CAP Technical
FAQs

The Technical FAQs are designed to aid counties in the implementation of their Countywide Action Plans by providing answers to commonly asked questions. Questions are organized by sector, and then grouped within the sector by subject. Questions highlighted at the top of each sector section are the new questions/answers. With each version update these questions will be moved into their subject area.

To utilize these FAQs efficiently, utilize the Find tool. This tool is accessed either by clicking on the magnifying glass icon  ***or by holding "Ctrl F". These two options will open up the "Find" dialogue box, where you will type a keyword and hit enter. You will then click through the options to find the question/answer you are looking for.***

The Chesapeake Bay Program's Quick Reference Guide for Best Management Practices: Nonpoint Source is a "go to" resource for many BMP questions. This is a searchable document linked at *http://files.dep.state.pa.us/Water/ChesapeakeBayOffice/Ag%20page/BMP-Quick-Reference-Guide.pdf*

Where noted please refer to page number and/or section of the PA BMP Verification Program Plan. The BMP Verification Program Plan can be located under "Supporting Documents" on the PA Phase 3 WIP Page here: *2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)*

General

General

1. ***How does the PA Fertilizer Bill (Act 83 of 2022) help county CAP efforts?***

   Here is a link that provides a good overview of the new Act: Governor Wolf Signs Turfgrass Fertilizer Bill into Law (psu.edu). The PA Fertilizer Law is unlike Maryland's Fertilizer Law. For example, it does not include certification requirements. Therefore, we cannot use it as the basis for receiving Urban Nutrient Management (UNM) credit. However, there are means of receiving UNM credit in the model that are focused primarily on the development and implementation of UNM Plans. Please refer to the BMP Quick Reference Guide for more information related to the criteria for UNM credit.

2. ***For CAP BMP verification, how should we categorize cropland terraces? It seems like there are a few options within the stormwater BMP section that could work, but I want to make sure we're using the proper category.***

Agriculture Terrace can be reported in PracticeKeeper as Terrace. Agriculture Terrace BMP is cross walked to Soil Conservation and Water Quality plans. Information on Soil Conservation and Water Quality Plans are also in our FAQs on pages 20, 59, 75, 89. More information on Soil and Water Conservation plans can be found in the BMP Quick Guide on page 85 – 86 of the BMP Quick Reference Guide.

3. ***Is there a template that is being used to have the volunteers sign so that the district is not being held responsible in the event of injury, accidental death, etc.?***

The Chesapeake Bay Office does not have a template for this purpose. The county should reach out to their county solicitor or district attorney for more information.

4. ***Are liability insurance costs reimbursable under the CAP grant ?***

Yellow Highlights indicate a newly added question. New questions are added to the top of each section.

Liability insurance can be reimbursed under CAP budget administrative costs, just keep in mind that admin costs cannot exceed 5% of the total budget. Also, if the liability coverage is for a staff person that is funded under multiple programs, the liability insurance should be prorated across those programs.

This information can be found in the "A Primer for Fitting Charges Into Budget Categories" document under #4 Administration Costs.

5. ***Does decommissioning of an earthen manure pit receive credit in CAST? If so, how are earthen manure pits reported? Additionally, what is the credit associated with an earthen manure pit?***

There is no reportable credit for decommissioning an earthen manure storage pit. An existing earthen manure storage, as long as it is functional, can be reported in PracticeKeeper as an Animal Waste Management System (AWMS), with the installation date, if it meets the NRCS 313 standard, which could include bentonite or HDPE lining and appropriate operation and maintenance. If the earthen manure pit is being replaced by another NRCS approved AWMS, then the new AWMS can be reported as a new practice in PracticeKeeper with the installation date. More information related to AWMS can be found in the BMP Quick Reference Guide.

6. ***What do we do if we are verifying bmps that already drawn in PracticeKeeper? We put them in the system but they are now greater than the model credit duration.***

Follow the procedures outlined in section VII of the PracticeKeeper – Best Management Practice (BMP) Module, SOP No. CBO-DATA-003, and the corresponding course on the CWA.

7. ***What is the definition of Land Retirement? Many farms in the North are selling out and the land is being left fallow or being used recreationally. Does the land have to stay retired permanently?***

There are two agriculture land retirement BMPs:

Land retirement to Ag open space: Converts land area to hay without nutrients. Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses and/or trees.

Land retirement to pasture: Converts land area to pasture. Agricultural land retirement takes marginal and highly erosive cropland out of production by planting permanent vegetative cover such as shrubs, grasses, and/or trees.

The land would have to stay retired to continue to receive credit for the BMP within the Bay Model. If the land is going to be used for recreation like sports fields or other areas that may be mowed or fertilized and include impervious surfaces like parking lots or paved walking trails this would not be land retirement. In this case, an urban nutrient management plan would be an appropriate BMP.

8. ***This summer Conservation Districts are planning to utilize summer interns to enter information into PracticeKeeper as part of the BMP Verification Funding. A question came up regarding seat license for summer interns. Will summer interns have their own seat license/account within the Conservation District or do we anticipate the interns to use existing Conservation District staff credentials.***

The conservation district interns may have their own seat license which will be removed when they are no longer employed by the conservation district. The conservation district administrator should request the seat license from DEP if there are none available for the intern.

9. ***Regarding the CB Engineer coverage, we are looking for clarification on the correct protocol in requesting an CB engineer's assistance. Example: Do we contact the Bay Engineer directly or is there a chain of command we should be following?***

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The Bay Engineer may be contacted directly, but also copy the hosting District Manager to ensure they are aware. If you are already working with your Bay Engineer you can continue to follow the procedures you currently use to contact them.

10. ***How far back should we be considering a practice still valid and worth entering into PK?***

We can report a practice that was installed after 1985 for CAP and WIP progress as long as we have a current re-inspection date, so we would suggest prioritizing practices that were installed 1985 and after, but if you happen to get a practice that was installed before 1985, there are multiple benefits to knowing where that practice is too – outreach, bmp inventory not related to CAP and WIP implementation, etc.

11. ***Can the verification and re-verification activities of other agencies (NRCD, RC&D, Penn State surveys) be documented in Practice Keeper? This will allow CD staff to view operations that had BMP's documented and prevent overlap or duplication of verification activities allowing CD staff to focus efforts on sites that have not had any BMP verification activities.***

DEP cannot show NRCS, RC&D, and Penn State survey, etc. verification and re-verification data in PK because these data are given to DEP in aggregate form. When the CCD verifies the BMPs, they will be identifying the locational data and obtaining the necessary information for future reverification; therefore, their efforts to reverify the existing BMPs should be considered valuable even if the BMPs were initially verified by USDA or others. Additionally, most BMPs verified by Penn State and all BMPs are verified by RC&D are annual practices and would need to be reverified accordingly. A reminder: when CCD staff are reverifying the BMPs, they should indicate the funding source and the original installation date (if known) to minimize duplicate reporting across the aggregate data sources

12. ***Does updating conservation plan practice schedules in NRCS's Conservation Desktop get into the CAST model?***

If the practice was installed within the reporting period and funded by USDA programs, the practice would be reported in the NRCS dataset. Updating Conservation Desktop to reflect new installations of funded projects would be reported for progress. However, Conservation Technical Assistance (CTA) practices and Re-inspections (reverifications) are not reported from the NRCS dataset. In the case of CTA practices, these cannot be reported because they could be co-funded with state programs that would otherwise be reported. Reverifications cannot be reported because they are not included in the dataset. To assist with reverifications, the locational data must be known. Therefore, the county should report the practice in the PracticeKeeper Database, identify the fund code as the appropriate USDA program (if applicable), and identify the re-verification on the inspections tab as described in the PK BMP Module SOP (CBO-DATA-003) and the accompanying CWA training.

13. ***In PracticeKeeper, to "reverify" it looks like a mandatory item is "Inspector". How do I add our new BMP specialist as a "new inspector"?***

This is done in the Admin Module of PK and the person completing the task must have PK Admin permissions. This will be done by adding the new employee to the employee table under the lookup manager and with the same workflow as adding a new NMP Status Review Inspector.

14. ***When will more information be available for the "To be announced" BMPs in the BMP Quick Reference Guide? Most interested in Mortality management/composters but would like to know when more info will be available on all of them.***

Chesapeake Bay Program BMP Quick Reference Guide is slated to be updated with the release of CAST21. PA DEP CBO had requested that the CAST21 workplan include updates to the BMP Quick Reference Guide. We do not know when CAST21 will be fully released to the public that would include the updated BMP Quick Reference guide. Related to

Agriculture Mortality, PA DEP and SCC are working closely with the appropriate workgroups to review the revisions to the technical appendix for the Ag Mortality BMP Expert Panel Report, which is to be incorporated into the CAST21 update.

15. ***Can the CAP be incorporated in the County Comprehensive Plan?***

While the CAP is a stand-alone document that outlines how a county will voluntarily work to meet its goals to reduce nutrient pollution, counties are encouraged to coordinate their CAPs with other county planning tools, such as Comprehensive Plans. By having a standalone CAP, counties can leverage CAP-specific funds and resources. At the same time, adding the stand-alone CAP to a county Comprehensive Plan can further leverage other funds and resources, and expand the visibility and viability of the CAP. Making sure the CAP is part of other county plans and groups not only brings more visibility to the CAP, it also helps to pull in different and more diverse partners who can work together to clean up local waterways through reducing nutrient pollution. The role of the CAP Coordinator is to "connect the dots" by working with various local/county partners to maximize the visibility of the CAP, building broader coalitions to support and implement projects and connecting people to local water nutrient pollution reduction efforts.

16. ***Once data is entered into PracticeKeeper, will it be possible to extract the data in one place for the County GIS staff to utilize?***

Yes, Data Explorer allows the user to extract information based on the parameters of their choosing and export in an Excel file.

17. ***When is more information/training coming on how to use PracticeKeeper and FieldDoc – to cover what does DEP want to be entered, and how?***

PracticeKeeper Training Modules for the BMP Module, Ag Inspection Module, and Nutrient Management Module are provided on the Clean Water Academy. There are also finalized Standard Operating Procedures for the BMP Module and Ag Inspection Module, that were made available to the county conservation districts. The Ag Compliance Section is working to compile a course of the available web-based training, to be rolled out in early January. Please also see CAP Grant and Technical FAQs.

18. ***Can the CBO provide clarity about the coverage of the Chesapeake Bay Engineer Contracts?***

The map and contact information can be found on the Clean Water Academy at https://pacleanwateracademy.remote-learner.net/pluginfile.php/14093/mod_resource/content/1/CBayEngineerCoverage_11_3_21.pdf

19. ***For monitoring, is data used from the Chesapeake Monitoring Cooperative's Chesapeake Data Explorer?***

The Chesapeake Bay Program has several monitoring networks. For the nontidal monitoring network, data are collected by state and federal agencies at about 125 sites across the watershed. The trends analysis for nutrients and sediment has specific data requirements so information from Chesapeake Data Explorer is not used as part of the computations, more information can be found here: USGS develops tool to further examine nutrient and sediment trends in the Chesapeake Bay Watershed: https://www.usgs.gov/centers/cba/science/usgs-develops-tool-further-examine-nutrient-and-sediment-trends-chesapeake-bay?qt-science_center_objects=0#qt-science_center_objects.

Information in the Chesapeake Data Explorer has been used for report cards being done by local watershed organizations

20. ***Why do some practices receive negative phosphorus reductions – aka increase in phosphorus loading? One example is Grass Buffer and Land Retirement to Ag Open Space.***

Yellow Highlights indicate a newly added question. New questions are added to the top of each section.

