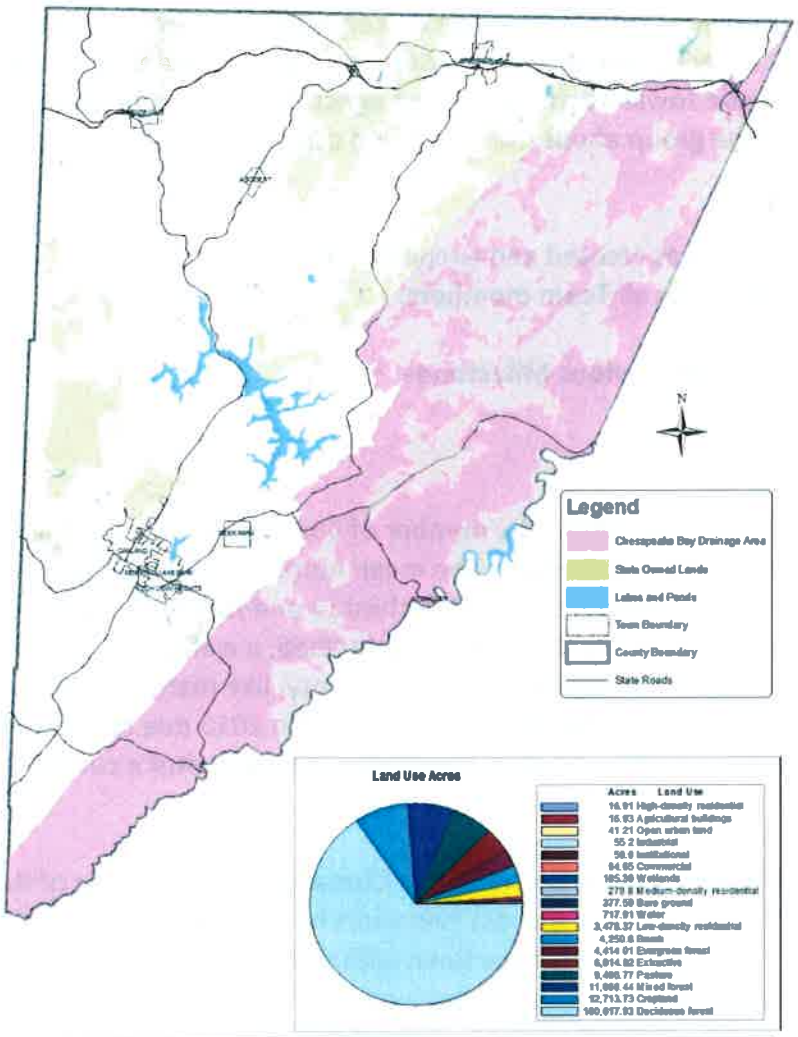
Garrett County Phase II Watershed Implementation Plan
Local 2017 Programmatic Milestones

Overview of the Local Team's Process

Garrett County, the westernmost county in Maryland, is crossed by the Eastern Continental Divide. The eastern part of the County, which is within the Chesapeake Bay watershed, is largely forested. It drains to the North Branch of the Potomac River, hundreds of river miles from the Bay. Because of the land use and the delivery factor, Garrett County delivers the smallest amount of nitrogen and phosphorous of any Maryland county.

Chesapeake Bay Drainage Area



	West of Eastern Continental Divide	%	East of the Eastern Continental Divide	%	% within drainage basin
Land Area	265600 Acres	63	153600 Acres	37	
Tax Parcel Centroids	25176	86	4000	14	
2000 Population	24381	82	5464	18	
Addressable Structures	17244	87	2657	13	
Forest Cover	168902 Acres	59	116098 Acres	41	76
State Owned Land	30388 Acres	37	51116 Acres	63	33

The Garrett County Phase II WIP Team (the "Team") included the following County officials and staff members along with representatives from the County Soil Conservation District, the Garrett County Environmental Health Services Department and a volunteer environmental organization:

1. Kevin Null, County Administrator, Garrett County Board of Commissioners
2. Deborah Carpenter, Director, Garrett County Planning & Land Management Department
3. Steve Sherrard, Director, Garrett County Environmental Health Services
4. Pat Hudnall, Administration and Environmental Chief, Garrett County Department of Public Works – Public Utilities Division
5. Shaun Sanders, District Manager, MDA
6. Chad Bucklew, District Conservationist, USDA-NRCS

The team met on February 17, 2016 to review current strategies and discuss other options. Deborah Carpenter provided results from MAST scenarios to consider, as well as information about development, or lack thereof, in the watershed. Shaun Sanders provided information regarding progress made toward achievement of agricultural best management practices, and Pat Hudnall updated the group about the status and capacity of existing waste water treatment plants.

A draft of this document was created and circulated for the Team's review. This final submission was approved by all Team members.

