Chesapeake Bay Program Wetlands Action Team
BMP Verification Protocols Narrative

Prepared for Wetland Action Team review. 3rd draft, 2/14/2013

1. *Background narrative on source sector/habitat and importance of verification specific to this source sector/habitat*

   Situated between the land and the water, wetlands act as buffers by slowing the flow of pollutants into the Bay and its tributaries. As polluted stormwater runs off the land and passes through wetlands, the trees and grasses in wetlands filter and absorb nutrients, suspended sediments and chemical contaminants before these pollutants can flow to nearby waterways.

   Countless wildlife species that live in the Chesapeake Bay watershed depend on wetlands for their survival.

   - Tidal wetlands are a winter home for waterfowl that visit the Chesapeake Bay as they migrate along the Atlantic Flyway.
   - Muskrats, wading birds and other wildlife rely on wetlands for food and cover.
   - Many commercially valuable species of fish and shellfish use wetlands as spawning or nursery areas.
   - Thousands of aquatic species, including worms, snails, insects, mussels, tiny crustaceans and reptiles and amphibians, thrive in wetlands. In turn, larger animals depend on these small aquatic species for food.

   - Wetlands are economically valuable because they provide opportunities for fishing, crabbing and hunting. Since they are habitat for commercially important fish and shellfish, wetlands are vital to the health of the Chesapeake Bay's commercial fishing industries.

   - Additionally, many people visit wetlands for popular hobbies and family activities such as boating, bird watching, photography and wildlife study.

   Goal
   During the period 2011-2025 restore 30,000 and enhance 150,000 acres of tidal and non-tidal wetlands across the Chesapeake Bay watershed. In cooperation with other GIT Working Groups and Chesapeake Bay partners, protect an additional 225,000 acres of wetlands within the entire Chesapeake Bay Watershed.

   Both restoration and enhancement are intended to provide a range of living resource (including American black duck) and water quality benefits. Restoration and creation, which result in actual gain of wetland acreage, are tracked separately from enhancement, which results in gains in function of existing wetlands, for purposes of clarity and accuracy.

Wetland Restoration/Creation BMP

In order to verify that restored/created wetlands are sustainable, the Habitat GIT advocates that protocols be implemented to verify not only the wetlands physical extent (acreage) and efficiency (nutrient uptake/sediment deposition), but also the sustainability of the wetlands for the life of the practice, which indicates their ability to provide function as designed.

Planning and site selection criteria have a great influence on the success of projects. Projects should be located in areas suitable for wetland creation or restoration and to meet clear project objectives.

2. *Description of existing BMP verification/inspection programs already in place and being built on.*

Practitioners who have responded and provided comments on BMP verification indicate that projects are visited to ensure that they were built as designed. Structural features (e.g. berms, water control structures) are inspected for operational integrity. Invasive plant species are controlled.

USDA-NRCS Wetlands Reserve Program (WRP) easements are monitored annually for three years, followed by an ownership review in the fourth year, and then three years of remote sensing review. Onsite monitoring would occur every five years after that. Monitoring may be more frequent if there are violations or if compatible uses of the wetland (e.g. prescribed grazing, habitat management) have been approved. However, many WRP projects occur in existing wetlands and count as enhancement, which does not have a BMP efficiency for nutrient removal.

Conservation Reserve Program and Conservation Reserve Enhancement Program (CRP/CREP) projects are verified for correct installation. Annual monitoring is required for 10% of contracts. A fully implemented project is not subject to further status reviews, but a project that is not successful or has a problem may be monitored for two more years. All of these projects are implemented on private lands where landowners typically inspect the sites a few times throughout the year. Landowners contact NRCS regarding any problems noted during these inspections (e.g., structural failure or invasive species).

All USDA-NRCS engineering practices (which would include wetland restoration) are subject to a Quality Assurance Review (QAR). NRCS engineering staff conducts QARs on 5 percent of the engineering practices that were implemented during a year in each county-based field office. During an engineering QAR, structural components would be checked for both design and function.

Standards were not specified by respondents, but it was noted that wetlands established for mitigation purposes have stringent monitoring requirements.