A possible cause of negative phosphorus for Narrow grass buffer and Land Retirement to Ag Open Space can be associated with the reduction of manure spreadable acres in a surplus manure county. Narrow grass buffer practice does not get an upland benefit and load reduction goes from mixed to mixed open that effects the phosphorus load. Also Land Retirement to Ag Open Space load reduction goes from mixed open to mixed open that effects the phosphorus load reduction. Please take into the consideration the small scale of the "Cost Effectiveness BMP" spreadsheet that DEP gave you based on your CAP with Chesapeake Bay Model reduction values to assist you in selecting practices.

21. ***What BMPs can be stacked on top of each other to add additional reductions?***

Efficiency practices are stackable and can always be applied. Land Use changes are generally not stackable. The Soil Conservation and Water Quality Plan BMP is *not* stackable. This includes, but not limited to Conservation Crop Rotation and Contour Farming. For example, if the same farm has 100 acres of Conservation Crop Rotation and a 100 acres of Contour Farming, then the reported acreage is 100 Soil Conservation and Water Quality Plan BMP. If a farm has 100 acres of Conservation Crop Rotation and 50 acres of Contour Farming, then the reported acreage is 100 Soil Conservation and Water Quality Plan BMP.

22. ***Can we use CAP funding for practices that are not listed on the Quick Reference Guide for BMP's? For example, can CAP funding be used toward stream crossings? If no, will we receive credit in the CB model if practices not listed on the Quick Reference Guide for BMP's are implemented using another funding source, such as NFWF, EQIP, etc.?***

The BMP Quick Reference Guide does not contain every single practice that is available for crediting (for instance, not all stormwater practices are included yet). However, it does include most of the primary agricultural practices that are included in Pennsylvania's Phase 3 WIP.

The BMP Quick Reference Guide does list "other common names" that are based on NRCS practices names or other common names. For example NRCS 412 grass waterway is called grass buffers in the Chesapeake Bay Model. These "other common names" are listed in a table at the end of each section in the Chesapeake Bay Program Quick Reference Guide for BMPs.

In this specific example, stream crossings are not provided their own individual "credit" value. However crossings are typically part of the management of the riparian zone, particularly where the stream or surface water divides a pasture. If paired with livestock exclusion fence, access control, and grass or forest riparian buffers, CAP Implementation Grant funds may be used toward the installation of stream crossings.

23. ***Are Dirt, Gravel, Low Volume Road projects used in the CAST Model as a BMP for sediment reductions?***

Yes, they are counted in the CAST model.

24. ***How does the salt applied to dirt and gravel roads to reduce the dust impact affect/relate to nitrogen, phosphorous and sediment reductions? Are there alternatives? What BMPs are available?***

The Dirt and Gravel road program BMPs aid in reducing salt and dissolved solid and sediment impacts on local tributaries. Please reach out to your local County Conservation District's Dirt and Gravel Road program to get more information on specific BMPs. You can also visit Penn State Dirt and Gravel roads program for more information. https://www.dirtandgravel.psu.edu/

25. ***Do you have a definition for A, B, C, D soils?***

Definitions for A, B, C, D soils are referenced in the below information
from NRCS document "HydrologicSoilGroup_DominantCondition". If you would like more information about NRCS soil definitions please
see https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr12/tr/?cid=nrcs144p2_027279
Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ .

Please Note: Currently, DEP does not capture soil test data in PracticeKeeper (PK), but it is in the plan, so it could be done if the benefits would warrant devoted resources to the PK enhancement and coordination with the SCC to get the data into PK.

26. ***County and Conservation District folks have concerns that all water quality improvements are based on the CAST model and not actual water quality assessments/monitoring.***

The Chesapeake Assessment Scenario Tool (CAST) is a modeling tool that all Chesapeake Bay jurisdictions use to predict how we will meet water quality standards associated with the Chesapeake Bay TMDL. CAST uses water quality monitoring data to inform and calibrate the modeled load reductions. The Chesapeake Bay model receives monitoring data from many different partners including DEP, USGS, SRBC, and other partners. The Community Clean Water Technical Toolbox that each county will receive will have more detailed information on how water quality monitoring plays a significant role in the Phase 3 WIP and the model.

27. ***Will counties receive credit for educational activities that result in BMP implementation? I.e. Rain Barrel workshops with barrel distribution to participants.***

Counties can include educational activities in their CAPs as priority initiatives. Progress is shown toward these initiatives by counties documenting what outreach, events, and activities the county has conducted. The resultant approved BMPs, once verified, will receive credit in CAST. Nutrient and sediment reduction credit is not given unless a project is implemented, verified and reported.

28. ***Can all project types be included in the CAP? Including those that are located within an urbanized, who might be an MS4?***

The CAP is a comprehensive plan that will include all water quality initiatives that are implemented in your county. This includes incorporating the initiatives being implemented in the MS4 urbanized area as part of the Pollutant Reduction Plans.

29. ***How can potential inaccuracies in the Toolbox be addressed throughout the development of the CAP?***

The toolbox provides a baseline of information that is available through the Chesapeake Bay Model (CAST) and other resources that we have available to us. Through the CAP development process you will have the ability to improve reporting of existing BMPs and future BMPs. Many of the other graphics are reliant on information from land use analysis, water quality monitoring, and census data. These graphics are updated periodically based on availability of the data. These graphics will not be updated through the CAP process. So through the CAP process you have the ability to improve the existing reporting of BMPs.

30. ***Will the minimal loading counties (Wayne, Wyoming, Carbon, McKean, Elk, Cameron, Jefferson, Indiana, and Somerset) report BMP's and projects to DEP to be entered into the CAST model?***

Yes

31. ***How are solar panel fields modeled in CAST?***

For solar panel acreage, the current land-use in terms of loading is "impervious non-road". A change in this designation to a different land use class, such as mixed open or turf grass, would need approval through the Chesapeake Bay Program. DEP is actively working with the Chesapeake Bay Program on this issue.

32. ***What would the best method be for determining their county's baseline reporting/currently captured progress?***

Annual CAST Progress Runs are the best way to determine the county's baseline reporting/currently captured progress. The most recent (2019) progress has been imported into FieldDoc and can be viewed as part of the county progress.

33. ***How can the county quantify the number of fertilizer sales?***

Source information for fertilizer sales can be found at can be found at Association of American Plant Food Control Officials (AAPFCO) linked at https://www.aapfco.org/.

Counties can learn how to calculate fertilizer sales in the CAST model documentation from pages 3-30 – 3-44 https://cast.chesapeakebay.net/FileBrowser/GetFile?fileName=P6ModelDocumentation%2F3ABCDG_TerrestrialInputsAppendices.pdf

34. ***What data is available on urban fertilizer application?***

Information on Urban Nutrient Management can be found in the BMP Guide on page 103.
https://files.dep.state.pa.us/Water/ChesapeakeBayOffice/Ag%20page/BMP-Quick-Reference-Guide.pdf

35. ***What is difference between Non-Urban Stream Restoration And Urban Stream Restoration?***

Yellow Highlights indicate a newly added question. New questions are added to the top of each section.

Stream Restoration specifications and crediting are similar for Urban, Agriculture and Non-Urban settings. In each case, the Stream Bed and Bank Load Source is reduced through Stream Restoration. These redundant titles are a legacy of how these projects were tracked in the past with credits applied to Urban or Agricultural load sources before the Stream Bed and Bank Load Source was established in the Phase 6 model. For crediting, the previously available "default" per foot credit rate was sunset after July 1, 2021 for Urban Stream Restoration so that default rate credit is only available for Non-Urban Stream Restoration Projects. However, default "per foot" credit rates remain available for CAST planning scenarios under all titles of this practice. For implementation and credit reporting from July 1, 2021 and into the future, Urban Stream Restoration BMPs require the use of the Stream Restoration Protocol calculations which are discussed in the Protocol Expert Panel Reports referenced below.

- See CBP Quick Reference Guide for BMPs Pages 54, 99, and 113: https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf
- This Fact Sheet on Urban Stream Restoration may also be useful: http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2015/06/U4.-Urban-Stream-Restoration-Fact-Sheet-in-Chesapeake-Bay-Watershed.pdf
- Additionally, CAST offers this Stream Restoration Calculator: https://cast.chesapeakebay.net/streamcalculator
- New Stream Restoration Protocol Expert Panel Reports:
    - Protocol 1 – Prevented Sediment https://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2020/03/PROTOCOL-1-MEMO_WQGIT-Approved_revised-2.27.20_clean_w-appendices.pdf

Protocol 2 and 3 – Denitrification and Floodplain Reconnection https://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2020/10/FINAL-Approved-Group-4-Memo_10.27.20.pdf

36. ***Is Tree Planting – Forest for Natural or Agricultural Area or Both?***

"Tree Planting" is either Urban or Agricultural. With the term "Urban" being assigned to Developed Area loads, non-urban Tree Planting (everything else) is assigned to Agricultural Land loads. The BMP would change the reported Land Use area to the "Natural" loading rate.
DEP MS4 Program Response – The MS4 program allows trees implemented within a permittee's regulated planning area and not as part of a riparian buffer, to be credited on a per tree basis.

Reporting

37. ***For all agriculture BMPs, we are prepared to enter them into PracticeKeeper, and are planning to enter everything else we come across and can verify into FieldDoc. Or should we be considering something different?***

The focus of FieldDoc is for developed/urban BMPs not part of state or federal agencies grant and/or permitting/regulatory programs already reporting to DEP's Chesapeake Bay Office. However, if the funding status (or permit authority) of a practice is unknown, capturing in FieldDoc may be beneficial. A full list of these programs can be found on page #18 of the FieldDoc User Guide. Please see FAQ #19 for further information.

38. ***How are BMPs reported to DEP? What tools are available?***

PracticeKeeper (PK) is used for reporting agriculture BMPs by the County Conservation District staff, County Planning staff, and Agricultural Contractors. Each County Conservation District has a PK license/log-in for Agricultural BMP reporting through PK. County CAP teams should work with their county Conservation District to report Agricultural BMPs. The BMPs reported by the agricultural contractors, Team Ag and Larson, are reported into PracticeKeeper. Each year we submit the BMPs that have been reported into PracticeKeeper to EPA/CAST.

Federal and state cost share programs along with federal and state regulatory programs report directly to DEP. Please follow the regular work flow to report BMPs through these cost share and regulatory programs.

FieldDoc is used by the Countywide Action Plan (CAP) Coordinator and those trained by the CAP Coordinator. The focus of FieldDoc is for urban BMPs and select Ag BMPs *not* part of state or federal agencies cost shared grants and/or permitting/regulatory programs.
For example, a local watershed group plants trees with no state agency funding – this is reported to FieldDoc and then DEP reports the BMPs to EPA/CAST. The Chesapeake Bay Foundation's Keystone 10 Million tree program is reporting directly to DEP so these should *not* be entered into FieldDoc.

DEP will let you know when you can report these BMPs to FieldDoc.

39. ***If BMPs that are identified in the CAP have already been implemented, how far back can we include these BMPs for reduction credit?***

When reporting Best Management Practices, it is important to report all practices that are implemented on the landscape. This means there is no cutoff date for how far back you can back report a practice. Reporting new practices is important to attain credit and record keeping of new practices. For existing practices, practices must be reverified overtime to ensure the practice is still functioning. For example, agricultural BMPs implemented through the Chesapeake Bay Special Projects program had been previously reported as "new" when first installed but should be tracked in the PracticeKeeper system in order to ensure that those BMPs continue to be documented as functioning. Through reverification we account for the practice as still functioning and therefore renew the credit duration for a particular practice. Each practice is assigned a lifespan ranging from 1 year to 25 years, and when the lifespan of that practice expires, we must reverify and rereport that practice for additional crediting. This is why we do not assign a cut off dates for how far back practices can be reported.

40. ***How will FieldDoc be updated to easily report BMPs from the CAP?***

The Data Tools Review Team workgroup has been reviewing and modifying FieldDoc to improve overall usability. This team is comprised of stakeholders from county coordination teams as well as from state agencies. FieldDoc is a priority and will continue to be enhanced to meet the needs of our local partners.

