

*COLUMBIA  
COUNTY  
CONSERVATION  
DISTRICT*



**CHESAPEAKE  
BAY  
TRIBUTARY  
STRATEGY**

February 22, 2005  
Updated: September 2, 2009

## **CHESAPEAKE BAY TRIBUTARY STRATEGY FOR COLUMBIA COUNTY**

The Chesapeake Bay Watershed consists of over 64,000 square miles of land that drains into the Chesapeake Bay and its tributaries. Columbia County's 484 square miles all drain into the Chesapeake Bay.

With the constant decline in water quality within the Chesapeake Bay Watershed, the Columbia County Conservation District with its partners have developed a strategy that addresses the problems, concerns, plans of action, and resources we feel are important to Columbia County.

Pennsylvania initiated the Chesapeake Bay Program in 1984 with its major goal focusing on reducing the nutrient load from the Susquehanna River. In 1989, the Columbia County Conservation District and the Soil Conservation Service (now Natural Resources Conservation Service) did assessments on the Catawissa/Roaring Creek Watershed and the Fishing Creek Watershed. The purpose was: 1) to determine the location of high priority sub-watersheds; 2) to determine a series of Best Management Practices ("BMP's") needed to reduce pollution to the watershed; and 3) to develop a plan to significantly reduce the pollution.

One of the first goals of the Chesapeake Bay Agreement was to reduce nutrient loads by 40% by the year 2000. Even though there was a significant reduction in nitrogen and phosphorous to the Chesapeake Bay Watershed, this goal was not achieved due to population increases and other unattainable issues. By 2020, an additional 3,000,000 people are expected to move into the watershed. With this continued increase in population, it becomes evident that our strategies must prepare for this growth and our need to work with our partners to attain our goals.

### Federal List of Impaired Waters (303.d List)

In 1998, the Chesapeake Bay and its tributaries were placed on the 303(d) List of Impaired Waters. Approximately 21% of Columbia County streams (167 miles of stream) are listed as 303(d). About 105 miles are impaired due to agriculture related problems. Issues such as atmospheric deposition, municipal point source, road run off, acid mine drainage, and removal of vegetation have also been sited.

The Columbia County Conservation District will focus its attention toward water quality improvements on those streams listed as 303(d). Priority will be given to provide strategies to improve water quality on these streams.

### Total Maximum Daily Load (TMDL's)

This process is calculating the maximum amount of a pollutant that a water body can receive and still meet water quality standards. All future development and other activities

are then based on their ability to be accomplished without exceeding the streams daily allowable load of pollutants. The Catawissa Creek is the only stream in Columbia County that currently has a TMDL developed. There are about 147 additional miles of 303(d) listed streams that require a TMDL calculated.

Columbia County Conservation District assembled several local agencies to help identify the local problems and make recommendations to address these problems. Those attending included representatives from the USDA Natural Resources Conservation Service (NRCS), Columbia County Cooperative Extension Service (CES), USDA Farm Service Agency (FSA), Chesapeake Bay Foundation, Pennsylvania Department of Environmental Protection (DEP), and the Conservation District. Please see ADDENDUM 1 for a summary of this meeting.

In January of 2007 the Columbia County Conservation District held a follow-up meeting with the agencies listed above to review the progress that has been made in implementing the strategies listed in the Plan. New strategies to address non-point source pollution were also discussed and added to the up-dated version of the Strategy. Please see ADDENDUM 2 for a summary of this meeting and the progress to date.

## COLUMBIA COUNTY WATERSHEDS

Columbia County has 6 major drainage areas:

- Briar Creek Watershed - This 19,500 acre drainage area is centered west of Berwick. Much of the area near the mouth of the watershed is urbanized but the headwater areas remain rural open land and woodland. The DEP watershed assessment of this drainage area did not identify any specific water quality concerns but flooding and out of bank flow is a major problem in this watershed, especially in the western branch of the stream.
- Chillisquaque Creek Watershed - The watershed is an 11,300 acre watershed located in Madison Township and drains into Montour County. Most of the streams in this watershed have been assessed by DEP, determined to be degraded by agricultural siltation and nutrient enrichment, and placed on the 303(d) list. Many Amish families occupy this watershed. Attempts to provide financial and technical assistance to this group of landowners has traditionally not been very successful.
- Catawissa Creek Watershed – This watershed includes 38,000 acres located in the southeast portion of the county. The watershed has been listed on the 303.d List of Impaired Streams. Over 30 miles this impaired watershed is located in Columbia County. TMDL (Total Maximum Daily Load) has been completed on the Catawissa Creek Watershed. Although the main stream is polluted with mine acid drainage, several of the headwater streams are classified as high quality streams in Chapter 93. Agriculture runoff is a secondary concern on the tributaries to the Catawissa.
- Fishing Creek/Little Fishing Creek/ Huntington Creek Watershed – One hundred fifty thousand acres of northern Columbia County makes up 60% of this watershed that includes portions of Columbia, Luzerne, Sullivan, Lycoming and Montour counties. The portion of the watershed in Columbia County is 50% woodland and 4% urban land. Active and idle farmland makes up the majority of the remainder of the Columbia County portion of the watershed. Special protection waters in the headwaters of the basin are being degraded as a result of acid precipitation. Within this watershed, 6 miles of streams have been impaired due to acid deposition qualifying it for the 303(d) list. Agriculture problems results in 70 miles of streams on the 303(d) list and siltation from roads results in an additional 30 miles of streams being listed.

- Roaring Creek/South Branch Roaring Creek Watershed - This 51,000 acre watershed located in the southwest corner of the county is nearly 40% forestland. Over half (29,000 acres) of the watershed has been identified as special protection watersheds. While much of this area is forestland, there are several areas of intensive agriculture included in this watershed. Outdoor recreational is a major land use and has the potential to have an impact on the water quality. Source water protection is also a concern for this watershed. The DCNR Bureau of Forestry is a major landowner in this watershed and is an effective partner.
- Susquehanna River Corridor Watershed - This watershed is comprised of the several small streams and drainage ways that discharge directly into the Susquehanna River. Its 29,000 acres of drainage area includes many small streams. The largest stream in this sub watershed is the Ten Mile Run drainage area near Mifflinville. The headwaters of Ten Mile Run have been identified as a High Quality Waters as classified in Chapter 93 regulations. This entire watershed is along the Route 11 corridor and has been identified as the area with the most potential for continued development in the near future.

## WATERSHED GROUPS

- Briar Creek Watershed Group- This is the newest active watershed group in Columbia County having started in 2007. To date they have received Growing Greener funds to help with start-up costs. Currently they are partnering with the PA Fish and Boat Commission to install fish habitat structures in Briar Creek Lake.
- Chilli-Lime Watershed Association- This active watershed group has worked on projects such as assessments, FGM, education outreach, and tree plantings
- Catawissa Creek Restoration Association –This active watershed group has received Growing Greener and 319 funds to treat three major AMD discharges that will improve over 40 miles of stream. Other activities include monitoring, stream clean ups, and education outreach.
- Fishing Creek Watershed Association- This active watershed group has done many education outreach programs and projects such as assessments, monitoring, limestone diversion wells, FGM project, nature park development, forest liming and riparian plantings.
- Roaring Creek Valley Conservation Association - this active watershed association is committed to conserving the natural resources of the basin and its rich culture through watershed stewardship, education, and monitoring. They have developed



# BRIAR CREEK WATERSHED

Date: 02/03/2005



### Legend

-  Streams
-  Roads
-  Municipalities
-  Urban/Residential Areas









# CATAWISSA CREEK WATERSHED

Date: 02/03/2005



This watershed includes 38,000 acres located in the southeast portion of the county. The watershed has been listed on the 303.d List of Impaired Streams. Over 30 miles this impaired watershed is located in Columbia County. TMDL (Total Maximum Daily Load) has been completed on the Catawissa Creek Watershed. Although the main stream is polluted with mine acid drainage, several of the headwater streams are classified as high quality streams in Chapter 93. Agriculture runoff is a secondary concern on the tributaries to the Catawissa.