Patterns And Trends Since Previous Milestones

Growth

After the recession in the mid-2000s, the number of building permits dropped and has remained steadily low in the last 5 years. The mean number of residential permits over the last five years is 142, while the median is 111. One-third to one-half of the residential permits issued every year are issued in the Deep Creek watershed, a watershed that drains to the Mississippi, rather than the Chesapeake Bay. The county, like many other counties in Maryland, experienced a surge of residential building permits filed in 2015 due to the advent of the sprinkler law, which requires homes whose permits were filed after a certain date to install sprinkler systems.

Very little residential growth has occurred in the Chesapeake Bay portion of the county. An analysis of building permit data for the last two years has revealed that out of 318 new housing starts in the county, only 20, or 6.3% have been within the Chesapeake Bay watershed. These growth trends are not surprising given the large amount of land in that portion of the county that is owned by the state and is therefore, undevelopable.

Septics

The advent of a change to COMAR 26.04.02, the on-site sewage disposal regulation, required all new and replacement septic systems within the Chesapeake Bay watershed utilize best available technology (BAT) for nitrogen removal. Since 2013 seven existing septic systems have been upgraded with BAT units and six new BAT septic systems have been installed.

Agriculture

The Garrett County Soil Conservation District has their own set of agricultural milestones they report on annually. The latest report can be found in Appendix A.

Public Systems

The County owns and operates three (3) minor municipal wastewater treatment plants (WWTPs) in the watershed serving the communities of Bloomington, Kitzmiller and Gorman. Geographically, these communities lie between the base of the surrounding mountains and the banks of the North Branch Potomac River. These three WWTPs treat the collected wastewater to secondary treatment levels and routinely meet all permit discharge limits. The WWTPs are currently operating between 12% and 24% of their design capacity. Since 2010, the Bloomington and Kitzmiller WWTPs have experienced a decrease in sewer demand of seven (7) customers and seventeen (17) customers, respectively. The Gorman WWTP customer base has remained unchanged since 2010. The recently adopted Garrett County Water and Sewerage Master Plan (Master Plan) identified no significant problem areas or future needs for any of the WWTPs. The Master Plan does not identify significant increases in sewer demand for the Bloomington and Kitzmiller WWTPs though the year 2033. The Master Plan does project an increase in sewer demand of approximately 48% at the Gorman WWTP in the next ten (10) years associated with a possible project to extend public sewer to an area of failing septic systems along Althouse Hill Road. Due to the lack of increased sewer demand and/or need for upgrade at any of the three WWTPs, no changes are proposed for the Bloomington, Kitzmiller or Gorman WWTPs.

Extractive Industry

In 2014 a total of 78 acres of extractive land was reclaimed. One permit totaling 60 acres reported the planting of trees as part of the reclamation while the rest were seeded with grass. In 2015 a total of 145 acres of extractive land was reclaimed. Three permits totaling 37 acres reported the planting of trees as part of the reclamation while the rest were seeded with grass.

Forest Cover

Forest cover remains the largest land use in the Chesapeake Bay portion of the County. Total number of timbered acres from 2011 into 2016 for this area alone is 6011.5 acres according to timbering permits on file with the Garrett County Department of Permits and Inspections.

County Phase II WIP Strategies – 2017 Milestones

The Garrett County WIP Team ran a MAST analysis applying erosion & sediment control to 100% of non-regulated extractive land. This scenario reduced the pounds of nitrogen delivered from 5,433.6 to 4,079.3. Further, it reduces the pounds of phosphorus delivered from 4,720.4 to 2,889.0. The pounds of sediment would be reduced from 3,938,816.0 to 2,429,711.0.

The implementation of this scenario in combination from the reductions that continue to be seen by the application of agricultural best management practices as referenced in Appendix A, will produce the desired reductions.

As referenced in the County's original documentation, erosion and sediment control practices protect water resources from sediment pollution and increases in runoff associated with land development activities. By retaining soil on-site, sediment and attached nutrients are prevented from leaving disturbed areas and polluting streams. Existing Maryland regulations require the following:

A. The permittee shall minimize the removal of vegetation, topsoil, and overburden before surface mining.

B. The permittee shall construct and maintain erosion and sediment control devices in accordance with the grading and sediment control plan approved by the local soil conservation district.

C. The permittee shall confine mining activity to the maximum area of disturbance at any one time as described in the permit.

D. The permittee shall maintain a valid sediment and erosion control approval, including the necessary renewal by the approving authority, for the life of the permit.

This means that 100% of the extractive land under permit is already covered by an approved erosion and sediment control plan.

Maryland regulations also require:

A. The permittee shall begin reclamation activities required by this chapter as soon as practicable after mining starts, continuing concurrently with mineral extraction and, upon termination of mining, until the entire permit area is reclaimed.

B. If site conditions dictate that reclamation cannot begin until mineral extraction is terminated, the reasons for this delay shall be detailed in the mining and reclamation plan, and the reclamation shall begin within 30 days of the termination of mineral extraction.

C. The permittee shall complete reclamation in accordance with the mining and reclamation plan within 2 years after mineral extraction has terminated.