Verification

41. ***This summer Conservation Districts are planning to utilize summer interns to enter information into PracticeKeeper as part of the BMP Verification Funding. A question came up regarding seat license for summer interns. Will summer interns have their own seat license/account within the Conservation District or do we anticipate the interns to use existing Conservation District staff credentials.***

The conservation district interns may have their own seat license which will be removed when they are no longer employed by the conservation district. The conservation district administrator should request the seat license from DEP if there are none available for the intern.

42. ***Do we reverify a BMP if it's in working condition even if it's not in use? This thought comes from the idea that "if it's good for 10 years, and someone buys it within 10 years from now, they could use it, even if it's not in use now."***

That argument can be supported if the BMP was identified as functional.

However, if the BMP has been completely removed and the resource problem is no longer present (ex: a barn was torn down so spouting is no longer needed) please note it as not meeting the visual indicators but make a note in the notes section that the BMP is not required to treat a resource problem.

43. ***Would it be acceptable for verifications to occur while doing CBAI's or Act 38 status reviews?***

No. You should be doing the same work during your Phase 2 CBAIP inspections as you would do during a site visit to conduct BMP verification. These moneys should be used to do verification *in addition to* existing programs and is not to be used to meet the ROM of your CB Tech agreement.

44. ***Is there a plan for long term BMP verification?***

Our existing Verification Framework will continue, including efforts under the CBAIP, NM/MM Delegation, CB Engineer, and CB Tech agreements. We are always strategizing new and more efficient ways to solve this problem both on the ground and in conversations with the Bay Partnership.

45. ***To determine ag BMP credit duration and verification/re-verification details, should CAP coordinators use The Best Management Practice Verification Plan (from DEP's website, in draft form) or the Quick Reference Guide for Best Management Practices (Chesapeake Bay Program) as a guidance document?***

The Quick Reference Guide for Best Management Practices should be used to determine ag BMP duration/re-verification details. In addition, the Detailed BMP Entry Form which is located under the "Resources" tab on the PA Clean Water Academy, provides credit duration times for each BMP in Column G of the "BMP Definitions" sheet.

Credit duration for ag practices can also be found in PracticeKeeper. Please see the 7-21-2021 "Deeper Dive into BMP Verification" Webinar Wednesday, located on the PA Clean Water Academy, for more details on determining re-verification timeframes using PracticeKeeper.

46. ***While the QAPP addendum provides in depth details for the who, how, when, etc. to complete a verification, it is unclear how to "officially" report the verification. Will a separate verification report or document be required? And if so, where should the verification document be stored or sent? Or do we simply denote a verification was completed with current reporting mechanisms and documents? Long story short, how do we "officially" report verifications across all sectors?***

The QAPP addendum is meant to be the "how to" of verification programs. The QAPP describes the reporting programs, quality assurance, and mechanisms to report data in to DEP. If you have questions regarding verifying specific BMPs, please bring those questions to the attention of the DEP Bay Accountability Section. Generally, agricultural BMPs are reported via PracticeKeeper, Capital RC&D Transect Survey, Penn State Producer Survey, or from USDA data sources. There are also Resource Improvement (RI) Agricultural Practices that have criteria to be met and can be checked off and submitted through the PracticeKeeper system. Stormwater BMPs are generally reported via permitting programs, unless they are voluntary homeowner BMPs. In cases of homeowner BMP implementation, providing verified stormwater BMP information directly to the municipality and county conservation district would be ideal.

47. ***What is the purpose of the BMP Verification effort?***

The purpose of the BMP Verification effort is to verify BMPs. What that looks like is incredibly flexible and a workflow and set of priority BMPs can be driven by local initiatives. However, we would encourage you to consider the following:

1. If we know where the BMPs are (they are in PK) and have past or are close to passing their credit duration, these could be a priority.
    a. See the Planned Inspection Date Report pulled from PK Data Explorer (you have the ability to pull this report in house).
2. Any existing BMP that is not already in PK (we don't know where it is) should be a priority.

Regardless of the reason that that existing BMPs are re-verified, it is important that CCD staff follow the procedures for recording a reinspection outlined in CBO-DATA-003 and the accompanying clean water academy so the reverification is counted as an inspection for reporting for CB Progress. The inspection date should be the date re-verified. DEP would

like those participating in the re-verification effort to verify the BMPs and report that re-verification in a method that can be reported for CB Progress and tracked indefinitely into the future for additional reverification (when the practice again reaches the end of its credit duration). We are losing ground with every passing year just because time is passing, and this is one attempt to hold our ground.

Agriculture

General

48. ***Can counties gain N credit when shifting to microbe application vs. commercial fertilizer application?? Can/Would CAST approve this new practice?***

Currently microbe application is not an approved practice in CAST. Any new practice used for application would first have to be reviewed and discussed by the source-sector workgroup (in this case, the Agriculture Workgroup) and approved by the Chesapeake Bay Program Partnership to receive reduction credit in CAST.

49. ***Can NRCS practice 340 receive credit for "Cover Crop with Fall Nutrients Wheat Late Other" as stated in the Bay BMP Quick Reference Guide & if we can collect verification of this via postcard survey. I know the Transect survey is currently the cover crop verification method, but we are wondering if there is potential to count individual landowners via plans/surveys in the future if we see that we have more acres via this method than via the transect method.***

The Penn State Producer Survey and the Transect Survey are currently the approved and funded methods for collecting Cover Crop data. For more information on cover crop data collection, please see Technical FAQ #69.

50. ***Are there program specifications from DEP that counties must follow for how a cover crop incentive program is rolled out? Specifically, are farmers required to terminate their cover crops, or can counties specify in a cover crop program that the cover crops are not to be harvested until at least April 1? Do harvested cover crops receive the same nutrient reduction as non-harvested cover crops?***

DEP does not have specifications for how a cover crop incentive program is rolled out under the CAP Implementation Grant. Cover crops would need to meet the definitions of Chesapeake Bay Program Bay Partnership BMP standards to be creditable. Harvested (or Commodity) cover crops do not receive the same nutrient reduction as non-harvested (or Traditional) cover crops. Commodity cover crops cannot have nutrients applied in order to be creditable as a cover crop. The definitions of cover crop and technical information starts on page 39 of the Chesapeake Bay Program BMP Quick Reference Guide linked here https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

Please also see Question 54 of the FAQ 03/04/22 version on how cover crops are reported to the Chesapeake Bay Program Office.

51. ***Are all agriculture BMPs required to meet NRCS standards?***

They must meet the Chesapeake Bay Program (CBP) criteria, at a minimum, and we strongly encourage counties to meet NRCS standards and specifications, as appropriate and/or required (e.g. liquid/semi-solid manure storages must meet NRCS standards). The CBP BMP Quick Reference Guide provides the BMP criteria, and has been noted as reference in the BMP FAQ and can be found here: https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

52. ***Why does a grass buffer with streambank exclusion provide more N reduction credit than grass buffers with no fencing?***

Forest and grass buffer practices with exclusion fences have a unique additional benefit because they also reduce the amount of manure applied to the riparian pasture load source and shift the manure to the pasture load source. Narrow buffers without exclusion fencing are only simulated as a load source change to forest or agricultural open space and **do not receive the additional upland treatment**.
For more information of how grass buffers are credited in the Chesapeake Bay Model please see pages 60 – 67 of the Chesapeake Bay Program's BMP Quick Reference Guide at https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

53. ***Are drain tiles considered surface drainage BMPs?***

Tile drains are subsurface drainage.

54. ***Can off stream watering BMPs without fencing be if streambank fencing is already in place?***

Yes

55. ***Can off stream watering BMPs be done without any expected future fencing?***

Yes

56. ***Is the off stream watering BMPs without fencing measured by the size of the pasture that the watering serves?***

Yes, in acres.

57. ***How are drain spouts measured? As part of Barnyard Runoff Control BMPs?***

Drain spouts are not captured individually. However, they should be considered in the design of the roof runoff structure to meet the standard and therefore crosswalk to Barnyard Runoff Control BMP.

58. ***When looking at barnyard runoff BMPs, when does it change from barnyard runoff to underground outlets?***

The underground outlet would be a component practice of the barnyard runoff control and would begin at the base of the downspout at the start of the underground pipe and continue to a stable outlet.

59. ***How should counties determine the number of units of barnyard runoff controls? Is this the footprint of the barnyard? How do animal units play into the measurements?***

When reporting in PracticeKeeper, the unit of measure is dependent on the component practice (linear feet for spouting, qty for structure for water control, etc.). Please report as dictated by the workflow in PracticeKeeper for the particular component practice, and we will take care of the crosswalk when submitting to NEIEN.

60. ***What area classifies as part of the barnyard runoff controls BMP?***

The entire area treated by the runoff control. For instance, if there are gutters and downspouts redirecting runoff away from a 0.1 acre barnyard, then it would be 0.1 acres.

61. ***Does transforming barren gravel/bare earth into a grassy vegetation in the barnyard area classify as a barnyard runoff control when it is paired with a stabilized AHUA?***

The entire area should be reported as Animal Heavy Use Area Protection. Installing BMPs to minimize accelerated erosion from Animal Heavy Use Areas is a requirement of §102.4(a). As such, this would be reported toward our Ag Compliance goal as well as the specific CBP Model BMP - Loafing Lot Management.

- Supporting information from CAST: ***Loafing Lot Management*** *is defined as the stabilization of areas frequently and intensively used by people, animals or vehicles by establishing vegetative cover, surfacing with suitable materials, and/or installing needed structures. This does not include poultry pad installation.*
- *Supporting information from CAST:* ***Barnyard Runoff Control*** *includes the installation of practices to control runoff from barnyard areas. This includes practices such as roof runoff control, diversion of clean water from entering the barnyard and control of runoff from barnyard areas. Enter units of acres or percent.*

BMP definitions in CAST can be found as a downloadable table in "Source Data" here:
https://cast.chesapeakebay.net/Home/SourceData

62. ***Is there a tiered credit for practices that were put in place by the farmer and not through a program?***

Farmer installed BMPs receive full credit provided that they meet the full definition of the practice. Resource Improvement (RI) practices require more frequent verification since they may not be built to known standards and specifications. Please see further details about RI practices at this link:https://www.chesapeakebay.net/documents/Appendix_H--CBP_Resource_Improvement_Practice_definitions_and_visual_indicators_document_8-8-14.pdf

63. ***There is a BMP listed as "Off stream watering system without fencing". What if there is a watering system that has stream exclusion fencing is it still included in this category?***

This BMP is only applicable for livestock pastures that do not have stream exclusion practices, as pastures that exclude livestock from streams already provide alternative water sources as part of those practices.
Please refer to page 81 – 82 of the Chesapeake Bay Program's BMP Quick Reference Guide at https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

64. ***Does a Country get credit for upgrading a BMP (e.g. upgrading a cover crop with more diverse plantings/expanding the crop)?***

Cover Crops and tillage management are reported through the Transect Survey conducted by Capital RC&D and the Conservation Districts. The cover crop species cannot be picked up through the transect survey, so at this point changing cover crops would not change the general Cover Crop practice we report to the Chesapeake Bay Program. However, there may be opportunity in the future to begin tracking trends in cover crop species (e.g. rye versus wheat) through other sources, such as Ag E&S Planning and implementation efforts. We are actively working to utilize information provided by other sources to more accurately account for the species type planted (e.g. rye, barley, etc.). Please work with your local County Conservation District to determine the best cover crop based on soil type, topography etc.

65. ***How much nutrient reductions do continuous no-till acres create in CAST?***

For information on no-till for CAST please see pages 35-38 of the Chesapeake Bay Program's Quick Reference Guide for BMP linked at https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf .
Please note that no-till is analogous to High Residue, Minimum Soil Disturbance Tillage.