Projects may only be visited once, within the resources of the sponsoring entity. This would not be adequate to monitor for sustainable efficiencies for nutrient removal, but agency and practitioner resources limit ability to do more.

3. *Overview description of recommended verification protocol(s) and the underlying logic behind taking this approach to verification*

   The verification process needs to be practical with regard to available staff, time, and resources while still maintaining a certain level of rigor and integrity. Responses from practitioners indicate that monitoring would continue as before, unless other resources are provided.

   Sites will be visited after construction and planting to ensure that the project was completed as designed.

   Invasive species will be managed to maintain desired plant species composition and abundance.

4. *Description of how the recommended verification protocol(s) address the applicable partnership's verification principles*.

   - Principle 1: Practice Reporting
     Current protocols used by practitioners are recommended and not required, unless additional resources are provided. Verification of wetland restoration projects using existing protocols is expected to remain practicable.

     Projects that are built as designed will be assumed to function sustainably. However, wetland restoration practices are designed having differing assumed lifespans and design objectives, and these may vary greatly in urban and agricultural landscapes. For instance, projects enrolled in WRP must be maintained in perpetuity. Most other wetland practices designed in the agricultural landscape are designed using NRCS practice specifications and are designed for a 15-year minimum lifespan. However they are also designed to minimize long-term maintenance and, therefore, should remain effective for longer than 15 years. Wetland and stormwater practices designed in urban landscapes often have a longer assumed life but this longer lifespan may not be realized without appropriate maintenance, which can often be lacking.

     Onsite inspections will be performed by staff with applicable expertise and capability in assessing wetland integrity. For WRP projects, this includes USFWS biologists, NRCS biologists, or NRCS soil conservationists who have experience with WRP projects. For CRP/CREP projects, this may include the aforementioned personnel or possibly District or MDA planners.

   - Principle 2: Scientific Rigor

     All wetland restorations and wetland creations implemented through NRCS programs and CRP/CREP are designed and implemented according to NRCS Conservation Practice Standards. Practice standards have been developed and updated by technical specialists, and are usually reviewed/updated every 5 years to incorporate new knowledge. Practice

standards include requirements for documentation of design data and as-built information prior to reporting a practice as applied. Practice standards are publicly available and practice standard revisions are made available to the NRCS State Technical Committee for comment prior to issuing as final. The NRCS State Technical Committee is made up of representatives from federal, state, and local agencies, nonprofit organizations, agricultural extension agents, industry representatives, and private individuals.

Wetland practices reported by the various agencies and organizations are compiled by a state-designated data steward and cross-checked for duplication.

- Principle 3: Public Confidence
  The process for verification of wetland restoration projects needs to be transparent and publicly accessible for all stakeholders to ensure confidence that these projects are implemented and continue to function as reported by jurisdictions. The verification process for NRCS practices are included in the conservation practice standards, which are publicly available. However, due to Section 1619 of the Farm Bill and other privacy concerns, information on individual projects is not publicly available.

- Principle 4: Adaptive Management

  NRCS conservation practice standards are reviewed every 5 years and updated if necessary. Updates could include revised design techniques to address new scientific findings, as well as changes in certification (i.e. certified as implemented according to the standard) procedures if existing procedures were determined to be inadequate.

- Principle 5: Sector Equity

  All NRCS practice standards follow the same protocols for development, update, and review. All implemented practices have certification procedures and are subject to QARs.

5. *Description of the process the workgroup followed in the development of their protocol(s)*

   The workgroup members received a draft background document and were asked to describe their monitoring efforts; what would be reasonable given existing resources; and what could be accomplished if more resources were available. Personal solicitation was also made to certain practitioners. Responses were received from NRCS, USFWS, Ducks Unlimited, USEPA, and New York State Department of Environmental Conservation.

   These draft protocols were revised and further developed based on feedback received from the BMP Verification Review Panel on December 6, 2012 and the Comparison Matrix of source sector and habitat workgroup BMP verification protocols.

