



*Evaluating an Improved Systems Approach to Crediting:
Consideration of Wetland Ecosystem Services*

*Report Summary
December 5 2023*

Pamela Mason
Chair Workshop Steering Committee
Chair Wetlands Workgroup



Evaluating an Improved Systems Approach to Crediting: Consideration of Wetland Ecosystem Services Steering Committee

- Pam Mason, VIMS, Wetland Workgroup Co-Chair •
 - Greg Noe, USGS/STAC •
 - Denise Clearwater •
- Alison Santoro, Stream Health Workgroup Co-Chair •
 - Brooke Landry •
 - Sally Claggett •
 - Jake Reilly •
 - Dave Goerman •
- Alicia Berlin, Black Duck Action Team Co-Chair •

Objectives

- 1) Opportunities to incentivize habitat benefits in relation to TMDL and water quality outcomes, and that are part of Chesapeake Bay Agreement commitments;
- 2) Explore the efficacy of a more holistic “systems approach” to BMP accounting, specifically how wetlands are considered in multiple BMPs and multiple workgroups and GITs, and how wetland BMP functions are influenced by other BMP types in the connected landscape.

Presentations Focus

- Discuss improvements or alternatives to the current BMP accounting system that would help incentivize and maximize habitat benefits and ensure accurate credit is provided to complex restoration projects, including describing and calculating co-benefits/ecosystem services.
- Identify where different types of restoration may lead to unintended ecological consequences and provide guidance for how to locate, design and build for specific site conditions and, at least retain if not increase natural system and processes where feasible.
- Discuss and identify possible synergies derived from a landscape perspective of connected ecosystems from uplands to stream valleys.
- Evaluate which existing or potential CBP BMP protocols include wetland ecosystems, compare reduction estimates of these wetlands among protocols, and identify suggestions for harmonizing the crediting of wetland systems among protocols to avoid selective BMP protocol implementation that (unrealistically) maximize only water quality benefits.

Agenda



Chesapeake Bay Program's (CBP)
Scientific and Technical Advisory Committee (STAC)

Evaluating an Improved Systems Approach to Crediting: Consideration of Wetland Ecosystem Services March 22-23, 2022

Location: Chesapeake Bay Program Philip Merrill Center
[Workshop Webpage](#)

{formerly known as 'Evaluating a Systems Approach to BMP Crediting'}

Tuesday, March 22, 2022

[Zoom Link](#)

****Exact Times Are Subject to Change****

9:30 am	Coffee & Light Breakfast (Provided)
10:00 am	Welcome and Introductions – <i>Pamela Mason (VIMS)</i>
10:15 am	Workshop overview and Charge – <i>Pamela Mason (VIMS)</i>
10:30 am	Session 1: Accounting <ul style="list-style-type: none">10:30 am Nonpoint Source TMDL incentives and impacts other goals – <i>Jeff Sweeney (EPA)</i>10:50 am Overview of current BMP crediting – <i>Olivia Devereux (Devereux Consulting, WQGIT)</i>11:20 am Overview of crediting from the jurisdictional perspective – <i>Greg Sandi (MDE)</i>11:45 am Q & A
12:00 pm	Lunch (Provided)
1:00 pm	Session 2: Landscape/Systems Approach <ul style="list-style-type: none">1:00 pm Synergistic Bay goals – <i>Carin Bisland (EPA)</i>1:25 pm Wetland Projects in Agricultural Landscapes – <i>Steve Strano (NRCS)</i>1:50 pm Coastal Wetlands Ranking for Co-Benefits – <i>Pamela Mason (VIMS)</i>
2:15 pm	Break
2:30 pm	Session 2 Continued: Landscape/Systems Approach <ul style="list-style-type: none">2:30 pm Watershed Scale Restoration – <i>Ben Hayes (Bucknell)</i>2:55 pm Large Scale Projects – <i>Rick Bennett (FWS)</i>3:25 pm Watershed-level Effects of Nutrient Sinks: Lessons from analysis of riparian buffers – <i>Matt Baker (UMBC)</i>3:50 pm Q & A
4:15 pm	Break
4:20 pm	Facilitated Discussion
5:00 pm	Recess

Wednesday, March 23, 2022

[Zoom Link](#)