66. ***Is there any coordination between PDA and DEP related to conservation plans submitted to PDA when a farm is initially preserved? If not, is that an opportunity to capture that information agency-to-agency?***

PDA and DEP understand this opportunity and are currently exploring the feasibility of capturing the planning and BMP data associated with preserved farms.

67. ***What credit does installing stream crossings (NRCS practice code 578) receive?***

Steam crossings do not get **direct** credit in the Chesapeake Bay Model, however stream crossings **can** be included as an Agricultural BMPs contained in the NRCS Conservation Plans, Ag. E&S Plan, Act 38 Nutrient Management Plans, Nutrient Balance Sheets, NRCS 590s, Manure Management Plans, Biosolids plans for that agricultural area. Stream Crossings serve as ancillary practices to livestock exclusion fence (stream fence) and buffers, and are typically part of the overall management of the riparian zone.

68. ***Do Nutrient Management Core N and P refer to PA Act 38 and NRCS 590 Nutrient Management Plans (NMPs)?***

Yes, both get credit toward Core N and P if it is included in the plan. Both Act 38 Plans and NRCS 590 plans must be reported for credit to be counted. Manure Management Plans (MMPs) also receive credit for Core N and P, if it is documented in the plan and reported to PracticeKeeper.

69. ***Do Agricultural Erosion and Sediment Control (Ag E&S) plans count towards Soil Conservation Plans?***

Yes, Ag E&S Plans meet the criteria for Soil Conservation Plans. The plan must be reported to PracticeKeeper to be credited.

70. ***Can Supplemental NM BMPs like NM Rate or NM Placement be associated with an MMP and count toward the model?***

Nutrient Management Rate and Placement for both N and P can be documented in a Manure Management Plan. The plan must be reported to PracticeKeeper to obtain credit. Act 38 plans also can include Nutrient Management Rate and Placement for both N and P.

71. ***Is any engineering documentation required for manure storage?***

Chapter 91 provides the requirements for manure storage design and construction. Engineering documentation, or Water Quality Management Permit, must be maintained for liquid and semi-solid manure storage facilities constructed after January 29, 2000.

- §91.36(a)(2). *For liquid or semisolid manure storage facilities constructed after January 29, 2000, the owner or operator shall obtain a water quality management permit from the Department for the manure storage facility unless the design and construction of the facility are certified to meet the ''Manure Management Manual'' and ''Pennsylvania Technical Guide'' by a registered professional engineer. The owner or operator shall retain a copy of the certification at the operation and provide a copy to the Department upon request.*

The BMP would be drawn as a polygon, with the appropriate information, and reported via the BMP Module in PracticeKeeper.

72. ***If fertilizer or manure is applied to a filter strip, does the filter strip still receive credit as a grass buffer?***

The NRCS practice filter strip cross walks to grass buffers, and if it meets the standards defined for filter strip then it will be credited. Grass buffers is referred to as a parent BMP with many subtypes that map or crosswalk as grass buffer in the Chesapeake Bay Model. Filter strips is one of those subtype BMPs that maps to grass buffers. Per the NRCS

standard's O&M "Apply supplemental nutrients as needed to maintain the desired species composition and stand density." As long as you are meeting NRCS defined standards, filter strips will still receive credit. NOTE: all nutrient applications should be in compliance with state and federal nutrient and manure management regulations.

73. ***The definition that is adhered to regarding split application is that it is a least one more application of nitrogen than a farmer already does. Is this the way it works in the Bay Model as well, or are there different stipulations?***

There are three supplemental Nutrient Management practices that can be reported with split application:

- Nitrogen Rate - Nitrogen applications split across the growing season, resulting in lower-than-planned applications.
- Nitrogen Timing – Split applications over time per crop. Total amount of nitrogen does not change, but application is divided into multiple applications throughout the year
- Phosphorus Timing – Split applications over time per crop. Total amount of phosphorus application may or may not change, but the application is divided into multiple, lower-rate applications throughout the year.

Split application does mean more than one application. Information related to split applications can be found starting on page 31 of the Chesapeake Bay Program BMP Quick Reference guide here **https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf** or the Phase 6 Nutrient Management Expert Panel Report found here: **https://www.chesapeakebay.net/channel_files/24633/phase_6_nm_panel_report_11-28-2016_final.pdf**

74. ***Are fruit trees considered a multifunctional buffer?***

Currently there is no specific "multifunctional buffer" BMP, however multifunctional buffers will generally comply with the riparian grass buffer or riparian forest buffer recommendations for reporting for model credit. There is also the "Tree Planting (Agricultural)" BMP, which may be reported if not planted as a riparian buffer. For further information about this BMP, please refer to Page 83 (A-23) of the BMP Quick Reference Guide.

If there is the occurrence of regular removal of plant growth, like mowing, earth disturbance activity (like plowing/tilling or planting via no-till), or fertilizer application to an area, then fruit trees would not be considered a multifunctional buffer.

If there is no regular removal of plant growth, earth disturbance activity, or fertilizer application to an area, and the management conforms with standard buffer definitions, it could be credited as such.

Also, please refer to Section IV of Pennsylvania's NRCS Field Office Technical Guide (eFOTG) for Practice Code (390) Riparian Herbaceous Cover or Practice Code (391) Riparian Forest Buffer for more information on those practice standards as well.

75. ***Is harvested hay considered a multifunctional buffer?***

"Legume Hay" and "Other Hay" are considered their own applicable land types / load sources in the modeling tools, and is not considered, in and of itself, a BMP. BMPs that are associated with crop acres may be reported, such as the suite of Nutrient Management BMPs.

Riparian grass buffers may be mowed periodically in order to assure proper maintenance. See Section IV of the NRCS Field Office Technical Guide (eFOTG) for Practice Code (390) Riparian Herbaceous Cover or the BMP Quick Reference Guide for Riparian Grass Buffers.

76. *Can you provide a list of the potential multifunctional buffer opportunities?*

There is no specific BMP labeled as "multifunctional buffers" in the Chesapeake Bay modeling tools. However, multifunctional buffers generally comply with the riparian forest or riparian grass buffer recommendations for reporting for model credit, as they are trees and shrubs that are planted and maintained, serving as a buffer to the stream. A report was recently release by the Chesapeake Bay Program Partnership's Science and Technical Advisory Committee (STAC).
https://www.chesapeakebay.net/channel_files/40301/final_stac_report_multifunctional_buffers_12.20.2019.pdf

Please contact Teddi Stark at c-tstark@pa.gov for further information about multifunctional buffer opportunities.

Reporting

77. *If a BMP is functioning as intended but the farmer is not utilizing it to its full potential, is it still considered functional? Example: Farmer builds a concreted barnyard to reduce ACA, and the farmer leaves the gate open, and cattle create ACA adjacent to the barnyard.*

No, an appropriate operation and maintenance plan must be followed in order to verify the BMP. In the example provided, the verifier should indicate "No" in the "Meets visual indicators" field of PracticeKeeper. If possible, the verifier should also discuss appropriate management of the BMP during a conversation with the operator.

78. *Is a release of records form required to be signed prior to inputting data in PracticeKeeper or is it just recommended?*

A Customer Request Form is being finalized by USDA-NRCS to be used for the purposes of producer information sharing. That form will be provided by NRCS to DEP and will be circulated to the counties.

If the producer is working directly with the District or other external party, and provides the information to that party(ies) directly, then there would be no need to complete any form (Landowner Authorization for Release or the Customer Request form). Those that are providing assistance to the producer will be provided a script from the Customer Request form: Customers/program participants are allowed to share their information directly with third parties or entities outside of USDA. Pennsylvania USDA-NRCS customers who wish to share their customer records with third parties or outside entities can use this form to request copies of records contained in their official customer file. If the producer requires documents that are filed with NRCS to provide to the party(ies) that are providing assistance to them, verifying BMPs, etc., the Customer Request Form is to be completed and submitted to NRCS for validation and the documents will be provided by NRCS to the producer for them to decide what they would like to provide to those providing assistance.

79. *Should NM/MM and CB Techs that are currently completing the CB or NM inspection and find BMPs not included in the plan enter them into PK?*

Yes, as time allows. Though it is not a ROM associated with the agreements, any information that is not currently in the database will be helpful during future verification initiatives.

a. *If we are expected to be doing that, should the plans actually be deemed "incomplete" if they're not including existing BMPs?*

If the BMP is critical to control accelerated erosion and sedimentation (102.4) or pollution related to manure (91.36) they should be in the plans to be considered Admin. Complete. If they are "above-and-beyond" then there is not a regulatory requirement for them to be included (example: pollinator habitat in either plan or a waste storage facility in an Ag. E&S Plan). Though, if the BMP is being implemented to control acceleration erosion and sedimentation or manure-related pollution, it should be in the appropriate plan(s), per the requirements of the regulation(s).

Yellow Highlights indicate a newly added question. New questions are added to the top of each section.

80. ***Entering BMPs without a cons plan or Ag E&S plan is a concern as it will open the door to plans existing without the BMPs listed in them that are being then reported as implemented.***

When a plan is written to include the BMP that was verified during this effort and a plan was not also available for verification, it can be related to the plan at a later date, and the system automatically queries spatially to identify any existing BMPs that are within the drawn boundaries of the plan.

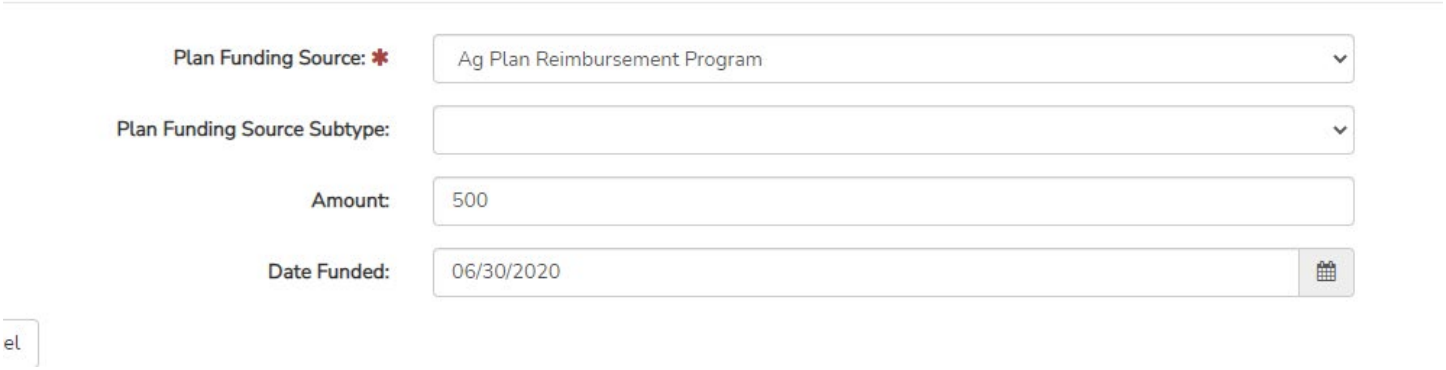
81. ***Plans should also be included to ensure that continued maintenance of the reported BMPs occurs. We should continue to stress the importance of obtaining all plans along with BMPs that will be entered.***

We agree, if the plan is available, it should be verified and reported in PK. However, this verification effort is not tied to compliance (unless the CCD decides at a later date to prioritize their CBAIP inspections based on the data obtained during this effort), so we cannot compel the operator to get a plan through this effort that does not already have one. Because an operator does not have a plan, is not a reason to not count a BMP that meets the definition and can contribute to nutrient and sediment reductions. A tenant of this BMP Verification effort is to capture BMPs that we don't know exist on the landscape, and we fully understand those are not always going to come with plans.

82. ***When reporting in PracticeKeeper, is it preferred to enter the total funding amount to implement an entire plan (that includes multiple BMPs) or break down into each individual BMP?***

If this is referring to the "Implemented Amount" field on the general tab of the BMP, this will be the total amount to implement the BMP. See PracticeKeeper – Best Management Practice (BMP) Module SOP No. CBO-DATA-003.

