA data. A link to these documents will be provided to jurisdictions.
- Data should be submitted on the most specific geographic and land use scale possible with the understanding that the level of detail available will vary going back in time.
- Jurisdictions should provide documentation to CBPO explaining methods for estimating 1985 – 1999 implementation levels.

SUPPORT: EPA invited jurisdictions to apply for Watershed Implementation Plan (WIP) Assistance Funds in FY2014, and eligible projects included historic data cleanup. EPA will offer WIP Assistance Funds in FY2015 for the specific purpose of developing jurisdictions' verification programs. This includes historic data cleanup efforts. In addition, jurisdictions may use their Chesapeake Bay Implementation Grants and Regulatory and Accountability Program (CBIG and CBRAP) Grants for historic data cleanup. This website also includes more information and points of contact for technical assistance. Finally, information on historic data cleanup was discussed at the following CBP conference calls and meetings:

- Water Quality Goal Implementation Team:
  - October 8, 2014 @ http://www.chesapeakebay.net/S=0/calendar/event/21218/

- Watershed Technical Workgroup:
  - October 2, 2014 @ http://www.chesapeakebay.net/S=0/calendar/event/21401/
  - June 3, 2013 @ http://www.chesapeakebay.net/S=0/calendar/event/19140/
  - April 1, 2013 @ http://www.chesapeakebay.net/S=0/calendar/event/19138/
  - March 4, 2013 @ http://www.chesapeakebay.net/S=0/calendar/event/19137/
  - February 4, 2013 @ http://www.chesapeakebay.net/S=0/calendar/event/19136/
  - December 3, 2012 @ http://www.chesapeakebay.net/S=0/calendar/event/18940/
  - August 1, 2012 @ http://www.chesapeakebay.net/S=0/calendar/event/18458/

STATUS UPDATES: Jurisdictions will provide regular updates on the status of their historic data cleanup efforts through the Wastewater Treatment Workgroup and the Watershed Technical Workgroup. Progress on the cleanup effort will be tracked by jurisdiction and by major source sector, e.g., agricultural and stormwater management BMPs and wastewater discharges.

FREQUENTLY ASKED QUESTIONS:

1. **How does historic BMP data cleanup relate to verification programs that are under development?**
   The jurisdictions will not have to apply their current or future verification procedures or protocols as part of their historic data clean-up. The Basinwide Framework applies to BMPs reported for nutrient and sediment load reduction credit now and into the future. However, clean-up of historic BMP data is a key element of BMP verification in setting up for re-verification of practices reaching their assigned lifespans.

   a. **Are there verification standards for data cleanup we should be aware of?**
      There are not specific "verification standards" for data clean up, but by following the recommended approaches to data clean up, each jurisdiction will be setting their historical data record in the best possible position for the upcoming enhancements to their existing BMP tracking, verification and reporting programs and systems.

   b. **How is this "distinction" of cleanup for past data and verification moving forward actually implemented if states are trying to report non-cost-shared practices and/or trying to cleanup past data?**

All historic BMPs, whether cost-shared or not, need to be reported with an implementation date through NEIEN in the same manner as an annual progress submission. For annual BMPs, jurisdictions are responsible for accounting for BMPs that have expired or have reached the end of their design or plan lifespan prior to the submission. For cumulative BMPs, jurisdictions are only to report new implementation. ScenarioBuilder will account for lifespans for cumulative BMPs.

Lifespans are established according processes defined in "Text Sections Extracted from the May 12, 2104 *Strengthening Verification of BMP Implemented in the CBW: A Basin-wide Framewor*k Relevant to the Partnership's Watershed Technical Workgroup" at http://www.chesapeakebay.net/channel_files/21398/cbp_wtw_text_sections_extracted_from_may_2014_basinwide_bmp_verif_framework.pdf. For BMP lifespans that have not yet been determined through this process, the default will be those defined in the CAST set of tools at http://www.casttool.org/.

For current and future verification, BMPs that have been reported as part of the history can continue to be credited after their recorded lifespans as long as the proper level of re-verification occurs confirming the practice is still present and functioning.

