

## **Susquehanna County Conservation District Implementation Plan for 2008/2009 for the Chesapeake Bay Tributary Strategy**

**Susquehanna County** is located in the northeastern corner of Pennsylvania. There are 40 municipalities, which encompass 532,834 acres all within the Chesapeake Bay watershed. Sixty five percent of the county is woodland with the remaining acres composed mainly of farmland with some residential areas intermixed. The population of 42,575 people shares the county with 3 main industries with agriculture being one. The following is a breakdown of the agricultural operations in the county: 490 cattle farms, 180 dairy farms, 25 hog farms, 50 sheep & goat farms, 109 poultry farms and 50 vegetable farms.

### **Water Quality Issues:**

A large number of animal operations with nutrient and sedimentation losses and stream bank erosion are a major factors affecting water quality in Susquehanna County. Of the 1,648 miles of listed streams in Susquehanna County, 11.5 miles are on the 303(d) list and 5.7 miles of the Wyalusing Creek have had total maximum daily load (TMDL's) documented.

Historically animal housing has been located near streams and other waters to facilitate watering of the animals with no thought of nutrient or sediment loss. Many of the causes of pollution are as follows: agriculture, storm sewers, road runoff including 1,115 miles of dirt roads where sediment is lost to the streams and watercourses, the new roads and well pads for gas exploration and extraction, thermal modifications, upstream impoundments etc.

Another water quality issue that is mainly restricted to Susquehanna County is the 1200+ bluestone quarries and 60+ stone saw shops which use water for cooling of saw blades. This water carries fine stone dust in suspension with the potential to pollute waters of the Commonwealth if not properly handled.

Susquehanna County's streams are still feeling the affects of past flooding. Some of the stream banks are void of vegetation and

have sheer slopes therefore susceptible to significant erosion during high water events. Also stream beds are filled with sediment loads which form gravel bars and influence the equilibrium of the stream.

Susquehanna County is ground zero for the exploration and extraction of natural gas from the Marcellus shale formation. As of March 1, 2009 there are approximately 30 natural gas wells completed and another 50 permitted and expected to be drilled this year. Water used for the fracing of the Marcellus shale is a problem for this industry. It takes from 1 to 6 million gallons of water and chemicals per well to complete this task. Currently this water must be trucked in and the wastewater from the fracing process trucked out. This potentially adds to the stream sediment loads by impacting the dirt road system. With these wells there is a network of gathering lines and access roads. To date 12 miles of gathering lines have been installed and another 16 miles is permitted to be installed in 2009. This industry alone will create in excess 200 acres of earth disturbance for the Erosion and Sediment Technicians to oversee.

### **Sedimentation and Nutrient Reductions:**

#### **Current Programs:**

- 1) Chesapeake Bay Program
- 2) Pennsylvania Dirt & Gravel Roads Program
- 3) DEP Chesapeake Bay Fencing Program
- 4) Chesapeake Bay Foundation Habitat Restoration Program
- 5) USDA – EQIP
- 6) USDA – CREP
- 7) USDA – Wetland Reserve Program
- 8) USDA – Project Grass
- 9) Forest Stewardship Program
- 10) DEP – Erosion and Sediment Pollution Control Program
- 11) DEP – National Pollutant Discharge Elimination System Permitting Program
- 12) DEP – Dam Safety and Waterways Encroachment Program

- 13) District No-till Planter Rental Program
- 14) SCC – ACT 38 Nutrient Management Program
- 15) Watershed Specialist – grant writing through the 6 watershed groups

### **Remaining and Future Needs:**

#### 1) Technical Support

- a) USDA – engineering and technical training
- b) CBP – engineering, administrative and technical training
- c) PA D&G Program – administrative and technical training
- d) DCNR – public education and technical training
- e) PDA – nutrient management training and public education
- f) DEP – administrative and technical training
- g) SCCD No-till Program – administrative and technical training

#### 2) Political Support

- a) SCCD Board of Directors – We have a CBP committee that meets quarterly.
- b) County Commissioners – Which supports the Ag community in the county
- c) Township Supervisors – Want to do more with the D&G program. Some townships favor on lot septic maintenance ordinances.
- d) State and Local Representatives – Are familiar with the District’s programs and support them

#### 3) Financial Support

- a) USDA cost share programs: EQIP, AMA, Project Grass, CREP
- b) DEP cost share programs: CBP Stream bank Fencing Program, Chesapeake Bay Program, Chapter 102 Program
- c) PDA: REAP and PDIP
- d) Pa Dirt and Gravel Road Program: cost sharing of projects

e) DCNR: Forest Stewardship Plans, erosion control

**Susquehanna County Bay Tributary Strategy:**

For each year 05/06, 06/07, 07/08 and 08/09 the Susquehanna Conservation District will continue working with and expand the effort with cooperating agencies to implement both low and high cost BMP's to help meet the targeted nutrient reduction to the Chesapeake Bay. The following listed items are geared to our present situation and the resourcefulness of our staff to work as a team to achieve the common goals that are needed.