6. *Detailed description of the verification protocol(s) and how the jurisdictions would implement the recommended protocol(s).*

- State oversight of wetland restoration reporting: The installing agency must submit basic documentation to the appropriate state agency for each individual wetland restoration project installed. Localities should check with their state agency on the specific data to report for individual projects. Some typical reporting information includes:
    - project identifier
    - county
    - watershed
    - project partners
    - drainage area
    - wetland type(s) by acreage
    - practice type
    - duration of protection mechanism.

  In addition, the installing agency should maintain an extensive project file for each wetland restoration project installed (i.e., construction drawings, as-build survey, digital photos, post construction monitoring, inspection records, and maintenance agreement). The file should be maintained for the lifetime for which the load reduction will be claimed.

- Reliance on statistical sampling- Since wetland restoration is listed in the Structural BMPs category in the Agriculture Workgroup's verification protocols, should this tie in with their recommendation of 80% data confidence?

7. *Include any applicable matrices/tables illustrating detailed protocols applicable to individual practices or groups of related practices*.

   An evaluation sheet used for WRP projects is attached.

ANNUAL MONITORING WORKSHEET

County/Parish

Select the Appropriate Program: ◯EWPP-FPE ◯EWRP ◯FRPP ◯GRP ◯HFRP ◯WRP

Landowner(s) Phone Monitoring Date

NEST Agreement & Parcel Number Other identifying name or number

Monitor(s) Affiliation if other than NRCS

The purpose of monitoring is to ensure compliance with program policy, the terms of easement deeds, evaluate restoration progress, determine restoration repairs or enhancements needed to ensure maximum environmental benefits, and to maintain contact with landowners or partners. Staff with applicable expertise should collect the monitoring information. Partners with the appropriate technical expertise may be authorized to conduct monitoring reviews. The landowner or decision maker should be offered the opportunity to participate in monitoring reviews.

Photographs from designated points are recommended when conducting onsite monitoring.

Methods of Monitoring

Ownership Review	Landowner contact and answer question 1 of this worksheet. *Only applicable in the year immediately following onsite monitoring that did not require corrective actions or had no violations.*
Offsite	A review of the most recent aerial photography and answer questions 1, 3 and 4 of this worksheet.
Summary Review	At a minimum; a cursory onsite visit, a landowner contact and answer questions 1, 2, 3 and 4 of this worksheet. *Only applicable during the pre-restoration phase.*
Onsite	At a minimum; landowner contact, a review of available aerial photography and answer all questions on this worksheet.

Landowner Information

1) A. Landowner Contact (attempted) Date Contact Method

B. Was current land ownership verified? ◯ YES ◯ NO

Date of verification Verified by

C. If there is a new landowner, were they notified of the easement and have records been updated? (If yes, Onsite Monitoring is required for the next 2 years) ◯ YES ◯ NO

New landowner name(s) (if applicable)

D. Follow up requested by landowner

2) Was the landowner or decision maker present during the review? ◯ YES ◯ NO

This table is a list of possible action items that can be taken to address concerns or violations discovered during the monitoring event. Use this list as a reference when answering the monitoring questions that ask for action items to be listed. Some of the action items listed in this table are not applicable to all programs or all questions.

Action Items

(1) NRCS action needed (FA contract)	(2) NRCS Action needed (3rd party contract)	(3) Entity action needed	(4) Landowner action needed	(5)CUA needed
(6)Plan needs to be developed/updated	(7) O&M plan needs to be developed/updated	(8) NRCS Enforcement action needed	(9) Other	

Monitoring Questions

3) A. Are the terms and conditions of the easement deed being met?

(e.g. no encroachment, dumping, unauthorized uses, etc.) ◯ YES ◯ NO

Select observed unauthorized uses (if applicable)

☐ Mining (includes peat/gravel)	☐ Aquaculture	☐ Commercial Seed Production	☐ Dumping
☐ Cropping	☐ Impervious Surfaces	☐ Hydrology alteration	☐ Burning
☐ Infrastructure Projects (phone gas etc.)	☐ Illegal Activities	☐ Energy Production	☐ Grazing
☐ Encroachment	☐ Structures	☐ Haying/Mowing	☐ Trails
☐ Installation/Maintenance of Acceptable Structures	☐ Timber Harvest/Cutting	☐ Pest Management	☐ Food Plots
☐ Maintenance of Private Drainage	☐ Carbon Sequestration Activities	☐ Parked Equipment	☐ Road
☐ Unauthorized Easement Subdivision	☐ Tree/Shrub	☐ Livestock	☐ Other