2. **What years should jurisdictions provide information for the historic data cleanup?**
Jurisdictions should provide wastewater and BMP data from 1985 to present. This period covers the entire Phase 6 Watershed calibration period, and subsequent progress run years which will be rerun in Phase 6.

3. **If a jurisdiction cannot provide data for this full time period, what years are most important for jurisdictions to focus on for data cleanup?**
At its October 8, 2014 meeting, the Water Quality Goal Implementation Team decided that the seven watershed jurisdictions can focus their historic BMP database cleanup from 2000 to the present. While the focus of the historic BMP database cleanup will be on more recent data, jurisdictions still need to report estimates of BMP implementation for the entire calibration period. Estimates of implementation levels prior to 2000 can be made using a variety of methods described below. Jurisdictions should document whichever method is used.

4. **What are some methods that jurisdictions could use to estimate non-wastewater BMPs that were in place between 1985 and 1999?**
Jurisdictions could use the following methods to estimate 1985 through 1999 implementation levels if detailed data are not available. Jurisdictions may choose to estimate implementation using alternative methods as long as the method used is described in writing at the time of NEIEN submission.

Methods to Estimate Cumulative BMP Implementation

- **Method 1) Constant Yearly Implementation**

- Jurisdiction submits best estimate of ALL cumulative BMPs in 2000 reflecting TOTAL amount of BMPs on the ground.
- Jurisdiction assumes 0 BMPs on the ground in 1985.
- Jurisdiction assumes constant yearly implementation from 1986 through 2000.
    - Example: Total Forest Buffers in 2000 = 10,000 acres
        - Annual implementation for 1986 through 2000 = 667 acres
- **Method 2) Linearly Increasing Implementation**
- Jurisdiction submits best estimate of only those cumulative BMPs implemented in 2000 (not a snapshot of ALL acres on the ground).
- Jurisdiction assumes 0 implementation in 1985.
- Jurisdiction assumes implementation increases in a linear fashion from 1985 through 2000.
    - **Example: Annual Forest Buffers in 2000 = 1,000 acres**
        - **Annual implementation: 1986 = 67 acres; 1987 = 133 acres; 1988 = 200 acres…2000 = 1,000 acres**

Methods to Estimate Annual BMP Implementation

- **Method 1) Linearly Increasing Implementation**
- Annual BMPs are assumed to increase in a linear fashion.
- Jurisdiction assumes 0 BMPs on the ground in 1985.
    - Example: Cover Crops in 2000 = 10,000 acres
        - Annual implementation: 1986 = 667 acres; 1987 = 1,333 acres; 1988 = 2,001 acres…2000 = 10,000 acres
- **Method 2) Constant Yearly Implementation**
- Annual BMPs are assumed to be implemented at the exact same level every year from 1986 through 2000.
- Jurisdiction assumes 0 BMPs on the ground in 1985.
    - Example: Cover Crops in 2000 = 10,000 acres
        - Annual implementation for 1986 through 2000 = 10,000 acres

5. **Who are the points of contact in federal agencies that jurisdictions should work with to gather historic BMP data implemented on federal facilities?**

Department/Agency	Member (Interim Contact)	email
AOC	Doug Helmann	dhelmann@aoc.gov
EPA	Greg Allen Kelly Gable Bucky Green	allen.greg@epa.gov gable.kelly@epa.gov green.bucky@epa.gov
USDA	Jeffrey Goodman Dana Jackson Ramon Jordan Cary Coppock	Jeffrey.Goodman@dm.usda.gov Dana.Jackson@ARS.USDA.GOV ramon.jordan@ars.usda.gov Cary.coppock@ars.usda.gov
USDA: USFS	Scott Vandegrift Tom Bailey	sfvandegrift@fs.fed.us thomasbailey@fs.fed.us
USDHHS - FDA	Jay Collert	Gerald.collert@fda.hhs.gov
DOC: NIST	Mike Blackmon	mike.blackmon@nist.gov
DOD	Will Bullard – Navy Sarah Diebel – Navy	william.bullard1@navy.mil sarah.diebel@navy.mil

