

Halfway to 2017: Status of the Chesapeake Bay TMDL

September 20, 2013 Chesapeake Bay Commission Meeting Briefing Paper

Part #1: Calculating Reductions: What Counts and What Doesn't?

For many years....

In order for a jurisdiction to receive credit for a practice:

1. The jurisdiction had to report that the practice was implemented.
2. There had to be a Partnership-approved pollutant reduction efficiency value for the practice.

...then along came calls for increasing transparency and accountability.

- The Chesapeake Executive Council's commitment in 2008 to setting 2-year milestones
- EPA's publication of the 2010 Chesapeake Bay TMDL
- The National Academy of Science's 2011 review of the Chesapeake Bay Program Partnership's BMP tracking and reporting system

So, what are the current criteria for a jurisdiction to receive credit for a practice?

1. The jurisdiction must report that the practice is implemented.
2. There must be a Partnership-approved efficiency value for the practice.
 - "Interim practices" (those without a final approved efficiency value) may be used for planning purposes, but not for evaluation of progress.
3. Following Partnership approved protocols, the jurisdiction must demonstrate confidence that the reported practice is functional, both initially and over time.
 - Efforts are underway to enhance verification protocols and facilitate reporting and verification of non-cost shared practices.

What's the Current List of Partnership Approved Practices?

- See the attached list—we are up to 147 practices and counting!

How is the Partnership Keeping Up with New Technologies and Innovative Practices?

- We are calling upon some of the best and brightest minds in our universities, our business community and beyond, and bringing the best understanding of pollutant reduction capabilities to the Partnership through expert panels.

Expert Panels which have reported back to the Partnership in the past year:

- New State Stormwater Performance Standards
- Urban Stormwater Retrofits
- Urban Nutrient Management
- Urban Stream Restoration

Expert Panels currently working on behalf of the Partnership:

- Poultry Litter
- Agriculture Nutrient Management, Precision/Decision Agriculture, and Enhanced Nutrient Management
- Traditional and Commodity Cover Crops
- Conservation Tillage and Continuous No-Till
- Urban Tree Planting/Expanded Tree Canopy
- Riparian Forest Buffers
- Enhanced Erosion & Sediment Controls
- Illicit Discharge Elimination
- Urban Shoreline Erosion Control Practice
- Urban Filter Strip/Stream Buffer Upgrade
- Advanced Onsite Systems
- Algal Turf Scrubbers

Expert Panels to be convened in the coming year by the Partnership:

- Manure Treatment Technologies
- Animal Waste Storage Systems
- Manure Injection/Incorporation
- Cropland Irrigation Management
- Agricultural Stormwater Management (includes AFO production area structures)
- Cropland Drainage Phosphorus-sorbing Materials
- Heavy Use Pads (poultry, concrete end & litter load out)
- Sink-Hole Grassed Buffers
- Vegetative Environmental Buffers (include wind breaks/plantings)
- Forest Management
- Impervious Disconnect
- Floating Wetlands
- Street Sweeping (including catch basin cleanout & bulk sediment removal)
- MS4 Minimum Management Measures
- Advanced Onsite Systems, Part 2 (broader scope)

What are the products of the Expert Panels?

1. Pollutant reduction efficiency values for new practices that can be added to our BMP menu.
2. Updated pollutant reduction efficiency values for existing practices based on new science or updated practice definitions.
3. Updated protocols for how to apply practices for crediting through the Partnership's Chesapeake Bay Watershed Model
4. Recommendations for changes to the next phase of the Chesapeake Bay Watershed Model.

What's on the Horizon?

- Working with the jurisdictions to expand the tracking, reporting, verification and crediting of non-cost shared practices across all source sectors
- Working to streamline the partnership's best practice development, review and approval process while maintaining confidence in the underlying scientific underpinnings
- Encouraging local partners and stakeholders to bring forward their innovative technologies and practices for review and consideration by the Partnership for crediting for nutrient and sediment load reductions

Best Management Practices (BMPs) Approved by the Chesapeake Bay Program Partnership to Date

