Wetlands

Principles for Phase III Watershed Implementation Plans

Protecting Wetlands for Human Health, Economic Development and Infrastructure

Wetlands are a vital part of the landscape and are often overlooked as a key component to habitats and waterways.

Functional wetlands can benefit community health by being an area of filtration for water moving through the watershed. These areas allow for streams and runoff flows to be slowed down, allowing water to filter through the ground, often reducing pollutants and toxins, while also assisting counties and states to meet TMDL requirements. Furthermore, wetlands provide habitat for a diversity of wildlife and a complex food web, helping to minimize mosquitos and other nuisance insects (through predator-prey interactions).

Wetlands provide recreational opportunities for bird watching and hunting. Leasing areas for hunting can generate income for landowners, while promoting economic investment by community members, and encourage visitors to the area. Wetlands also create buffer zones between water and upland areas, allowing for flood and sea level rise protection helping to prevent damages to the surrounding infrastructure.

In addition to restoring and creating wetlands, identifying existing, degraded wetlands and working to improve their function, can offer powerful water quality and habitat benefits. Furthermore, the benefits of functioning wetlands and streams, while significant on their own, are even more powerful when acting together in wetland/stream complexes on the landscape. Thus, these should be considered inextricably linked for planning and implementation purposes.

Best Management Practices with Wetlands in Mind

Incorporating the protection of wetlands into project design does not necessarily require large changes in implementation. There are many best management practices (BMPs) that address the Bay TMDL, wetland vulnerability, and other Chesapeake Bay Program outcomes. Evaluating projects for wetland vulnerabilities and developing a range of strategies to offset those vulnerabilities will increase effectiveness, decrease maintenance costs, and help to ensure achievement of the Chesapeake Bay TMDL requirements into the future. See the table below for wetland-related BMPs that offer significant co-benefits for communities.*

Best Management Practice	Wetlands	Additional Co-Benefits				
		Black Ducks	Climate Adaptation	Flood Control/ Mitigation	Groundwater Recharge/Infiltration	Recreation
Wetland Restoration/ Streamside Wetland Restoration	**5**	4.5	1	1	1	2
Wetlands	**5**	3.5	2	3.5	0.5	3
Wet Ponds	**4.5**	2.5	2	3	0	2.5
Urban Shoreline Management	**4.5**	3.5	4	1	0.5	4.5
Urban Stream Restoration	**3.5**	3	2.5	3.5	1.5	3
Agricultural Forest Buffer	**3.5**	3.5	2.5	3.5	2	4
Contracted Wetland Elevated Mound	**3.5**	1.5	-0.5	-1	0.5	1.5
Constructed Wetland Septic	**3.5**	1.5	-0.5	-1	0.5	1.5
Constructed Wetland Shallow Pressure	**3.5**	1.5	-0.5	-1	0.5	1.5

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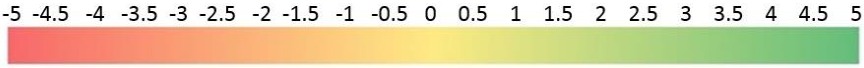
*Values were taken from the Quantification of BMP Impact on the Chesapeake Bay Program Management Strategies study by Tetra Tech and are based on the best professional judgement of subject matter experts. Appendix E. Final Impact Scores evaluates BMP effects on outcomes on a scale of +5 (very beneficial) to -5 (very harmful). **This table shows select BMPs that scored a 3 or higher for the Wetland Outcome, however, not all of these BMPs would merit the score of +3 for all projects. Closer evaluation of project site designs, including those from BMPs shown in the above table, is warranted when interpreting these scores.**



Guiding Principles for Incorporating Wetlands

WIP Development

- Identify healthy wetlands and designate areas for protection.
- Capitalize on co-benefits by selecting BMPs that also protect wetlands and increase land conservation.
- Account for and consider existing stressors by integrating future population growth and land-use changes.
- Align with existing climate resiliency plans (i.e. hazard mitigation plans, floodplain management programs).
- Engage Partners – work with government agencies, elected officials, and NGOs to incorporate updated data and conservation efforts into existing WIPs.

WIP Implementation

- Reduce vulnerability - design BMPs to maximize upland treatment, reduce land use change, increase land protection, increase land value, reduce wildfires, and reduce water demand and withdrawals.
- Build in flexibility and adaptability - allow for adjustments in BMP implementation in order to consider a wider range of potential uncertainties and a richer set of response options.
- Adaptively manage - Allow for changes in design, construction and maintenance over-time as new data regarding wetland vulnerability becomes available. and as more watersheds are restored

Tools and Resources

- US Fish and Wildlife Service National Wetlands Inventory: https://www.fws.gov/wetlands/
- Wetlands Mapper: https://www.fws.gov/wetlands/data/Mapper.html
- Status and Trends Report: Status and Trends of Wetlands in the Conterminous United States 2004 to 2009
- Environmental Protection Agency: Section 404 of the Clean Water Act Resources
- National Resources Inventory: Wetland Status Report 2010
- Wetlands of Global Importance: https://www.ramsar.org/
- Chesapeake Bay Estuarine complex: https://rsis.ramsar.org/ris/375
- Chesapeake Bay Program Wetland Expert Panel: Recommendations for Incorporation of Best Management Practices in Phase 6 Chesapeake Bay Watershed Model
- Chesapeake Progress Wetlands Outcome

Contacts for More Information on Wetlands in your Jurisdiction

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