	David Cotnoir – Navy Patrick Timm – Army Kevin Shao _Army Lia Gaizick - Army National Guard Heather Cisar – USACE Roselle Henn - USACE Bob Blama – USACE Karla Hill - USACE Vaso Karanikolis - USACE Michael Schuster – USACE Jason Rinker	david.cotnoir@navy.mil patrick.a.timm.ctr@mail.mil kevin.k.shao.civ@mail.mil Lia.gaizick@us.army.mil Heather.R.Cisar@usace.army.mil Roselle.E.Henn@usace.army.mil Robert.N.Blama@usace.army.mil Karla.a.hill@usace.army.mil Vaselike.n.karanikolis@usace.army.mil Michael.j.schuster@usace.army.mil Jason.S.Rinker@usace.army.mil
DHS	Dennis McMenamin	Robert.Mcmenamin@hq.dhs.gov
DOI: FWS NPS USGS	John Guiel Liz Dawson Marian Norris – NE Region + NCR Joel Campbell	John_Guiel@fws.gov Liz_Dawson@fws.gov Marian_Norris@nps.gov jwcampbe@usgs.gov
DOT	Jeanette Mar	jeanette.mar@dot.gov
GSA	Gina Noel Katrina Scarpato Myles Vaughan Shannon Easton – Natl. Captl Region Kathleen Ennen	gina.noel@gsa.gov katrina.scarpato@gsa.gov myles.vaughan@gsa.gov shannon.easton@gsa.gov kathleen.ennen@gsa.gov
Smithsonian	Ann Trowbridge Michelle Spofford	trowbridgea@si.edu SpoffordM@si.edu
NASA	Peter Van Dyke Lori Levine	peter.vandyke@nasa.gov lori.m.levine@nasa.gov.

6. **What data are currently in Scenario Builder, NEIEN and the Chesapeake Bay Program Wastewater Database, and how can jurisdictions access these data?**
   All data for non-wastewater sources currently within NEIEN will be provided to jurisdictions following 2014 Progress. All historic data in Scenario Builder was estimated using different methods prior to the calibration of the Phase 5 Model. While jurisdictions may request copies of historic data, jurisdictions should also evaluate their records to complete the cleanup process.

   In addition, reported historic BMP implementation was provided to each jurisdiction in April 2013 on their individual chesapeakebay.net ftp sites. Much of the BMP record was a carry-over from the Phase 4.3 Watershed Model, with exceptions among jurisdictions and particular BMPs in a jurisdiction. The spatial scale of reporting varied among BMP types and years. Generally, in the transition to Phase 5 of the WSM, reported BMPs were distributed to the county scale as necessary since this is the common scale between the two versions of the model.

   This record of reported BMPs ends with Progress Year 2009 and was, in part, used for calibration of the Phase 5 WSM. Generally, this dataset has been processed through Scenario Builder for BMPs for the 5-year Agricultural Census and the 1985 baseline. Interim years were interpolated.

7. **What documents will be made available to jurisdictions to help them complete the historic data cleanup task?**

Jurisdictions will be able to access example NEIEN XMLs, the NEIEN Appendix with new land use groups and an NRCS/FSA BMP crosswalk, and the NEIEN Codes List at http://webservices.chesapeakebay.net/schemas/. The WTWG will approve the final NEIEN Codes List and NEIEN Appendix by March 31, 2015.

8. **Are there particular BMPs jurisdictions should focus on cleaning up?**
   Jurisdictions should clean up all BMPs to the extent possible. If needed, they should prioritize based on the BMPs that have the greatest impact on load reductions in their jurisdiction either because of individual pollutant reduction capacity and extent across the jurisdiction particularly from 1985 - present. Chesapeake Bay Program Office staff can work with each jurisdiction to identify priority cleanup needs.

FOR ADDITIONAL INFORMATION on historic data cleanup related to:

Wastewater treatment plant discharges: Ning Zhou, nzhou@chesapeakebay.net, (410) 267-5727

All other BMPs: Matt Johnston, mjohnston@chesapeakebay.net, (410) 267-5707