- 1) **Fall Cover Crop:** Since 1982, Susquehanna County Conservation District has had a no-till program complete with a no-till specialist, a truck used for planter delivery, 2 no-till corn planters and 2 no-till seeders. Promoting the planting of fall cover crops is a major component of our tributary strategy.
  - a) The Chesapeake bay technician would promote to the farmers, the agronomic value of planting no-till fall cover crop to silage corn fields. This could be done with public meetings, radio announcements, fact publications, news articles and by one on one contact with farmers.
  - b) The conservation district would budget ten thousand dollars (\$10,000.00) of CBP money to be used for cost share to the farmers, for the use of the conservation district's no-till seeder for the planting of fall cover crop. The cost share money will be used to offset the costs to the conservation district. The current landowner rate for the use of the no-till seeder being used to plant fall cover crops is twelve dollars and fifty cents per acre (\$12.50/acre). The District will cost share ten dollars an acre with the farmer paying \$2.50 per acre. We have a goal of 1000 acres to be planted under this program

incentive. To meet the needs of the expected increase in acres of fall cover crop to be planted, an additional twenty one thousand dollars (\$21,000.00) would also be needed for the purchase of an additional no-till seeder, which could be spread over a 2-year period. The tracking of the number of acres can be done with the billing of the seeder use. There is also an acre meter on the planters. This method can also be used as a benchmark, to the District for the future expansion of this cost shared practice.

c) **Note:** In the fall of 05 there were 864 acres of fall cover crops planted. Due to the silage corn being harvested later than normal and a wet fall there were only 424 acres planted in the fall of 06. In fall of 07, 634 acres and in the fall of 08, 645 acres were planted.

d) In the event that the goal of 1,000 acres is not met the remaining cost share dollars will be requested to be used for the cost-sharing of additional CBP special projects. The CBP technician will be responsible for the planning, designing and the installation of any CBP special projects.

**Note:** In the winter of 08 there was \$ 3,300.00 of additional cost-share money added to Russell Very's under cost-shared project.

**2) Expand the acreage of no-till corn:** Using the existing no-till program that the conservation district has, there is an opportunity to expand the number of acres of planted no-till corn.

a) The Chesapeake Bay Technician would promote, to the farmers the agronomic value of planting no-till corn in place of conventional planted corn. This could be done with public meetings, such as the no-till conference, radio announcements, fact sheet publications, news articles, and by one on one contact.

- b) **THIS SECTION IS NOT REQUESTED IN THE CBP BUDGET REQUEST.** The conservation district would budget five thousand dollars (\$5,000.00) of CBP money to be used to cost share the use of either of the conservation district's 2 no-till corn planters. The cost share money would be used to offset the costs of the conservation district. The current rate for the use of either of the 2 corn planters is twenty dollars per acre (\$20.00/acre) for conventional planted corn and fifteen dollars and fifty cents per acre (\$15.50/acre) for no-till planted corn. Cost sharing five dollars per acre (\$5.00/acre) for no-till planted corn would allow for 1000 acres to be planted under this program incentive.
- c) The tracking of the number of acres can be done with the billing of the corn planter's use. This method can also be used as a benchmark, to the district for future expansion of this cost shared practice.
- d) In the event that the goal of 1,000 acres is not met the remaining cost share dollars will be applied to the cost sharing of an additional CBP special project. The CBP technician will be responsible for the planning, designing and the installation of any CBP special project.

**3) Work to be performed by the CBP Technician:** Being that the Susquehanna Conservation District already has a no-till specialist the CBP technician will assist with the following efforts which will result in the reduction of nutrients and sediments from the Chesapeake Bay Watershed. The CBP technician has completed 17 years with the CB program. Over the years he not only supplied quality assurance to BMP's being installed but has engineered and designed 18 complete barnyard projects, a waste storage pond, a waste storage structure, and numerous other ag related BMP,s.

- a) Since the CBP special projects has been available there has been 25 CBP special projects installed totaling \$124,899.25 with an additional 6 projects totaling \$39,070.60 to be install in the spring/summer of 2009.
- b) There is approximately \$154,000.00 in EQIP cost share dollars committed to Susquehanna County which is earmarked for the installation of 2 projects with various BMP's. Most of the projects are barnyards. The CBP technician is the primary inspector and or the backup inspector on these projects.
- c) There are 8 nutrient management plans that needs to be written all of which will be P-Based.
- d) During the summer and fall the CBP technician oversees the gathering of soil samples and manure samples for the development of future nutrient management plans.
- e) The CBP technician will assist the existing grazing group with upcoming events.
- f) The CBP technician will continue to support and provide public outreach on the entire nutrient and sedimentation programs that were listed (see current programs).
- g) The CBP technician will continue to design stand alone BMP's that will reduce nutrient and sediment loading. The designed BMP's will be submitted under the "CBP special projects" cost share program.
- h) The CBP technician will support and assist the Watershed Specialist with surveys, designs and implementations of stream related BMP's.