Sector	BMP
Agriculture	Alternative Crops
Agriculture	Animal Waste Management System
Agriculture	Barnyard Runoff Control
Agriculture	Biofilters
Agriculture	Commodity Cover Crop Early Aerial Rye
Agriculture	Commodity Cover Crop Early Aerial Wheat
Agriculture	Commodity Cover Crop Early Drilled Barley
Agriculture	Commodity Cover Crop Early Drilled Rye
Agriculture	Commodity Cover Crop Early Drilled Wheat
Agriculture	Commodity Cover Crop Early Other Rye
Agriculture	Commodity Cover Crop Early Other Wheat
Agriculture	Commodity Cover Crop Early-Planting Aerial Corn Barley
Agriculture	Commodity Cover Crop Early-Planting Aerial Soy Barley
Agriculture	Commodity Cover Crop Early-Planting Aerial Soy Rye
Agriculture	Commodity Cover Crop Early-Planting Aerial Soy Wheat
Agriculture	Commodity Cover Crop Early-Planting Other Barley
Agriculture	Commodity Cover Crop Late Other Wheat
Agriculture	Commodity Cover Crop Late-Planting Drilled Rye
Agriculture	Commodity Cover Crop Late-Planting Drilled Wheat
Agriculture	Commodity Cover Crop Late-Planting Other Rye
Agriculture	Commodity Cover Crop Standard Drilled Rye
Agriculture	Commodity Cover Crop Standard Other Rye
Agriculture	Commodity Cover Crop Standard Other Wheat
Agriculture	Commodity Cover Crop Standard-Planting Drilled Barley
Agriculture	Commodity Cover Crop Standard-Planting Drilled Wheat
Agriculture	Commodity Cover Crop Standard-Planting Other Barley
Agriculture	Conservation Till Without Nutrients
Agriculture	Conservation Tillage - Additional Acres
Agriculture	Conservation Tillage - Percent of Acres
Agriculture	Conservation Tillage - Total Acres
Agriculture	Continuous No Till
Agriculture	Cover Crop Early Aerial Barley
Agriculture	Cover Crop Early Aerial Rye
Agriculture	Cover Crop Early Aerial Wheat
Agriculture	Cover Crop Early Drilled Rye
Agriculture	Cover Crop Early Drilled Wheat
Agriculture	Cover Crop Early Other Rye
Agriculture	Cover Crop Early Other Wheat
Agriculture	Cover Crop Early-Planting Aerial Soy Barley
Agriculture	Cover Crop Early-Planting Aerial Soy Rye
Agriculture	Cover Crop Early-Planting Aerial Soy Wheat
Agriculture	Cover Crop Early-Planting Drilled Barley
Agriculture	Cover Crop Early-Planting Other Barley
Agriculture	Cover Crop Late Drilled Rye

Agriculture	Cover Crop Late Other Wheat
Agriculture	Cover Crop Late-Planting Drilled Wheat
Agriculture	Cover Crop Late-Planting Other Rye
Agriculture	Cover Crop Standard Drilled Barley
Agriculture	Cover Crop Standard Drilled Rye
Agriculture	Cover Crop Standard Drilled Wheat
Agriculture	Cover Crop Standard Other Barley
Agriculture	Cover Crop Standard Other Rye
Agriculture	Cover Crop Standard Other Wheat
Agriculture	Cropland Irrigation Management
Agriculture	Dairy Manure Injection
Agriculture	Dairy Precision Feeding and/or Forage Management
Agriculture	Decision Agriculture
Agriculture	Dirt & Gravel Road Erosion & Sediment Control - Driving Surface Aggregate + Raising the Roadbed
Agriculture	Dirt & Gravel Road Erosion & Sediment Control - Outlets only
Agriculture	Dirt & Gravel Road Erosion & Sediment Control - with Outlets
Agriculture	Enhanced Nutrient Management
Agriculture	Forest Buffers
Agriculture	Grass Buffers; Vegetated Open Channel - Agriculture
Agriculture	Horse Pasture Management
Agriculture	Irrigation Water Capture Reuse
Agriculture	Lagoon Covers
Agriculture	Land Retirement to hay without nutrients (HEL)
Agriculture	Land Retirement to pasture (HEL)
Agriculture	Loafing Lot Management
Agriculture	Mortality Composters
Agriculture	No Till allowing combinations with other practices
Agriculture	Non Urban Stream Restoration
Agriculture	Non Urban Stream Restoration (interim)
Agriculture	Nutrient Management
Agriculture	Off Stream Watering Without Fencing
Agriculture	Poultry Litter Injection
Agriculture	Poultry Litter Treatment (alum, for example)
Agriculture	Poultry Phytase
Agriculture	Precision Intensive Rotational Grazing
Agriculture	Prescribed Grazing
Agriculture	Shoreline Erosion Control
Agriculture	Soil Conservation and Water Quality Plans
Agriculture	Sorbing Materials in Ag Ditches
Agriculture	Stream Access Control with Fencing
Agriculture	Streamside Forest Buffers
Agriculture	Streamside Grass Buffers
Agriculture	Streamside Wetland Restoration
Agriculture	Swine Phytase
Agriculture	Tree Planting; Vegetative Environmental Buffers - Poultry
Agriculture	Water Control Structures
Agriculture	Wetland Restoration