There is not an equivalent field in the planning modules. If this is referring to the "amount" field on the plan funding tab of planning modules, then this is the amount that is funded by the particular funding source identified in that funding instance. In the scenario below, $500.00 was funded for plan development by the Ag. Plan Reimbursement Program.



83. ***How should a BMP be reported in PracticeKeeper when it has multiple funding sources?***

Add multiple funding sources to the funding tab by clicking the add button. In the scenario below, the BMP was funded with CREP and DNCR PennVest. Refer to PracticeKeeper – Best Management Practice (BMP) Module SOP No. CBO-DATA-003.

84. ***How do we report an inspection date? Is this kind of thing found somewhere in PracticeKeeper?***

You will report a reverification of a BMP on the inspections tab of the BMP in PracticeKeeper.

85. ***Can PracticeKeeper be updated so that a Conservation District or CAP team can create a template/structure for a commonly use report, and not have to recreate the report each time?***

This would be an enhancement and require dedicated funding to develop. As there are more county conservation districts and DEP regional offices that are using data explorer, this enhancement becomes more urgent. As more counties start implementing their CAP and we hear feedback that data explorer is being used more broadly, we can start to seriously explore this enhancement.

86. ***If Conservation Districts and the CAP teams are charged with meeting CAP goals, we need to be able to access and use the data in PracticeKeeper. We need to be able to use it for deciding where to target workloads for getting plans written or for targeting efforts for BMP implementation.***

We can provide training on Data Explorer and Spatial Data Export if that would be helpful, but this would only export the data currently housed on the local tenant. This should include any data transferred to your tenant once that enhancement is live.

87. ***Is it possible to standardize the report that is sent to the Conservation Districts in the fall summarizing bmp data, and have it be entered into PracticeKeeper as a report that the Conservation Districts can use and work with when needed, without a request to DEP?***

This could be done. However, this would be an enhancement and require dedicated funding to develop. Unlike a report generated through Data Explorer, once the report is developed, the metrics described in the report could not easily be changed and we would need county cooperation to develop a report that would meet the needs of the county conservation district partners.

88. ***Is it possible to have access to the plan and BMP data entered by DEP and consultants into PracticeKeeper, in the same format as is available when viewing the data that the Conservation District has entered?***

We are working on a data transfer enhancement that would allow for the transfer of data across the tenant boundary. BMPs and plans entered by DEP could be sent to the CCD so that they can interact with the data as needed. The timeline for this enhancement to go into production is next fall-winter.

89. ***With counties entering items into PracticeKeeper and NRCS providing aggregated data for the model, how does the model avoid duplicate counting of practices?***

For reporting purposes, staff filter NRCS practices from PracticeKeeper before sending to the EPA. NRCS funded practices are reported separately to the EPA.

Yellow Highlights indicate a newly added question. New questions are added to the top of each section.

90. ***When past Ag E&S plans and Manure Management Plans are entered into PracticeKeeper, will it be added to the CAST Model and contribute to a counties CAP nutrient reduction goals? Or will the CAST Model only count plans that are developed and entered into PracticeKeeper from this point forward?***

Ag. E&S Plans are counted as Soil Conservation and WQ Plans which are a 10-year practice. DEP is inspecting our non-CAFO, non-CAO operations once every 10 years, we are reporting these directly from the verified Ag. E&S Plans as part of the CBAIP program. The nutrient and sediment reductions associated with the BMPs in Ag. E&S Plans will be credited and are not otherwise captured in CAST; however, the reductions associated with the Ag. E&S Plan itself is currently captured in other ways. This may change in the future as the universe of Ag. E&S Plans known to meet program requirements grows in the PK Database, so please keep adding them.

b. To assure the most recent verification date is captured and appropriately restarts the credit duration of the implemented BMPs in these plans, the county should add an inspection instance with the date of the plan walk as the performed on date for each implemented BMP verified during the writing of the plan.
c. There are plenty of other reasons to get historic Ag. E&S Plans into the database including being able to target outreach, BMP implementation efforts, and grant applications to where planned BMPs are known.

For Manure Management Plans (MMPs) Core N and the associated Supplemental NM BMPs are annual practices and the MMPs entered into the NMP Module of PK are incorporated into DEPs known universe of verified MMPs. The MMPs verified through the CBAIP are considered an inspected subset of those plans. Efforts on entering MMPs is two-fold:

- Enter as many MMPs and NBSs as you have verified or written in the PK database so that DEP can continue to expand our universe of plans that meet program requirements.
- Please check MMP records during your CBAIP inspections (and enter that information in PK as part of the inspection program) so that we can verify that those plans are being implemented and increase our percent compliance with MMPs.

Doing these two things will drastically increase the amount of Core N and associated Supplemental NM BMPs being reported and credited in their counties.

91. ***What PracticeKeeper data entries will be required as part of the CAP development and implementation?***

As part of the CAP planning process, you will identify what additional effort may be needed for data tracking and reporting. Where this effort intersects with Ag. BMPs, this will require PK data entry because Ag. BMPs will be entered through the PracticeKeeper Database.
However, this does not necessarily mean that this additional work will be completed by existing CCD employees. As part of the CAP planning process, you will identify resource needs to implement the plan and this may include staff time to complete this work.

92. ***How will PracticeKeeper be updated to include all BMPs – urban, natural, and agriculture – so that they can be reported and tracked?***

BMPs can be added to PracticeKeeper. If a BMP is not in PracticeKeeper currently, and a user would like to track that BMP in PracticeKeeper, please contact DEP so that we can determine the appropriate workflow to record that BMP.

93. ***What needs to be reported in PracticeKeeper to make Manure Management Plans count? What needs to be updated annually in PracticeKeeper to ensure the plan gets credit annually?***

Enter the MMP in the PracticeKeeper Nutrient Management Planning Module according to the instructions offered in the Attachment G Course on the Clean Water Academy. Check the Manure Management Plan records during the CBAIP inspections to establish a MMP implementation rate for the county.

94. ***How is Core Phosphorus reported?***

Act 38 Nutrient Management Plans and NRCS 590 Plans receive Core Phosphorus and Core Nitrogen credit.

95. ***Why are there less Core Phosphorus acres reported than Core Nitrogen acres?***

Act 38 Nutrient Management and NRCS 590 Plans qualify for both Core Phosphorus and Core Nitrogen. Since 2016, Manure Management Plans were able to be reported for Core Nitrogen. In advance of the 2019-2020 annual reporting, CBO re-evaluated the Chesapeake Bay Program criteria for Core Phosphorus and noted that Nutrient Balance Sheets (NBS) and that MMPs written to phosphorus removal rates would also qualify; therefore, beginning this past reporting year and moving forward, those two plan types would also receive credit for both Core Nitrogen and Core Phosphorus, like the Act 38 NMPs and NRCS 590 Plans.

96. ***How do we report for Core and Supplemental Nutrient Management? What is the Minimum setback requirement to get the supplemental placement credit for both manure and fertilizer?***

PracticeKeeper accepts planned Core and Supplemental Nutrient Management BMPs. The implementation rate for Core and Supplemental is then applied from the CBAIP to these for all Nutrient Balance Sheets and Manure Management Plans to verify implementation. The implementation rate of Core Nutrient Management is applied from the Act 38 Nutrient Management Program for all Nutrient Management Plans. SCC and DEP are working together on an inspection workflow to verify Supplemental Nutrient Management BMPs as part of the status review for Act 38 Nutrient Management Plans. These will likely be reported on the Status Review tab of PracticeKeeper and on a supplemental form attached to the Status Review form.

Minimum manure setback standards identified under applicable state and federal programs and laws are acceptable, but should be followed for both manure and fertilizer to receive supplemental placement credit for both manure and fertilizer. This BMP should be documented on the Supplemental Nutrient Management BMPs tab of the NM Module of PracticeKeeper when they are entering the plan and, once enhancements are complete, the status review tab of PracticeKeeper if the plan is an Act 38 NMP.

97. ***How are cover crop and tillage practices currently reported to the model? Would you accept verified annual no-till and cover crop acres reported in PK? Such as reporting implemented cover crop with planting dates. If so what plan would report the BMP under? The farm conservation plan?***

Cover crops and tillage management are mainly reported through the Transect Survey conducted by Capital RC&D and the Conservation Districts. DEP receives additional information from the Penn State University Survey and PracticeKeeper, but DEP can only use one information source for reporting, and therefore utilize the most robust information. However, as we explore other methods of reporting these practices, the existing PK data for these practices will likely inform any other methods proposed. In other words, under current reporting methods, the county will not see nutrient and sediment reductions directly credited for the technician's efforts of putting these practices in PK. However, these data are still important to inform decision making and understanding of conditions on the ground (e.g. cover crop species planted). We suggest that the CCD continue to report these practices in PK as their existing workflow allows (for example: if it is part of an Ag E&S Plan they are writing or verifying or the CB Tech dedicates a portion of their time to implementing a cover crop program), but not substantially change the technician's work priorities to enter these BMPs into PK.

98. ***Can we count rotational grazing acres that do not have 528 Plans?***

Yes. This is a Resource Improvement (RI) practice, RI-15 Rotational Grazing, and can be recorded in PracticeKeeper as a subtype under prescribed grazing.

99. ***Who is eligible/qualified to report dairy precision feeding? How is dairy precision feeding reported?***

Conservation District Staff, Ag Consultants, Dairy Feed Suppliers, and Nutritionists are types of professions that can report this practice. It is reported as an annual practice. The Chesapeake Bay Program defines this practice as Feed Management, here is the quick guide on the practice https://www.chesapeakebay.net/documents/BMP-Guide_A.10_Dairy-Precision-Feeding-and-or-Forage-Management_.pdf

- There is an active workgroup at the PA Dept. of Agriculture to come up with an alternative method for demonstrating the implementation of this practice using milk urea nitrogen testing.
- Currently Dairy Precision Feeding can be reported to Practice Keeper, but currently is not a required BMP to report unless a CB Tech provided technical assistance toward its implementation, in which case, it should be reported as part of their CBP-23.
- This BMP can also be reported as part of the USDA dataset.

You may also reference Pennsylvania's NRCS Field Office Technical Guide (eFOTG), Practice Code (592) Feed Management for further information on practice standards.

100. ***How is manure incorporation reported?***

Manure incorporation is reported as acres, High or Low disturbance and Immediate or Standard incorporation time. One means of reporting manure incorporation is to review the Nutrient Management Plan / Manure Management Plan and document the planned manure incorporation method, and at the time of status review/inspection, document that it has been implemented. Another method is via farmer-completed survey, like the Penn State Survey.

101. ***What are the standards for reporting so the BMPs are counted?***

For BMPs recorded in PK, there is a Standard Operating Procedure (SOP) that is currently in the review process that will explain the basic procedures for recording BMPs in PK. This SOP will be complementary and similar to the PK Ag Inspection Module SOP. However, there may be additional program-specific guidance or procedures necessary for program reporting.

102. ***How do crop rotations affect annual no-till reporting? For example if corn is no-tilled for 4 years and then the field is planted with established alfalfa for the next 4 years is the regrowing alfalfa considered annual no-till?***

Tillage practices are reported to the model as observed field residue. PADEP reports three categories of tillage; Reduce Tillage (15-30% residue), Conservation Tillage (30-60% residue), and High-Residue Tillage (>60% residue). It is intended that No-Till methods will fall within the High-Residue Tillage classification which receives the greatest model credit. Tillage observations from the Transect Survey capture a snapshot of these conditions which are independent of crop rotation.

103. ***Does information get reported from FSA about no-till and cover crops?***

Information from FSA is provided through the USGS's data sharing agreement with NRCS. This data only includes those operations that participate in these programs. PADEP is collecting this information from our field Transect Surveys which allow for greater coverage and reporting of field BMP acres. There are limitations with the Transect Survey data, however the greater coverage allowed by these observations allows for higher implementation reporting than cost-share program tracking, which would capture just a portion of operations using these practices.