List the "other" items (if applicable)

B. Can unauthorized uses be resolved with a Compatible Use Authorization?
(Not applicable to GRP and FRPP) ◯ YES ◯ NO

If applicable, indicate which unauthorized uses can be resolved with a CUA

If the unauthorized use will not be resolved with a CUA list the applicable action items

4) Is there evidence or knowledge of a spill or release of hazardous substances, petroleum products, or other potential environmental hazards on the property that need to be addressed? (Excluding the year an Ownership Review was performed)

◯ YES ◯ NO

If yes, describe and indicate the location(s) on a property/site map. Consult with all appropriate administrative, technical and legal staff to take required action(s).

List required action items (if applicable)

5) A. Select current Compatible Use Authorizations (Not applicable to GRP and FRPP)

☐ Maintenance of Private Drainage	☐ Carbon Sequestration Activities	☐ Haying/Mowing	☐ Trails
☐ Management/Maintenance Activities	☐ Food Plots	☐ Timber Harvest	☐ Grazing
☐ Installation/Maintenance of Acceptable Structures	☐ Pest Management	☐ Developed Hunting/Fishing	☐ Other

List the "other" items (if applicable)

B. Are Compatible Use Authorizations being followed?

◯ YES ◯ NO ◯ N/A

List action items

6) A. Is the easement accessible by the legally described route? ◯ YES ◯ NO

List action items

B. Is the easement accessible by an alternative route? ◯ YES ◯ NO

List action items

7) A. Is the boundary clearly marked and identifiable? ◯ YES ◯ NO

If no, choose at least one item below

☐ Boundary not marked	☐ Corner/ high risk posts missing	☐ One to several low risk posts missing
☐ Other		

list the "other" condition (if applicable)

Are actions needed? ◯ YES ◯ NO

List action items

8) Are the objectives of the management plan being met (e.g. grazing plans, WRPO, conservation plan etc.)? (Not applicable to FRPP) ◯ YES ◯ NO

List action items

9) Are installed practices being properly operated and maintained (e.g. in accordance with job sheets, O&M plans, etc.)? (Not applicable to FRPP) ◯ YES ◯ NO ◯ N/A

List action items

10) Have planned restoration or enhancement objectives been met? (Not applicable to FRPP)

◯ YES ◯ NO ◯ N/A

List action items

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11) A. Are threatened or endangered species present on or proximal to this land?

(Not applicable to FRPP) ○ YES ○ NO

If yes, are identified habitat elements being provided to the extent possible?

○ YES ○ NO

List action items

B. Have the appropriate consultations occurred or NEPA documentation completed?

(e.g. FWS, State Specialist, etc)

○ YES ○ NO list action items

12) Is acceptable hydrology present? (Not applicable to HFRP, GRP and FRPP)

○ YES ○ NO ○ N/A

List action items

13) Is acceptable vegetation present? ○ YES ○ NO (Not applicable to FRPP)

List action items

14) Are there noxious plant or pest species problems that need to be addressed?

(deed, State or local requirements)

○ YES ○ NO

List action items

15) Are deed requirements being met for cultural resource protection? ○ YES ○ NO ○ N/A

(Only answer for FRPP if cultural resources were the purpose of the enrollment)

16) Are necessary water rights being maintained in accordance with the deed contract or other agreement requirement? ○ YES ○ NO ○ N/A

List action items

17) Are there areas of concern?

(e.g. potential violation or encroachment, high risk activities on or adjacent to the easement area, conflicting landowner objectives, etc.) ○ YES ○ NO

List action items

18) Are there enhancements necessary to improve the site or other follow-up action items needed?

○ YES ○ NO

List action items

19) Are there landowner, partner or entity suggestions or comments? ○ YES ○ NO

If the answer is yes, list suggestions or comments

Additional Notes and Observations