2006 Perry County Implementation Plan

Submitted by the:

Perry Conservation District

March 30, 2006

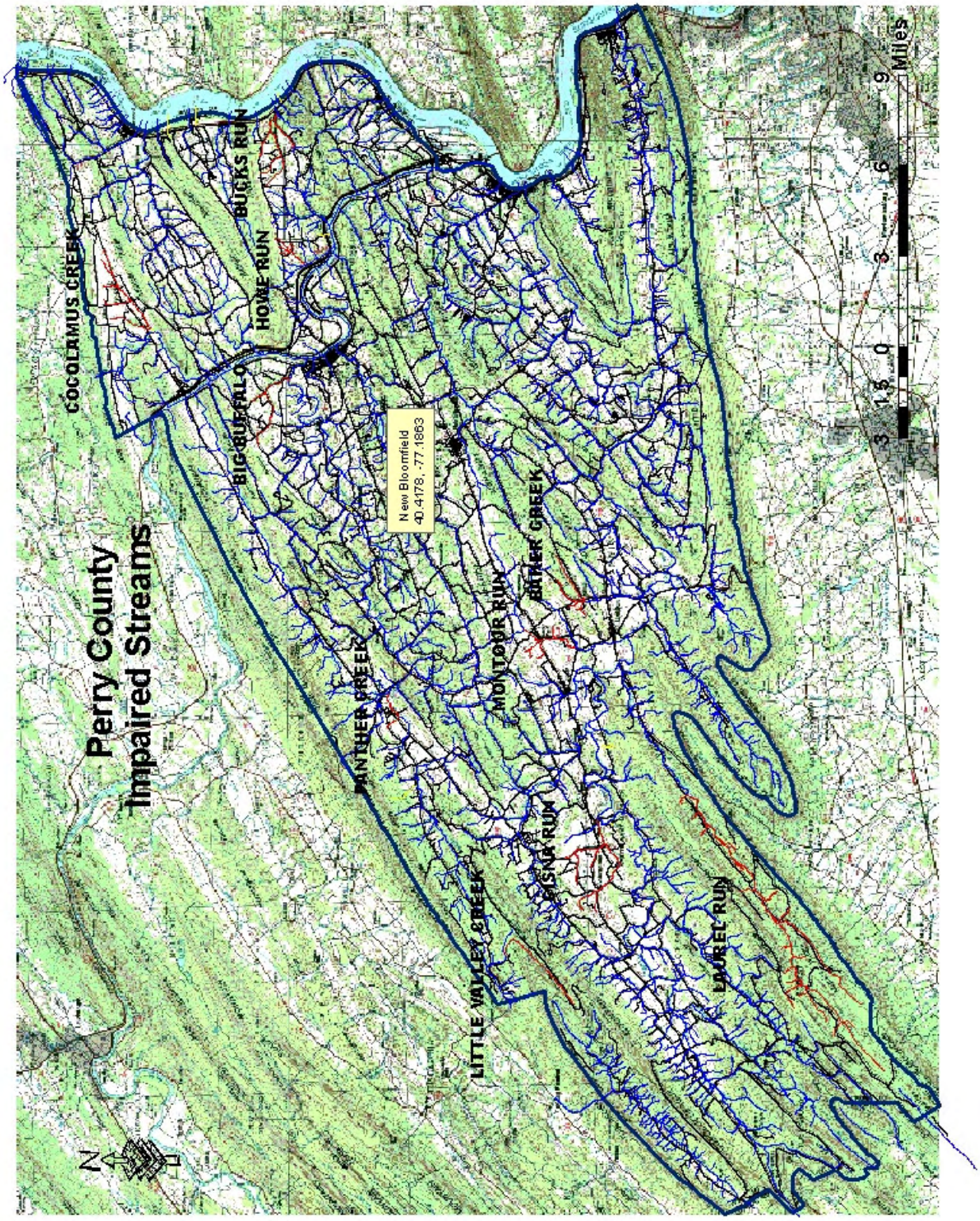
Table of Contents

A. Perry County Description

Perry County is located in the South Central DEP district and lies completely within the Chesapeake Bay Watershed. It encompasses 554 square miles, and is bordered on the east by the Susquehanna River and on the west by the Tuscarora State Forest. Sixty percent of its 354,560 acres are forest land, 25 percent or 88,640 acres is in agricultural use, and the remaining 15% or 53,184 acres is in residential use. According to the 2003 Census, Perry County's total population is 44,188 with a population density of 78.8 persons per square mile. Perry County is rural for the most part, with 70% of its working population employed outside of the county. Education, health and social services are important industries in the county. Perry County agriculture is the leading industry in the county with $74,576,000 in total sales (2004 Pennsylvania Ag Statistics). Livestock and livestock product sales totaled more than $65,978,000, placing Perry County fourth in the state for hogs and pigs, and eighth in the state for broilers according to Pennsylvania Agricultural Statistics 2004-2005. In addition, Perry County's 68,200 acres of field crops and forages, 160 acres of vegetable crops and sales from Christmas trees, nurseries and greenhouses had a combined total value of $9,259,000 in 2002. Perry County has about 755 farms averaging 171 acres each for a total of 128,500 acres.(2004 NASS) There are about 370 beef operations, 115 commercial dairies, 50 hog farms, 90 poultry farms and 30 sheep farms. These operations have about 30,000 AEU (Animal Equivalent Units) of livestock and about 46,731 AEU of poultry.

B. Water Resources/Quality

Perry County can be divided into three large DEP designated watersheds which all drain to the Susquehanna River and ultimately the Chesapeake Bay. They are 1) Shermans Creek – CBP 7A; 2) Buffalo, Little Buffalo – CBP 7B; and other small tributaries to the Juniata River; and 3) Bargers Run, Hunters Valley Run – CBP 6C; Bucks Run and other small tributaries to the Susquehanna River. To better suit the purpose of this strategy, the county was divided into four watershed areas (see map on page 5), the Susquehanna River, Juniata East, Juniata West, and Shermans Creek. The Susquehanna watershed includes Bargers Run, Spruce Run, Hunters Run and impaired Bucks Run (flow alteration/ag). The Juniata East watershed includes Wildcat Run, Board Run, Losh Run and the impaired Cocolamus Creek (Ag) and Howe Run (Ag). The Juniata West watershed includes Raccoon Creek, Sugar Run, Little Buffalo Creek, Horse Valley Run, and the impaired Little Valley Creek (Ph), Panther Creek (Ag), and a Big Buffalo Creek tributary (Ag). The