8:30 am	Coffee & Light Breakfast (Provided)
9:00 am	Session 3: Wetlands Projects and Co-Benefits Tradeoffs: <ul style="list-style-type: none">9:00 am MS4/urban impacts – <i>Sujay Kaushal (UMD)</i>9:15 am Systems Degradation – <i>Dave Goerman (PA)</i>9:30 am Consequences of BMP Crediting, Resource Tradeoffs, and Need For an Ecosystem Approach – <i>Denise Clearwater (MDE)</i>9:45 am Unintended Consequences – <i>Michael Williams (UMD)</i>10:00 am Q & A
10:15 am	Break
	Session 3 Continued: Wetlands Projects and Co-Benefits Co-benefits: <ul style="list-style-type: none">10:30 am SAV – <i>Brooke Landry (MD DNR)</i>10:45 pm Marine Fisheries – <i>David O'Brien (NOAA)</i>11:00 pm Waterfowl – <i>Jake McPherson (DU)</i>11:15 am Forestry and Streams – <i>Anne Hairston-Strang (DNR)</i>11:30 am Amphibians – <i>Paula Henry (USGS)</i>11:45 am Brook trout – <i>Steve Faulkner (USGS)</i>12:00 pm Q & A
12:15 pm	Lunch (Provided)
1:00 pm	Session 4: Management Implications and Recommendation Development Facilitation by <i>Greg Noe (USGS)</i> and <i>Pamela Mason (VIMS)</i> <ul style="list-style-type: none">1:00 pm Introduction and Overview of Where We Want to Go – <i>Greg Noe (USGS)</i>1:05 pm Fairfax Recovery Wheel – <i>Meghan Fellows (Fairfax County)</i>1:35 pm Ecosystem Services Quantification – <i>Ryann Rossi (EPA)</i>
2:05 pm	Break
2:15 pm	Facilitated Discussion <i>Discussion will be split in two sections, first focusing on ecosystem services and then policy. Breakout groups will meet for 30-minutes to discuss each topic, followed by a 15-minute report out.</i> <ul style="list-style-type: none">2:15 pm Ecosystem Services3:00 pm Policy
3:45 pm	Conclusion and Next Steps
4:00 pm	Adjourn

Recommendation 1

Key Finding

Wetland Projects are not accurately accounted for toward the wetlands goal or as BMPs. Efforts have focused only on wetlands for pollution load reduction. Wetlands in urban landscapes are not counted via this process.

Recommendations

- Ensure all wetland projects are being counted regardless of whether they are a BMP or habitat or other service
- Examine the existing accounting processes and identify approaches to account for awarding credit or incentive for ecosystem benefits that arise from all management actions; support CBP Wetlands and Black Duck data effort and provide data
 - Commit to maintaining the recommended accounting approach.

Recommendation 2

Key Finding

The benefits of Wetland Projects are dependent on landscape position and location, and the planning and implementation of wetland management actions should be integrated into larger scale systems thinking. Wetland projects would benefit from moving beyond opportunity driven restoration at a specific location that may be less suitable for holistic benefits to targeted restoration at suitable locations.

Recommendations

- Seek systems level wetland restoration projects (as part of a larger wetland complex, or part of a multiple practice effort to include synergistic restoration such as stream, riparian buffers and fish passage) which avoid habitat tradeoffs by incorporating landscape level thinking into such projects and maximize multiple benefits.
- Promote and incentivize restoration projects designed and constructed so that biological function is not negatively impacted while managing for water quality improvements.

Recommendation 3

Key Finding

Wetland Projects provide multiple benefits (i.e. ecosystem services) that are linked to multiple differing local, state, federal and regional outcomes and goals. As such, assessing the net benefits for wetlands projects, especially in comparison to other habitat/water quality restoration efforts, is difficult.

Recommendations

- Investigate the possibility of adding or subtracting load reduction credit for wetland projects relative to habitat services provisioning, and expand to other types of habitat restoration BMPs (such as stream restoration and riparian forest buffers).
- Support development of advances in understanding and predicting outcomes of multiple ecosystem services of wetland projects in addition to N, P, and sediment load reduction, such as habitat provisioning and flood reduction.
- Investigate the development of an accounting system to track co-benefits and cross-outcome ecosystem services.
- Support and encourage partners to consider multiple ecosystem services when evaluating wetland projects, such as rating proposals for funded efforts.

Recommendation 4

Key Finding:

Wetland project implementation would increase to better meet CBP goals by providing additional incentives and tools that properly capture and credit wetland co-benefits beyond water quality improvement.

Recommendations

- Develop a process for project funders to include negative and positive indicator responses for habitat co-benefit and ecosystem services criteria when evaluating proposals.
- Develop a process for decision makers to plan and prioritize actions to address negative and positive indicator response for habitat co-benefit and ecosystem services criteria to include in decision making.

Post Workshop Processes

- **Evaluation of the Outcome/Indicator**
- **Wetlands Project Tracker**
- **Wetlands Action Plan**
- **Wetland Workgroup (WWG) Reorganization**
- **GIT-Funded Projects**
 - Marsh Migration
 - Wetland Condition
 - Mapping in Headwaters
 - Mowing, Wetland Enhancement
- **Capacity Grant with Chesapeake Bay Trust**
- **Best Management Practice Verification Ad-Hoc Action Team**
- **Comprehensive Evaluation of System Response**