D. If reclamation cannot be successfully completed within 2 years after mineral extraction has been terminated, the permittee shall submit a written request to the Department providing:

(1) The reasons for the delay;

(2) A description of measures to stabilize affected land, prevent any pollution, and eliminate hazards to health and safety; and

(3) A written acknowledgement of the delay of the reclamation from the landowner if different from the permittee.

In accordance with this regulation, surface mining is generally completed in stages with mined sections being reclaimed as other sections are opened and worked. In 2011, MDE's Abandoned Mine Lands Division estimated that two-thirds of the acreage covered by permits is yet to be mined or has already been mined, reclaimed and vegetated. A significant percentage of the vegetated areas have been planted in trees at a rate of at least 400 trees per acre on slopes of less than 12 degrees and 600 trees per acre on slopes steeper than 12 degrees to meet regulatory requirements. The County is not relying on mine reclamation to achieve nutrient reductions, but notes that additional reductions should be realized because of the reclamation practices employed during the life of the mine.

The County considered other strategies, but determined that the cost of the other strategies far outweighed the benefits that would be seen. The County's delivery factor of nutrients to the Bay is very small. At the same time, the Chesapeake Bay region of the county is one of the most economically challenged and remote. The cost to implement BMPs need to be weighed against the benefits, and by necessity the scenario that produces the most reductions without significant cost was the one chosen.

Strategy Summary

In summary, Garrett County has chosen to apply one recommended BMP in order to achieve desired reductions: **Erosion and Sediment Control to 100% of non-regulated extractive land**. This requirement applies to all extractive land currently under permit; therefore, 100% of this BMP is already implemented. State enforcement of this regulation is sufficient to ensure that such controls are in place and applied.

Area Implementation, Tracking, Verification and Reporting Methods

The implementation actions are State-level actions. The County does not propose to track, verify or report on the erosion and sediment controls on extractive land, as the Bureau of Mines does this in their Annual Report.

APPENDIX A

Garrett Soil Conservation District
Agricultural Phase II Watershed Implementation Plan

BMPs to be Implemented Annually	Unit	2013 Milestone	2015 Milestone	2017 Goal	2025 Goal
Conservation Tillage	Acres/Year	443.07	443.32	443.57	443.57
Cover Crops	Acres/Year	62.78	68.27	73.75	75.00
Cropland Irrigation Management	Acres/Year	-	-	-	-
Dairy Manure Incorporation	Acres/Year	-	-	-	-
Decision Agriculture	Acres/Year	2,751.24	3,933.57	5,115.90	8,662.90
Enhanced Nutrient Management	Acres/Year	1,105.31	1,322.49	2,644.98	4,408.30
Manure Transport	Tons/Year	-	-	-	-
Nutrient Management	Acres/Year	2,578.88	1,368.12	-	-
Nutrient Management on Pasture	Acres/Year	11,561.69	11,561.69	11,561.69	11,561.69
Poultry Litter Incorporation	Acres/Year	-	-	-	-
Poultry Litter Treatment	Operations/Year	-	-	-	-
Soil Conservation and Water Quality Plans	Acres/Year	6,553.83	7,348.91	8,143.99	9,087.50

Additional BMPs to be Implemented	Unit	2013 Milestone	2015 Milestone	2017 Goal	2025 Goal
Alternative Crops	Acres	-	-	-	-
Barnyard Runoff Control	Projects	2.00	2.60	7.20	12.00
Forest Buffers	Acres	2.14	3.43	9.00	15.00
Grass Buffers	Acres	0.57	0.91	2.40	4.00
Horse Pasture Management	Acres	-	-	-	-
Land Retirement	Acres	3.86	6.17	16.20	27.00
Livestock Heavy Use Area Protection	Acres	2.29	3.66	9.60	16.00
Livestock Waste Storage Structures	Projects	1.00	1.50	4.00	6.00
Mortality Composters	Projects	-	-	-	-
Non Urban Stream Restoration	Linear Feet	-	-	-	-
Nursery and Greenhouse Runoff Capture and Reuse	Acres	-	-	-	-
Off Stream Watering without Fencing	Acres	20.00	32.00	84.00	140.00
Phosphorus Sorbing Materials in Ag Ditches	Acres	-	-	-	-
Poultry Heavy Use Area Concrete Pads	Acres	-	-	-	-
Poultry Waste Storage Structures	Projects	-	-	-	-
Precision Intensive Rotational Grazing	Acres	-	-	-	-
Prescribed Grazing	Acres	57.14	91.43	240.00	400.00
Shoreline Erosion Control	Linear Feet	-	-	-	-
Stream Access Control with Fencing	Acres	10.50	16.64	43.79	73.50
Vegetative Environmental Buffers on Poultry Operations	Acres	-	-	-	-
Water Control Structures (Drainage Ditches)	Acres	-	-	-	-
Wetland Restoration	Acres	-	-	-	-

8/26/2013