Verification

104. ***Can local farm operators self-certify and re-verify their own ag BMP functionality, and then share the information with CD staff who would enter it into PK?***

Currently, the approved method of producer-completed survey is through the Penn State Producer Survey. With this approach, there is a required on-site spot check conducted to ensure that the survey was completed accurately. The Chesapeake Bay Verification Framework Guidance does not allow for direct reporting of farmer-completed records without an additional level of quality assurance/quality control site visits and statistical validation of the approach. Therefore, the current path forward is to ensure that trained and qualified individuals are involved with the verification of the best management practices (BMPs).

105. ***What information is required to be submitted by counties to verify their cover crop incentive program acres, and receive reimbursement?***

d. Can the district rely on the transect survey to capture the program acres or will PK reporting be required in addition?

Yes, if the county is being surveyed, it would be best to capture this practice through the transect survey. However, please report the practice in PK so that it can be used to document where the funds were spent and BMPs implemented through the CAP Implementation grant program.

e. Will a date stamped/GPS located photo uploaded to PracticeKeeper be sufficient for reimbursement?

Yes, as long as the SOP: CBO-DATA-003 is followed when reporting the BMP in PracticeKeeper.

f. Will it be necessary to report an associated Ag E&S Plan or Manure Management Plan for all cover crop acres funded?

The farmer will be able to document additional nutrient and sediment reductions with documented plans with implemented BMPs associated with those plans. We strongly encourage the reporting of the associated agricultural plans along with implemented BMPs for a complete record.

106. ***Several BMPs appear to have mis-aligned life cycles and verification cycles – primarily a life cycle shorter than a verification cycle. Examples: 1) Non-CAFO/CAO soil conservation plans have a 10 year verification cycle, but a one year life cycle; and 2) Non-CAFO/CAO core nutrient management has a 10 year verification cycle, but a 5 year life cycle. Should the verification cycle at least match or be a shorter timeframe than the life cycle? For Soil Conservation Plans, should the verification cycle be annual? Or the life cycle be changed to 10 years for non-CAFO/CAOs?***

We generally strive to have as long of a verification window as possible which would match how long these plans and practices are expected to last through their permit or expected operating lifespan. Credit durations are often shorter than the practice lifespan and we look for chances to do a single verification vs. multiple verifications to reduce the labor and reporting of these inspections.

Soil and Water Conservation plans have a 10-year credit duration but can be updated at any time.

Nutrient Management Plans can have a shorter credit duration to accommodate changes in nutrient and crop uses.

Soil and Water Conservation Plans, and Nutrient Management Plans are tracked separately. PracticeKeeper tracks Chesapeake Bay Program's established credit duration with each respective BMP.

107. ***Some BMP's are engineered. What has to be done to confirm their functionality and stability after their expiration? Do they have to have an engineer review and approve?***

An engineer does not need to be involved to reverify a BMP. The BMP needs to visual indicators that the practice is functioning as intended. The process of reverifying an existing BMP for reporting for Bay progress is the same as verifying that an existing BMP is functioning sufficiently to prevent accelerated erosion or nutrient pollution for inclusion in the Ag. E&S or MMP.

108. ***Will local verification of cover crop and tillage practices ever be counted in PracticeKeeper?***

Currently cover crop and tillage practices are verified through a survey approach; however, in the future, the local verification and recording of the practice in PK will potentially inform alternative strategies, including remote sensing technologies, to verify the implementation of these practices.

109. ***If BMP information were verified and entered into PracticeKeeper by district staff, would it be accepted?***

Conservation District staff, and particularly Chesapeake Bay Technician and Engineer staff as well as Nutrient Management Specialists, undergo training for their job duties and responsibilities. These training requirements then lead them to be deemed qualified professionals for verifying and reporting BMP implementation. The BMPs entered must have valid information as it relates to the practice and standard reporting requirements. DEP staff review information reported to ensure these reporting requirements are met.

110. ***Is there a table with different practices, their reverification method, requirements for verification, and credible verifiers would be a tremendous help/time saver?***

The BMP Verification Program Plan table of contents gives page numbers for specific BMP's reverification methods and requirements. Table 2 on page 5 of the BMP Verification Program Plan depicts priority BMPs by sector and color-coded verification methodologies. Some BMPs have more than one verification methodology.

Pennsylvania BMP Verification Program Plan link:
2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)

111. ***Who is eligible to inspect and reverify animal waste management systems? District engineers?***

Those who have experience and relevant training with identifying existence and visual indication of BMP function. This would include conservation district technicians, engineering specialists and assistants, private consultants, etc. Please see the BMP Verification Program Plan for additional guidance.
Farms that are not regulated as NPDES Concentrated Animal Feeding Operations (CAFOs) or Act 38 Concentrated Animal Operations (CAOs) are where we need the most focus in reverifying animal waste management systems, as these farms are not inspected at as high of a frequency as are CAFOs and CAOs.
In PracticeKeeper, the BMP would be drawn as a polygon, with the appropriate information, and reported via the BMP Module.

Pennsylvania BMP Verification Program Plan link:
2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)

112. ***What process needs to be completed for reverification of an animal waste management system?***

See page 13 of the BMP Verification Program Plan on Animal Waste Management Systems.
Pennsylvania BMP Verification Program Plan link:
2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)

Forestry/Natural

General

113. ***What is the difference between woodland buffers and forested buffers?***

These BMPs names are analogous. For agriculture buffers Please see pages 60 – 67 and for urban buffers please see pages 106 – 109 in the Chesapeake Bay Program's BMP Quick Reference Guide linked at https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

114. ***How are the number of acres of buffer recommended per county generated?***

The total amount for the state (83,000 acres of buffer) was entered at the statewide level and the model was allowed to split out the amount based on the proportion of agriculture, developed, and stream miles there are in the county compared to the rest of the state. A stream can be buffered up to 200 feet in width and still get credit as a buffer.

115. ***Does a forest buffer only count if it is drawn and reported? For example: most farms have natural forest buffers between fields and streams, are these not considered buffers unless they are reported?***

These natural areas should be captured in land use data. The remote sensing used to collect the land use data should see these areas as forest or mixed open. The loading rates will reflect these natural land uses.

116. ***Tree Planting – Agriculture-Description says this BMP excludes buffers, but the measurement needed for this BMP is in "buffer acres"?***

Forest Buffers are reported in Acres. Tree Planting can be reported in acres or additionally as "count" (stems) for Urban Tree Planting.

Verification

117. ***Should counties enter non-ag buffer verification data into FieldDoc?***

If a buffer is on non-agriculture land and is not reported to the DEP CBO as part of federal and state cost share programs or regulatory permit reports, yes it can be entered in FieldDoc. See Technical FAQ 11/23/21 questions #3 and #19 for more information.
A full list of these programs can be found on page 18 of the FieldDoc User Guide. https://pacleanwateracademy.remote-learner.net/course/view.php?id=423

118. ***County Conservation Districts (CCDs) are not listed for Forest Buffers (with or without fencing) and Riparian Buffers. Is the Conservation district excluded from being able to verify forest buffers?***

CCDs were not included for Forest Buffers as generally these practices were implemented through federal funding sources. They are not precluded from verifying these practices, they just generally were not the original "source" of the data. County Conservation Districts and third-parties can verify forest buffers (with or without fencing) if they have the applicable training to identify if the buffers meet NRCS or Resource Improvement (RI) Practice standards.

119. ***Steam Restoration and Wetlands only call out DEP and USDA for verifications. Can private consultants conduct these verifications?***

Private consultants were not included for stream and wetland restoration as generally these practices are implemented through grant programs, funded by DEP or NRCS. However, third-parties can verify stream and wetland restoration practices, provided they have the applicable training to identify if these practices meet CBP reporting criteria.

120. ***Who is eligible to inspect and reverify buffers? How do you reverify buffers? Where should reverified buffers be reported?***

A list of verifier qualifications is available in the BMP Verification Program Plan for guidance.
Pennsylvania BMP Verification Program Plan link:
2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)

A description on verifying forested riparian buffers starts on page 67 of the BMP Verification Program Plan for guidance. Buffers can also be verified as a Resource Improvement (RI) practice if unsure or high failure risk.
Pennsylvania BMP Verification Program Plan link:
2021_BMP_Verification_Program_Plan_QAPP_Addendum_12.1.2021.pdf (state.pa.us)

Practice Keeper, FieldDoc or other designated reporting process. For example, DCNR is accepting data from their grantees through the PracticeKeeper BMP Partner Submission Module. Spatial data information is highly encouraged in order to continue tracking and verifying these practices.

The Chesapeake Conservancy has 2017 –2018 3-meter lidar data for forest buffers that is slated to be included into CAST 2021 and released to the public in early 2022. Buffer credit duration is being extended from 10 years to 15 years and then being accounted for by aerial imagery to verify or change the land use change.

Land Use

General

121. ***What is a considered low risk or high-risk lawn for nutrient transport?***

The criteria for High-Risk Urban Nutrient Management are provided on CBP Quick Reference Guide for BMPs page 104 of this document:
https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

122. ***Three significant rezoning requests were submitted to the county Planning Commission to rezone a total of 250 acres in two municipalities from Agriculture to Industrial use. Two of the rezoning requests were recommended for disapproval by county and municipal planning commissions, and the third has been postponed. Can the County's long-term land use layer be used to calibrate CAST?***

County land use is updated with the CAST model on a 2-year basis with the land use change model along with Phase updates that run on about a 5-year interval.

123. ***Is there a pound of nitrogen per acre reduction that we can use for planning for conservation landscaping?***

The conservation landscaping nitrogen pound reduction would be the loading rate difference from turf grass to mixed open, which will vary based on county loading rates for those land uses.

124. ***When converting turf to forest (upland forest planting) can we get credit for both the land use change and the forest planting BMP?***

Yes, you would get credit for both the land use change and the forest planting BMP.

125. ***How is the conversion of turf to meadow captured?***

Converting turf to meadow is a land use change credit.

126. ***How is Land Conservation reported (forest, ag and wetland conservation)?***

There are several types of land conservation (including Land Retirement). Regarding, "areas protected from development," this is not reported as a BMP but is handled within the Land Use Change Model. These protected areas would need to be reported the Chesapeake Bay Office and potentially will be possibly added to the Protected Lands Layer for Parks that is used in the Land Use change model. Please contact Ted Tesler at thtesler@pa.gov for further guidance and to submit the shapefile(s) for this practice.

127. ***How is AMD work captured by DEP in the Chesapeake Bay Watershed?***

g. The PA DEP Bureau of Mining and Reclamation sends BMP data every year to the Chesapeake Bay Office that is reported to EPA for annual progress.
h. The 319 Program sends BMP data every year to the Chesapeake Bay Office that is reported to EPA for annual progress.
i. 2017-2018 1-meter high-resolution land cover data is being updated by the Chesapeake Conservancy that determines nutrient and sediment loading in the Chesapeake Bay Program Model. Each county is requested provided feedback that includes correctly identifying land use of AMD reclamation sites. For example, local planning staff could flag an AMD site that was misidentified as agricultural use, which changes the baseline nutrient and sediment loading for that area.
j. DEP Chesapeake Bay Office provided BAMR's AMD locations to EPA to further assist with updating the Chesapeake Conservancy 2017-2018 1-meter high-resolution land cover data for the Chesapeake Bay Program Model.
k. Currently DEP is working internally to "follow the science" to determine how best to request crediting for the Chesapeake Bay's Acid Mine Reclamation BMP category.

Reporting

128. ***How will reporting land conservation practices account for credit toward our nutrient and sediment reductions?***

Land conservation is reported as a model input by limiting future growth. As part of the Chesapeake Bay TMDL, we need consider issues like the effects of growth and climate change as we move forward.

