

Background on the CBP (S&W) Conservation Plan BMP

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Chesapeake Bay Program Definition:

What is a Soil and Water Conservation Plan?

A combination of practices (a suite of BMPs), other than conservation tillage or no-till, that reduces soil loss to or below tolerance (defined as the maximum amount of erosion at which the quality of a soil as a medium for plant growth can be maintained).

- Nutrient and sediment reductions vary by the land use in the model.



UPDATED BMP EFFECTIVENESS ESTIMATES			
BMPs	BMP Effectiveness Estimate (%)		
	TN	TP	TSS
Conservation Plans			
<i>Conventional tillage</i>	8	15	25
<i>Conservation tillage</i>	3	5	8
<i>Hayland</i>	3	5	8
<i>Pastureland</i>	5	10	14

CONSERVATION PLANNING: FIELD AND PASTURE EROSION CONTROL PRACTICES

Definition and Nutrient and Sediment Reduction Effectiveness Estimates

For use in calibration and operation of the
Chesapeake Bay Program's Phase 5.0 Watershed Model

Synthesis by

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CBP Definition Continued....

- Conservation plans reduce nutrients and sediment by:
 - increased vegetative assimilation,
 - increased trapping and retention of transported nutrient enriched sediment and particulates,
 - improved water infiltration and nutrient adsorption to the soil matrix,
 - and reduced erosion and transport of nutrient enriched sediment and particulates.



CBP Definition:

Which Practices are included under the Conservation Plans BMP

(Conservation Planning: Field and Pasture Erosion Control Practices)

- Access Road (560)
- Alley Cropping (311)
- Animal Trails and Walkways (575)
- Conservation Cover (327)
- Conservation Crop Rotation (328)
- Contour Buffer Strips (332)
- Contour Farming (330)
- Critical Area Planting (342)
- Diversion (362)
- Field Border (386)
- Filter Strip (393)
- Grade Stabilization Structure (410)
- Grassed Waterway (412)
- Lined Waterway or Outlet (468)
- Residue Management, Seasonal (344)
- Rock Barrier (555)
- Row Arrangement (557)
- Sediment Basin (550)
- Stripcropping (585)
- Structure for Water Control (587)
- Terrace (600)
- Underground Outlet (620)
- Water and Sediment Control Basin (638)
- Windbreak/Shelterbelt Establishment (380)

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Already Reported as
Barnyard Runoff Control,
Grass Buffers, and Tree
Planting.

Is reporting both a S&W Conservation Plan and an individual practice that could be an element of a Conservation plan considered double counting?

NRCS-CAST NEIEN "Draft"	
BMPs	Ph
Brush Management (ac)	So
Conservation Crop Rotation (ac)	So
Contour Buffer Strips (ac)	So
Contour Farming (ac)	So
Diversion (ft)	So
Grade Stabilization Structure (no)	So
Hedgerow Planting (ft)	So
Irrigation System, Microirrigation (ac)	Se
Irrigation Water Management (ac)	Se
Lined Waterway or Outlet (ft)	So
Shallow Water Development and Management (ac)	So
Stream Habitat Improvement and Management (ac)	So
Stripcropping (ac)	So
Subsurface Drain (ft)	So
Terrace (ft)	So
Underground Outlet (ft)	So
Water and Sediment Control Basin (no)	So

Why were these practices moved from “Released” to “Draft” during the transition from Phase 5 to Phase 6 NEIEN Appendices in June 2015?

- All of these BMPs mapped to Conservation Plan in CAST in Scenario Builder/Phase 5 Appendix.
- These BMPs **were over-reported** in the Phase 5 Model calibration as **multiple BMPs treat the same acre of land**.
- In reality these multiple BMPs are **part of one holistic BMP: Soil and Water Quality Conservation Plans**.

Which States report Conservation Plans?

Pennsylvania	565,430	Acres
Virginia	8,929	Acres
New York	189,076	Acres
Maryland	824,578	Acres
Delaware	130,369	Acres

- How will reporting S&W Conservation Plans change in each state with the approval of this proposal?
- What constitutes a S&W conservation plan in each state?
- Which components/practices make up a S&W conservation plan?

Which States are tracking the practices that are in draft status?

Pennsylvania

Diversion	405,990	Feet
Underground Outlet	418,375	Feet
Water and Sediment Control Basin	145	Count
Subsurface Drain	358,600	Feet
Terrace	873,567	Feet
Contour Buffer Strips	264	Acre
Stripcropping	7,699	Acre
Brush Management	7,679	Acre
Conservation Crop Rotation	11,628	Acre
Lined Waterway or Outlet	125,065	Feet
Contour Farming	28,682	Acre
Hedgerow Planting	6,859	Feet
Stream Habitat Improvement and Management	49	Acre

Delaware

Conservation Crop Rotation	142,013	Acre
Hedgerow Planting	82,101	Feet
Shallow Water Development and Management	66	Acre
Underground Outlet	427	Feet
Water and Sediment Control Basin	1	Count

Which states currently collect this data, but do not report it to/track it in NEIEN?

Practices Reported under Released BMP Names

NRCS-CAST NEIEN "Draft" BMPs	Ph
Brush Management (ac)	So
Conservation Crop Rotation (ac)	So
Contour Buffer Strips (ac)	So
Contour Farming (ac)	So
Diversion (ft)	So
Grade Stabilization Structure (no)	So
Hedgerow Planting (ft)	So
Irrigation System, Microirrigation (ac)	So
Irrigation Water Management (ac)	So
Lined Waterway or Outlet (ft)	So
Shallow Water Development and Management (ac)	So
Stream Habitat Improvement and Management (ac)	So
Stripcropping (ac)	So
Subsurface Drain (ft)	So
Terrace (ft)	So
Underground Outlet (ft)	So
Water and Sediment Control Basin (no)	So

Grass Buffer

Barnyard Runoff Control

- How will reporting change with the approval of this proposal?
- Will practices that map to BRC and Grass Buffers now be reported separately?

Nutrient and Sediment Reduction Efficiency

- CBP Soil and Water Conservation Plans are defined **by multiple practices.**
- **How were the efficiencies of the individual practices established?**
- Should the efficiency of the individual practice be the same as the entire S&W Conservation Plan (equivalent to multiple practices)?
 - Do each of these practices have nutrient load reduction capability as standalone practices?
 - *If not, which practices need to belong to a Conservation Management System (NRCS System) to contribute to nutrient load reductions?*

Improving the S&W Conservation Plan BMP

- The original report suggested developing different efficiencies for different tiers of implementation as practices credited in the model represent only a limited portion of the elements in a conservation plan.
- **For example:**
 - Tier 1 – Inventory current activities, future plans and potential environmental concerns.
 - Tier 2 – Document current land stewardship; assess and prioritize areas of concern. 728
 - Tier 3 – Develop conservation plans addressing concerns and opportunities tailored to farm goals.
 - Tier 4 – Implement plans utilizing available financial, educational and technical assistance.
 - Tier 5 – Evaluate to ensure the protection of the environment and farm viability

Where do we go from here?