Shermans Creek watershed covers over half of Perry County. This watershed includes Little Juniata Creek, Fishing Creek, Cove Creek and the impaired Montour Run (Ag), Baker Creek (Ag), Cisna Run (Ag) and Laurel Run (Ph). A Perry County impaired streams map can be found on the following page. Reductions in sediment and nutrients in these watersheds will directly improve the water conditions in the Chesapeake Bay. Under the provisions of Chapter 93 of the Clean Streams Law, Laurel Run from the north branch basin source to the south branch is classified as an Exceptional Value stream. The headwaters of Shermans Creek, all of Little Buffalo Creek, and Laurel Run from the south branch basin source to the north branch, and from the confluence with the north branch south to T 339 are classified as High Quality. Perry County is also home to a number of approved trout stocking streams and several Class A Wild Trout Waters. All of Perry County's 303d listed streams except Laurel Run and Little Valley Creek are impaired due to excessive sediment and nutrient loads. DEP personnel have identified agriculture as the primary source of the excess nutrient and sediment loads. Waters impaired due to agriculture account for about 5% of the total stream miles in the County.


Perry County
Impaired Streams
COCOLAMUS CREEK
BUCKS RUN
HOWE RUN
BIG BUFFALO
New Bloomfield
40.4178, -77.1863
PANTHER CREEK
MONTOUR RUN
BITNER CREEK
LITTLE VALLEY CREEK
LAUREL RUN
N
0 1.5 3 6 9 Miles

C. County Implementation Plan Watersheds

To facilitate planning and to more accurately identify areas of need in Perry County, the District divided the County into four watershed areas: Shermans Creek, Juniata East, Juniata West, and Susquehanna. Each of these watersheds has 303 (d) listed streams within it (See map on page 6). These impaired watersheds will be a priority of the District. The District will focus its ag impaired watershed outreach program, riparian buffer agreement initiative, and BMP promotion and implementation in these impaired watersheds. However, all programs offered by the District will be available County wide pending sufficient funding.

Shermans Creek

The Shermans Creek watershed covers 58 percent of the County with 205,645 acres (321 sq. mi.), and has a range of environmental concerns. Acid deposition and geologic factors result in impairment due to low pH in Laurel Run. Ag land use practices have lead to Cisna Run, Montour Run and Baker Creek to be designated impaired. In addition, there is increasing development pressure in the southeast part of the watershed. The District will focus on the central section of this watershed where there is a substantial amount of farming, and low density development, by promoting environmentally sound land use practices by farmers and property owners especially in the impaired sub watersheds.