129. ***How do we report the land conservation acres – will a shape file of conserved acres be more accurate for modeling purposes?***

Yes, more than county acres would need to be provided. An accurate area with a shapefile, and, if requested, possibly a copy of an easement/deed notice may be needed in order to provide proper quality assurance. Please contact Ted Tesler at thtesler@pa.gov to submit the shapefiles and associated information.

130. ***We understand that the Farmland, Forest, and Wetland Conservation values are reported under the "Pennsylvania Policy" BMP, but we would like to track those acres as progress in our plan. Are conserved acres being reported through the following: Farmland Preservation Program, ACEP, Clean and Green, WeConservePA, WPC and/or other non-profit easements? Are easements added to state game lands or state forest lands reported as land conserved?***

Currently conserved lands from the above are included in the Chesapeake Conservancy 2017-2019 1-meter land cover mapping that is going to be incorporated into Chesapeake Bay Model for 2021. State parks, state game lands and National parks are included in the current conserved land use layer. This does not include potential easements from the above listed organizations and programs, but could be reported if adequately documented (e.g. included within the Department's Quality Assurance Program Plan) to meet the Chesapeake Bay Program's conserved land definition.

Stormwater/Sewer/Septic System

General

131. **If a conservation district or other group completes a project that is eligible for MS4 credit, does the MS4 municipality have to amend their PRP to include project xyz in order to receive the credit of the project completed by the partner?**
i.e. if a conservation district is completing a stream restoration project in an MS4 municipality that is deemed eligible for MS4 credit, what does the municipality have to do in order to be able to receive that MS4 credit?

Yes, any project that is going to receive MS4 credit needs to be in the PRP. Please refer to the MS4 FAQs – FAQ #21. If it's a stream restoration project, the project will need to be reviewed by the DEP regional office to make sure that it meets the minimum qualifying criteria for crediting (see considerations of stream restoration document). Regarding the example, if the conservation district is using Section 319 Nonpoint Source Management grant funds, those projects cannot be used to meet NPDES permit requirements (MS4 or CAFO).

132. *Several MS4 partners explored in more detail the development and implementation of agricultural BMPs that would also provide Pollutant Reduction Plan (PRP) reductions. Types of BMPs under consideration and progressing towards implementation are above and beyond cover crops and conservation tillage practices (e.g. barnyard runoff controls). Current guidance to MS4s is to calculate PRP reductions based on the methodology used to calculate loadings. However, the current FAQ document and related documents include limitations for calculating reductions for ag-based BMPs and has led to the following observations and questions. The effectiveness values document does not contain values for ag BMP reductions (which would be used for the simplified method approach)*

l. Are the values and additional narrative guidance for calculating reductions of cover crops and tillage practices limited to the simplified method approach for calculating loadings and reductions? Or is this guidance applicable to all methodologies for calculating loadings?

When developing PRPs, MS4 permittees must use the BMP effectiveness values contained within DEP's BMP Effectiveness Values document or Chesapeake Bay Program expert panel reports (PRP Instructions, Section I.D). Effectiveness values for agricultural BMPs were not included in the Effectiveness Values table because it was not anticipated that agricultural land would be included in the area regulated by the MS4 permit (the UA). In instances in which agricultural land is part of a MS4 permittee's planning area, permittees may include the implementation of BMPs on agricultural land as part of their strategy to meet the pollutant load reduction obligation of their MS4 permit. To be eligible for MS4 credit, agricultural BMPs must not be required to meet a different regulatory requirement or must go above and beyond regulatory requirements (PRP Instructions I.G).

The effectiveness values from the Chesapeake Bay Program include numerous variations for each type of agricultural BMP. These BMPs vary in pollutant load reduction effectiveness depending on the crop type, implementation methods, and location (hydrogeomorphic region). Permittees may use the default rates for cover crops, and no-till practices included in MS4 FAQ #71 or may reference the CAST source data for effectiveness value specific more specific to the BMP a being implemented. The CAST source data may be used to determine the effectiveness values for agricultural BMP types not included in the FAQ #71. Permittees looking to credit agricultural BMPs other than those listed in the MS4 FAQ document should coordinate with the DEP regional office.

Permittees who used the simplified method, Mapshed, or Model My Watershed may use the effectiveness values from the CAST source data to complete their load reduction calculations. Any load reductions calculated for an agricultural BMP must be consistent with the load calculation methodology used to determine the permittee's baseline load. If a permittee used the simplified method to calculate their baseline load, the effectiveness value from the CAST source data must be applied to the same land use load for the area being treated as was assumed in the permittee's baseline calculation. Permittees may not use BMPs from the CAST source data that treat loads that were not included in the permittee's baseline load. If animal waste loads were not included in the permittee's baseline, BMPs that treat these loads may not be implemented for MS4 credit.

m. Should MS4s use CAST-based unit reductions to calculate PRP reductions for ag BMPs across all methodologies that may have been used to calculate loadings (e.g. Simplified Method, MMW, MapShed, etc.)?

Yes, see response to "a" above. The effectiveness rates for ag BMPs included in Model My Watershed (MMW) should not be used when calculating PRP reductions.

n. If the broad answer to Question #b is no, then how should PRP reductions associated with ag BMPs be calculated (and considering a broader range of ag BMPs than cover crops and tillage practices (e.g. barnyard runoff controls, prescribed grazing, and so on) in MMW?

Yes, see response to "a" above. The FAQ document calls out the fact the PRP instructions state that reductions should be calculated by "…other methods approved by DEP…"

o. Is there a reference document of "other methods" approved by DEP for the full slate of ag BMPs (above and beyond cover crops and tillage practices) and tied to the different methodologies that may have been utilized for calculating loadings (e.g. MapShed, Simplified Method, etc.)? Is the Rural BMP editor in MapShed acceptable for calculating PRP reductions for ag BMPs?

The MS4 program does not have any additional resources for calculating load reductions for agricultural BMPs for MS4 credit available beyond what is included in the MS4 FAQ document. If a permittee's planning area includes agricultural land and they would like to implement a BMP on that area, this proposed BMP should be discussed with the DEP regional office.

133. ***What can be done with excess credits associated with Pollutant Reduction Plan (PRP) implementation?***

If, during the 2018-2023 permit term, a MS4 permittee implements BMP projects that reduce more pounds of sediment than required, the excess load reduction may be applied to the pollutant load reduction requirements of future permit terms. This scenario is addressed in MS4 FAQ #67.

134. ***If an MS4 implements a project that meets their PRP requirements, but also has excess credits they wish to "bank" for the next MS4 cycle, how do they delineate the amount of credits that meet current obligations with excess credits to be used in a future MS4 permit cycle in reporting documents (e.g. annual reports)?***

MS4 Permittees should report load reductions for all BMPs implemented within their jurisdiction in their MS4 Annual Status Reports. If the pollutant load reduction from a BMP exceeds the permittee's pollutant load reduction requirement, the permittee may note "BMP exceeds regulatory requirement" when the BMP is reported in an Annual Status Report. If only a portion of the BMP results in the permittee exceeding their load reduction requirement, this may also be noted. For example, if 200 feet of stream restoration will meet the permittee's load reduction requirement but the permittee implements 400 feet of stream restoration, the permittee would note the portion of the project that exceeds the regulatory requirement in their Annual Status Report (200 feet). As another example, if an infiltration basin is constructed to treat 6 acres of drainage area, but only treatment of 3 acres is required to meet the permittee's load reduction requirement, the permittee would note in their Annual Status Report the portion of the drainage area treated that results in the permittee exceeding their regulatory requirement (3 acres). Permittees will be required to submit a Final PRP Report with the first Annual Report due following the permit expiration date. The template for this Final Report has not yet been developed, but we intent to include a section that will allow permittee to report any load reductions that they believe they have "banked."

135. ***If additional opportunities come along that will result in BMP implementation generating excess credits to their current PRP reduction obligations where the excess credits would be "banked" for the next MS4 cycle, does an MS4 need to revise their current PRP to include these projects?***

Any BMP proposed to meet a permittee's pollutant load reduction requirement should be coordinated with the DEP regional office. If a permittee wants to implement a BMP that is not currently included in an approved PRP, and the permittee wishes to receive "banked credit" for a future permit term, the permittee should complete a PRP revision. PRP revisions are discussed in MS4 FAQ #21. Note that all PRP BMP projects require a public participation component (see PRP Instructions) prior to BMP implementation. Coordination with the Regional Office and a public comment period need to occur before the proposed BMP is implemented.

136. ***If an MS4 successfully "banks" credits for the next permit cycle, but they change the methodology for calculating loadings and reductions for the next permit cycle, does the MS4 need to recalculate the reductions for projects that included excess credits?***

This question cannot be answered at this time as the future permit has not yet been written. Potential changes to BMP crediting calculations are discussed in the "Please Note" section of MS4 FAQ #67.

137. ***Can the Countywide Action Plan (CAP) and the municipal Pollutant Reduction Plans (PRPs) required for the MS4 permittees within the county be combined into one plan?***

Different modeling approaches related to the different scale of the area covered by a CAP versus the area covered by a MS4 permit-required PRP make it difficult for these requirements to be combined into a single plan. A county's CAP outlines how the county will meet their portion of the state's 2025 Chesapeake Bay pollutant reduction goal. The load reduction goal, and load reductions achieved by BMPs implemented to meet the goal, are calculated at the county level using a modeling program called the Chesapeake Area Scenario Tool (CAST). MS4 permittees calculate the pollutant load reduction requirements for their PRPs at a smaller scale. The planning area for a MS4 permittee's PRP is the urbanized area (UA) within the municipality which drains to impaired waters, plus any additional area outside the UA which drains into the MS4 conveyance system, less any areas which can be parsed out. Local-level modeling allows MS4 permittees to limit their pollutant load calculations to only the load generated by their regulated planning area.

A county could develop their CAP using the local-level modeling used by MS4 permittees, however this would substantially increase the complexity of the CAP and would then be inconsistent across the Chesapeake Bay watershed. For PRPs, local impaired waters are aggregated on a HUC-12 scale; therefore a county would need to model each of their HUC12 watersheds, delineate the portion of each watershed that is regulated planning area to assign those loads to a MS4 permittee, and assign the remaining loads to the appropriate sector in the CAP. There is little benefit to the County for going through this more detailed modeling process. The end result may be a slightly different baseline load, but the CAP goal will be the same load reduction percentage as it would have been had the county used county-level CAST modeling.

138. ***What is the relationship between the MS4 permit and the CAP?***

BMPs installed to meet the pollutant load reductions required by a permittee's MS4 permit can be included in a County's CAP. The CAP is to be all-encompassing, showing what is occuring in the county to meet nitrogen, phosphorus, and sediment reduction goals. There is an FAQ for the relationship between the MS4 program and County CAPs on the Bay Program's Ph 3 WIP website.

The Chesapeake Bay TMDL is focused on nitrogen and phosphorus, with a sediment planning target derived based on meeting the nitrogen and phosphorus goals. This is why counties' CAPs focus on achieving nitrogen reductions as the primary nutrient. The 2018 PAG-13 General Permit ("MS4 Permit") requires permittees to reduce the amount of sediment and nutrients (nitrogen and phosphorus) discharged from the MS4 to impaired waterways. MS4 permittees may use a presumptive approach in which it is assumed that when the permit-required sediment load reduction is met, the required nutrient load reductions will also be met. This is why the MS4 permit-required Pollutant Reduction Plans (PRPs) focus on achieving sediment reductions as the primary pollutant of concern.

While BMPs designed for sediment reductions (Pollutant Reduction Plan BMPs) will generally also provide some degree of nitrogen reduction, the urban areas covered by PRPs typically do not have a high nitrogen load available to treat. Agricultural areas do have a significant nitrogen load available to treat. Therefore, the most cost-effective way to meet the nitrogen reduction goals of the CAP through the implementation of agricultural BMPs.