**Most Effective Approaches to Meet the Nutrient Reduction Needs by the year 2010:**

- 1) **Increase the footage of Riparian Buffers:** To date there has been 57,808 Ft. of stream bank fencing in Susquehanna Co.

which protects 37,450 ft. of stream bank installed under the DEP fencing program. The Chesapeake Bay Foundation has installed 55,730 feet of fence. CREP has put in 126.3 acres of riparian buffer with about 78,365 Ft. of stream bank fencing. The watershed specialist continues to work hand and hand with the six watershed groups to increase riparian footage on the streams in Susquehanna County. The Northern Susquehanna River Watershed Association planted 250 feet of riparian buffer in the fall of 2007.

- 2) **Promote keeping all animals out of the streams:** Through one on one contacts and sessions at pasture workshops.
- 3) **Increase the acreage of fall cover crops:** Presently there are 645 acres of fall cover crop planted after silage corn, in Susquehanna Co. with our equipment. In the year 2008, there were 1,200 acres of silage corn planted in Susquehanna County all of which is a potential for fall cover crop plantings. Now CBP and EQIP, has cost-share programs for the planting of fall cover crops.
- 4) **Expand the percent of no-till acreage of corn planted:** In the year 2008, there were 1,200 acres of silage corn planted of which only 525 acres were planted no-till. Presently there are 2 cost-share programs for the planting of no-till corn.  
**Note:** Willie Keeney of the conservation district has been conducting monthly “No-Till Walks” starting in the spring of 07.
- 5) **Assist farmers in the obtaining and understanding their soil samples analysis:** Many farmers still do not keep accurate records or are not timely with their soil sampling program, many do not take their samples correctly and many do not understand their soil analysis completely which may result in losing nutrients to water courses. We can offer assistance and education to landowners with soil testing and their soil analysis.
- 6) **Roof Runoff Management in and around barnyards and feeding areas (keeping clean water clean):** The exclusion

- of roof runoff to any barnyard or feeding area can greatly reduce the loss of manure nutrients and sediment. **Note:** This is being done by using funding from the “CBP special project money”.
- 7) **The Installation of Farmstead BMP’s:** Barnyards and feeding areas are in general a prime area for nutrient and sedimentation loss. Although many barnyards in Susquehanna County have been treated there are many more that needs to be treated. Being a large dairy county, milk house waste and silage leachate usually need to be treated. **Note:** This is being done by using funding from the “CBP special project money”.
  - 8) **The Installation of Waste Storage Facilities:** Most animal operations in Susquehanna County use a daily haul system of manure application. Although some farmers do not prefer manure storage others may need manure storages, to fully implement their nutrient management plan due to the P-Index.
  - 9) **Promoting Rotational Grazing:** Presently there is an organized grazer group, which meets 10 times a year. This group involves Grazing Land Conservation Initiative, Project Grass, Agricultural Management Assistance and many farmers who discuss different grazing systems and ideas related to grazing. **Note:** A joint effort between NRCS and the conservation district has resulted in monthly “Pasture Walks” and wintertime “Pasture Pie Meeting”
  - 10) **Promoting Precision Feeding to animals to reduce the Phosphorus in the manure:** Although this is very effective with poultry and hog operations working with dairy operation would be a different challenge due to the complexity of different forages and quality of the fed forages.
  - 11) **Surface Water Management around barnyards and feeding areas:** In some cases managing or excluding surface water from barnyards and feeding area could greatly reduce

nutrient and sediment loss. **Note:** This is being done by using funding from the “CBP special project money.

- 12) **Assist farmers in developing, understanding and effectively using their Nutrient Management Plan:** Many farmers never use or understand their NMP. In many cases public meetings or one-on-one trainings, will be used to help farmers understand their NMP better and reinforce what their responsibilities are. **Note:** The conservation district in the past has sponsored public meetings and will continue to do so.

<b>District Chairman</b>	_____	<b>Date:</b>	_____
<b>District Manager</b>	_____	<b>Date:</b>	_____
<b>CBP Technician</b>	_____	<b>Date:</b>	_____

**Susquehanna County Conservation  
District**

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Chesapeake Bay Tributary Strategy**

**2008/2009**