Forest	Dirt & Gravel Road Erosion & Sediment Control - Driving Surface Aggregate + Raising the Roadbed
Forest	Dirt & Gravel Road Erosion & Sediment Control - Outlets only
Forest	Dirt & Gravel Road Erosion & Sediment Control - with Outlets
Forest	Forest Harvesting Practices
Forest	Non Urban Stream Restoration
Forest	Non Urban Stream Restoration (interim)
Forest	Shoreline Erosion Control
Septic	Septic Connection
Septic	Septic Denitrification
Septic	Septic Pumping
Urban	Abandoned Mine Reclamation
Urban	Bioretention/raingardens - A/B soils, no underdrain
Urban	Bioretention/raingardens - A/B soils, underdrain
Urban	Bioretention/raingardens - C/D soils, underdrain
Urban	Bioswale
Urban	Dirt & Gravel Road Erosion & Sediment Control - Driving Surface Aggregate + Raising the Roadbed
Urban	Dirt & Gravel Road Erosion & Sediment Control - Outlets only
Urban	Dirt & Gravel Road Erosion & Sediment Control - with Outlets
Urban	Dry Detention Ponds and Hydrodynamic Structures
Urban	Dry Extended Detention Ponds
Urban	Erosion and Sediment Control
Urban	Erosion and Sediment Control on Extractive, excess applied to all other pervious urban
Urban	Forest Conservation
Urban	Impervious Urban Surface Reduction
Urban	Land transition - construction to nonregulated pervious urban
Urban	MS4 Permit-Required Stormwater Retrofit
Urban	Permeable Pavement w/ Sand, Veg. - A/B soils, no underdrain
Urban	Permeable Pavement w/ Sand, Veg. - A/B soils, underdrain
Urban	Permeable Pavement w/ Sand, Veg. - C/D soils, underdrain
Urban	Permeable Pavement w/o Sand, Veg. - A/B soils, no underdrain
Urban	Permeable Pavement w/o Sand, Veg. - A/B soils, underdrain
Urban	Permeable Pavement w/o Sand, Veg. - C/D soils, underdrain
Urban	Regenerative Stormwater Conveyance
Urban	Shoreline Erosion Control
Urban	Stormwater Management by Era 1985 to 2002 MD
Urban	Stormwater Management by Era 2002 to 2010 MD
Urban	Stormwater to the Maximum Extent Practicable (SW to the MEP)
Urban	Street Sweeping 25 times a year-acres (formerly called Street Sweeping Mechanical Monthly)
Urban	Street Sweeping 25 times a year-lbs
Urban	Street Sweeping Pounds
Urban	Urban Filtering Practices
Urban	Urban Forest Buffers
Urban	Urban Grass Buffers
Urban	Urban Growth Reduction
Urban	Urban Infiltration Practices w/ Sand, Veg. - A/B soils, no underdrain
Urban	Urban Infiltration Practices w/o Sand, Veg. - A/B soils, no underdrain

Urban	Urban Nutrient Management
Urban	Urban Stream Restoration
Urban	Urban Stream Restoration (interim)
Urban	Urban Tree Planting; Urban Tree Canopy
Urban	Vegetated Open Channels - A/B soils, no underdrain
Urban	Vegetated Open Channels - C/D soils, no underdrain
Urban	Wet Ponds and Wetlands
Wastewater	% Reduction
Wastewater	Set Nutrient Concentrations
Wastewater	Set Permitted Load