139. ***How can counties capture N reductions associated with combined sewer overflows that are getting addressed by Municpal Authorities? What are the allowable N and P discharges?***

The allowable N and P discharges from Municipal Authorities are associated with local municipality NPDES Permit and their CSS Long Term Control Plan. DEP oversees this program and is working to better report the metrics generated. Please contact your local Municipal Authorities for information regarding their NPDES permits and CSS Long Term Control Plans.

140. ***The handling of on-lot sewage systems is a mystery in the CAP process. What is known about these systems and what they contribute to nitrogen and phosphorus pollution?***

For septic systems only nitrogen is assigned as a reported nutrient. The Chesapeake Bay Program collected these data in 2017 directly from state regulatory agencies, counties, and municipal organizations. The Chesapeake Bay Model's documentation explanation is given on pages 8-43 to 8-44 found at: https://cast.chesapeakebay.net/FileBrowser/GetFile?fileName=8%20Direct%20Loads.pdf

Here is a summary of how septic system load is accounted for in the Chesapeake Bay model: "Septic loads for each land-river segment are determined by multiplying the number of systems by the population per system and the annual loading rater per capita. These values are adjusted based on state reported population served by large residential monitored septic systems. The load from residential and commercial large residential monitored septic systems is added to the septic load separately. A baseline effluent load of 5 kg/person/year nitrogen from the septic tank is used (Palace et al 1998, Maizel et al 1997). The attenuation factors described below are applied to arrive at an edge-of-stream load. The Chesapeake Bay Model (CAST) Septic Map tool can be used to get specific information on septic system and loads by geographic locations at https://cast.chesapeakebay.net/TrendsOverTime/Septic allows the user to complete the following:

- View the number of systems or populations per system. Select a range of years from 1984 through 2025.
- View the number of septic systems (post BMPs). Select a year between 1984 through 2025. Results are displayed by county. Hover your cursor over a county to view county name and number of septic systems.
- This dataset is maintained and created by the Chesapeake Bay Program. The CBP collected these data in 2017 directly from state regulatory agencies, counties, and municipal organizations. *Please Note:* Data presented for 2025 are from state Phase III WIPs

141. ***While working in CAST we are trying to enter the BMP Stormwater Performance Standard (Runoff Reduction). It asks for a value for acre-feet of treatment. We read the help guide, but the equations do not make much sense because there are no units. Please explain what this is referring to and how do we accurately calculate this value.***

For CAP Coordinators or planning staff wanting to conduct CAST scenarios, please reach out to DEP's Chesapeake Bay Office for technical guidance to ensure accurate inputs and data interpretation from CAST. Counties should either submit the filled out Detailed BMP Template, or a spreadsheet that contains the BMP, Quantity and Units. You may also use the table found in the appendix of the toolbox. Some counties use the table in their toolbox to identify new BMP goals.

To obtain acres to feet for the Stormwater Performance standard is as follows:

- Performance Standard of 2 X Impervious acres divided by 12.
- Full discussion of the Stormwater Performance Standard starts on page 91 of the Chesapeake Bay BMP guide at https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

142. ***How is nutrient trading in sewage treatment facilities accounted for in the loading reductions?***

The sewage treatment facilities loads are established by their cap permits. The trading program does consider delivery factors in crediting and is therefore a no net change condition.

The Chesapeake Bay TMDL Wasteload Allocation (WLA) for point sources was assigned to wastewater facilities via nutrient cap loads (effluent limits) in their NPDES permit. Once the WLA was assigned, new facilities receive a cap load of zero and development/expansion of an existing facility receives no additional load allocation unless it incorporates load that was previously allocated. Facilities use a combination of wastewater treatment technology, nutrient credit trading, and nutrient offsets to meet NPDES permit nutrient cap loads. As long as all facilities are meeting their cap loads, the loading reduction required to meet the TMDL is being met.

Not all of the nutrients discharged from a location will reach the Chesapeake Bay due to assimilation as the water travels to the Bay. Therefore, to create a way to trade between facilities that are located different distances from the Bay, a delivery ratio is applied for each facility based on their location. Application of the delivery ratio converts discharged load (in pounds at the discharge point location) to credits (pounds delivered to the Bay).

Nutrient credit trading involves 'balancing' or 'canceling out' the amount of one facility's discharge over their cap load with equivalent credits from another facility that treated to below their cap load, resulting in no net reduction to the Chesapeake Bay. Only credits generated in a compliance year that are not used towards permit cap load compliance represent a nutrient reduction to the Chesapeake Bay.

143. ***Can you provide examples of Advanced Grey Infrastructure Nutrient Discovery Program (IDDE)? Is this basically showing if you can find a discharge and correcting it, showing proof of such through monitoring data, you can get credit?***

Here is the Expert Panel Report:
https://www.chesapeakebay.net/documents/grey_infrastructure_expert_panel_report_102714.pdf

DEP MS4 Program Response – The MCM #3 of the MS4 NPDES permit requires permittees to develop, implement and enforce a program to detect eliminate illicit discharges into the permittee's regulated MS4. The IDD&E program must include conducting dry weather screenings of its MS4 outfalls to evaluate the presence of illicit discharges. If any illicit discharges are present, the permittee must identify the source(s) and take appropriate actions to remove or correct any illicit discharges. This is no pollutant load reduction credit available for IDD&E through the MS4 program.

144. ***Advanced Sweeping Technology - 2 pass/week- The other Sweeping BMP descriptions explain how many passes per timeframe and street segments involved. Should this be consistent? Do you have this information to add to definition?***

There are 11 reporting classifications for the Street Sweeping BMP. See the Chesapeake Bay Program's (CBP) Quick Reference Guide for BMPs Information and Expert Panel Report link on Page 110 here: https://www.chesapeakebay.net/documents/BMP-Guide_Full.pdf

DEP MS4 Program Response – The effectiveness values for street sweeping listed in the BMP Effective Values Table apply to streets that are being swept 25 times per year. Permittees may also use the effectiveness values contained in the "Pollutant Reductions Associated with Different Street Cleaning Practices" table contained within the Chesapeake Bay Program's Expert Panel Report (Recommendations of the Expert Panel to Define Removal Rates for Street and Storm Drain Cleaning Practices). Additionally, during the current MS4 permit term, permittees are may use the mass loading approach listed in Appendix A of the Street Sweeping Expert Panel Report. The mass loading approach uses the weight of the material collected rather than an effectiveness value to determine the pollutant load reduction credit for this BMP. While this approach is acceptable, permittees are cautioned that detailed record keeping will be required to ensure that load reductions for this BMP are calculated correctly. Only sediment collected from within the permittees planning area is eligible for crediting. Screening and/or calculation adjustments must be made to ensure that the load reduction credit is based on only the weight of dry sediment.

145. ***Stormwater Performance Standard - Stormwater Treatment and Runoff Reduction- Are these BMPs? If so, why is it referencing other BMPs. Is it a practice to be used in conjunction with other BMPs. What is "this module"?***

Performance Standard Reporting is a means to report the overall effects of multiple site wide BMPs being used in a "treatment train" for site Storm Water Management by reporting three key site conditions. It is a means to simplify multiple BMPs being used at a site in meeting state-mandated controls using varied designs. By reporting Site Area, Impervious Area, and Volume Reduction, these three measures can be used to characterize Storm Water Management for an entire site. The older method of reporting the "Treated Area" of a single BMP can still be used but cannot be overlapped with any other BMP and only one BMP type can be reported for these Treated Areas. Pennsylvania's stricter design criteria (curve plot location) allows for more credit using the "three-measure" Performance Standard process.

Please see the Chesapeake Bay Program Stormwater Performance standard expert panel linked at https://www.chesapeakebay.net/documents/Final-CBP-Approved-Expert-Panel-Report-on-Stormwater-Performance-Standards-LONG_012015.pdf

DEP MS4 Program Response – The stormwater performance standard approach (ST and RR) are methods than can be used by permittees to determine the effectiveness of a stormwater BMP retrofit project, or can be used to determine an effectiveness value for a BMP that does not meet the design criteria required needed for a BMP to be crediting using the BMP effectiveness values table. In order to use the values in the effectiveness value tables, the BMPs need to be designed to the standards in the PA BMP Manual. However, there may exist BMPs that do not meet the all the BMP Manual design criteria. For example, the sizing criteria for rain gardens in the BMP manual states that "surface area is dependent upon storage volume requirements but should generally not exceed a maximum loading ratio of 5:1 (impervious drainage area to infiltration area)." If this sizing criteria is not met for a particular BMP and the value from the effectiveness value table cannot be used, the BMP can still be credited using a reduced effectiveness value calculated using the stormwater performance standard approach.

146. ***Impervious Surface Reduction- Are these valid examples that can be counted- natural area conservation, rain gardens, permeable pavement, rain barrels, cisterns, green roofs, created wetlands?***

The Impervious Surface Reduction BMP refers to the removal of pavement to restore permeable soils. These other Green Infrastructure Practices would be reported individually or possibly through Performance Standard Reporting for the entire site.

Reporting

147. ***If counties are able to confirm a septic system is correctly functioning and regularly pumped, should counties enter this information into FieldDoc? Or keep it somewhere separate?***

No. Septic data is already reported through DEP's Act 537 Septic Pump Out Program. More information on the DEP Bureau of Clean Water Septic Tank Pump-outs is contained in the DEP QAPP.

148. ***How are stormwater practices on developed/urban land currently being reported to the model?***

If a project is implemented using state or federal cost-shared dollars or permitted through a state or federal program, that practice is captured thorugh the programs reporting structure. If a project is implemented as part of an MS4 Pollutant Reduction Plan (PRP), that project is captured through the DEP MS4 Program. If a project is not cost shared, permitted, or implemented as part of an MS4 PRP, that project most likely is not currently captured. If it is not currently captured, you may enter that project into FieldDoc.

149. ***Is the performance of combined sewer system accounted for in CAST or should counties document/report combined sewer system performance for those municipalities as a BMP?***

Combined sewer system loads are accounted for in CAST from their NPDES permit reports. Counties should not document/report combined sewer system performance outside of the permitting program.

150. ***If municipalities already require regular pumping of on-lot septic systems, how can they report it? Will a county receive credit for instituting a county-wide/municipal-wide pumping schedule for on-lot sewage? If so, what credit value would be assigned to this BMP?***

Municipalities already report their on-lot septic pump out to DEP through the wastewater program. Pumping only receives a 5% reduction for the year the pumping was done. If the schedule is every 5 years, it is assumed 20% get pumped each year. If the schedule is every 3 years, it is assumed 33% get pumped each year. DEP Chesapeake Bay office reports the information to EPA as provided by the program.

151. ***Are all non-structural Chapter 102 BMPs being reported? This was touched on in the DEP roundtable meeting but never clarified. Should we be reporting 102 BMPs in PracticeKeeper?***

The Construction Stormwater Program is reporting non-structural and structural BMPs to DEP's Chesapeake Bay Office through an annual BMP implementation report for EPA progress reporting. This includes erosion and sediment (E&S) control and post-construction stormwater management (PCSM). Conservation District quarterly reports to GreenPort are used to determine the acres disturbed and acres treated under E&S

controls. Continue your current work--flow to report PCSM BMPs to the Construction Stormwater Program in the Bureau of Clean Water.

152. ***How are 102 and 105 permitted projects reported to the CAST model? Does the Integrated Compliance Information System (ICIS) report BMPs to the CAST model?***

Integrated Compliance Information System does not report directly to the Chesapeake Bay Model. The 102 program reports information to the Integrated Compliance Information System. The 102 Program reports annually from an internal Permit Notice of Terminations by database query. The 102 program reports their data to the Chesapeake Bay Office in an excel spreadsheet that is QA/QC and submitted to EPA on an annual basis. The Chapter 105 program reports their data to the Chesapeake Bay Office in an excel spreadsheet that is QA/QC and submitted to EPA on an annual basis.