## Legend

-  Acid problems
-  Streams
-  Roads
-  HQ Watershed
-  Municipalities
-  Urban/Residential Areas

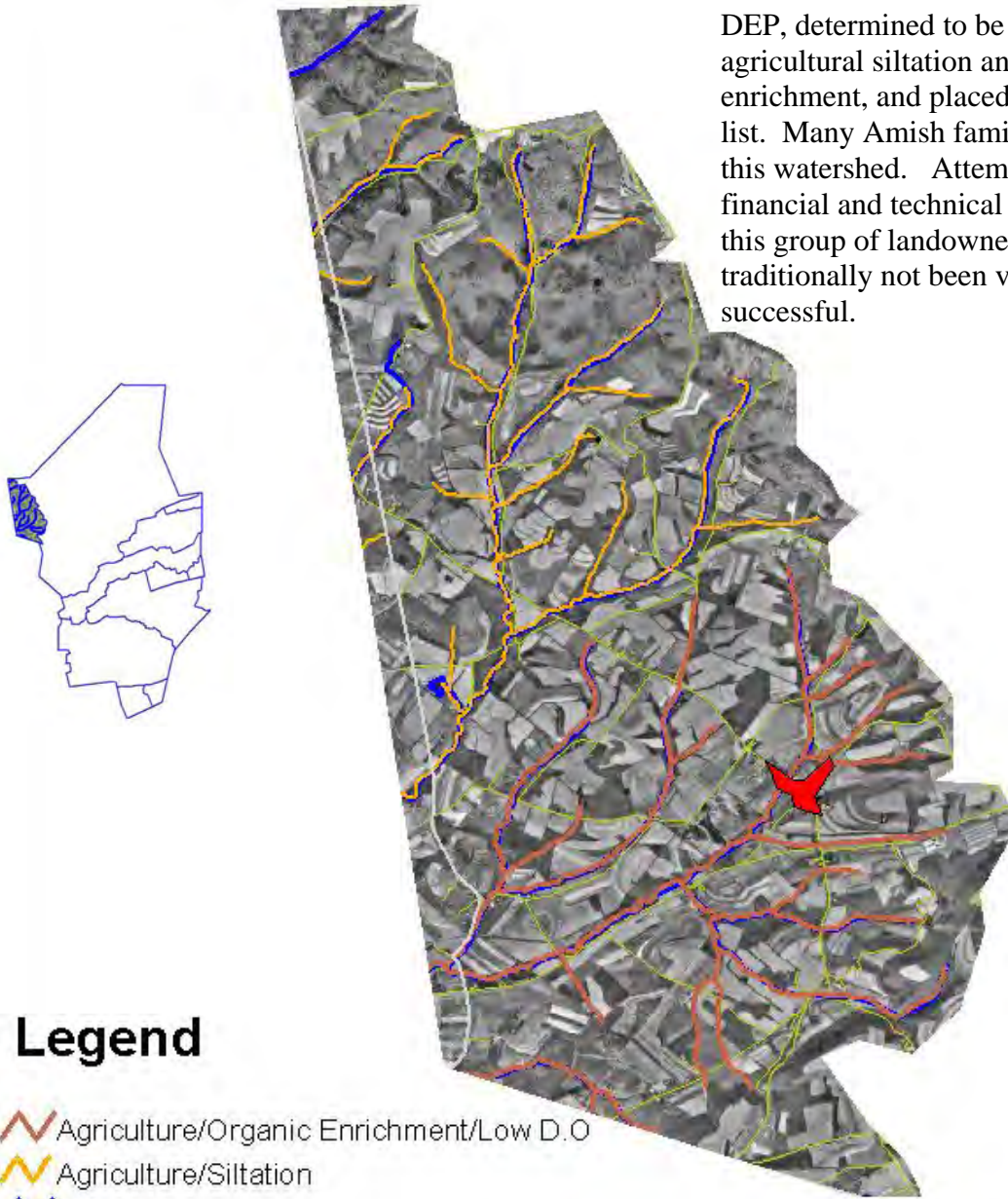









# CHILLISQUAQUE CREEK WATERSHED

Date: 02/03/2005

The watershed is an 11,300 acre watershed located in Madison Township and drains into Montour County. Most of the streams in this watershed have been assessed by DEP, determined to be degraded by agricultural siltation and nutrient enrichment, and placed on the 303(d) list. Many Amish families occupy this watershed. Attempts to provide financial and technical assistance to this group of landowners has traditionally not been very successful.



## Legend

-  Agriculture/Organic Enrichment/Low D.O
-  Agriculture/Siltation
-  Streams
-  Roads
-  Urban/Residential Areas