Juniata East

The Juniata River watershed covers 34 percent of Perry County. The District divided the watershed in two sections Juniata East and Juniata West, with the Juniata River as the dividing line. Juniata East covers 9 percent of the County with 31,910 acres (50 sq. mi.). It has a few dairy farms, large crop farms and contains the ag impaired streams Cocolamus Creek and Howe Run.

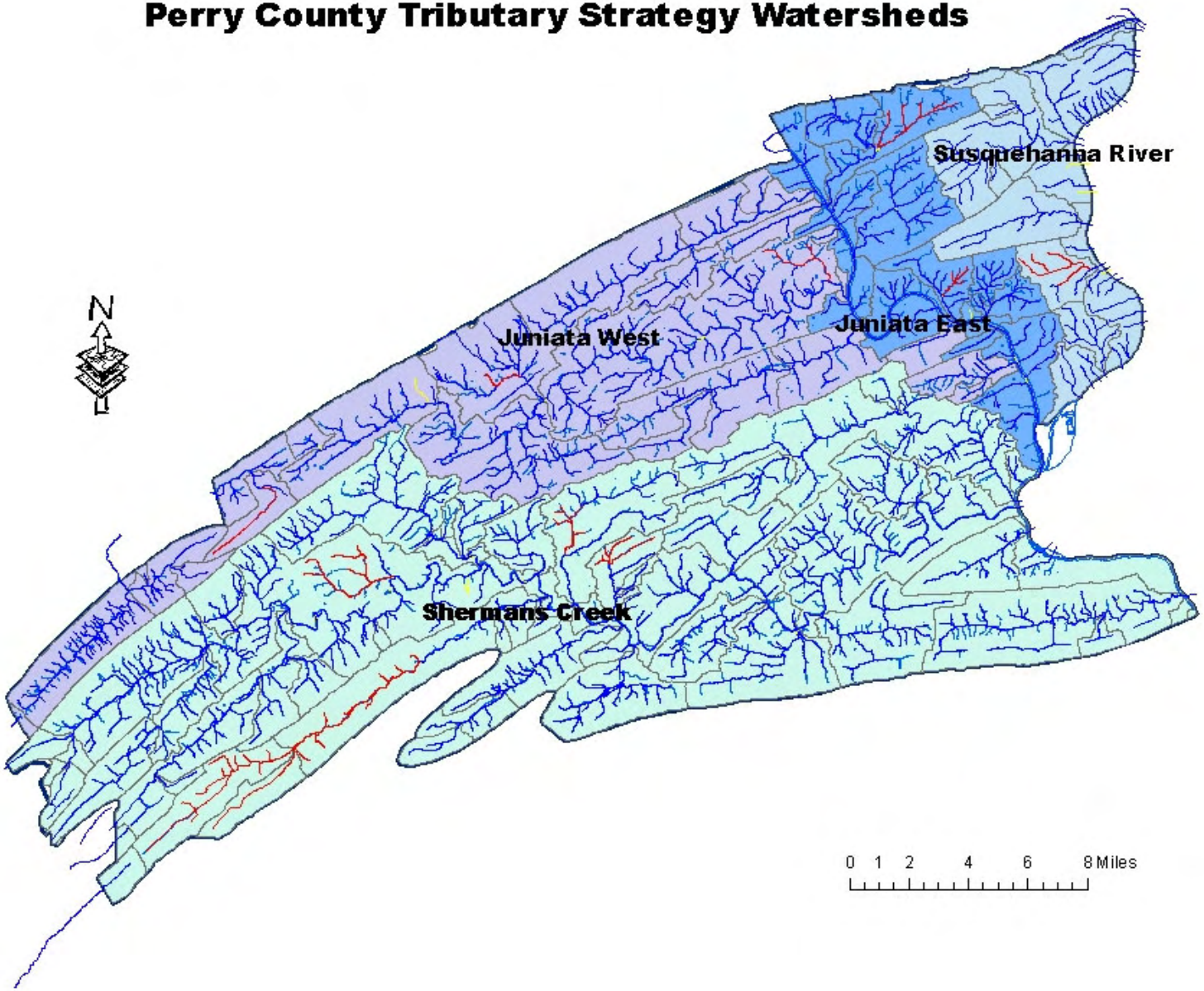
Juniata West

Juniata West covers 25 percent of the County with 88,640 acres (139 sq. mi.). The western half is mostly wooded, and Little Valley Creek which is impaired due to pH, is located here. To the east are the Big Buffalo Creek, Little Buffalo Creek, Raccoon Creek and Panther Creek watersheds all supporting a mixture of ag land use practices. This watershed also contains a section of Panther Creek and a section of Big Buffalo Creek which are ag-impaired.

Susquehanna River

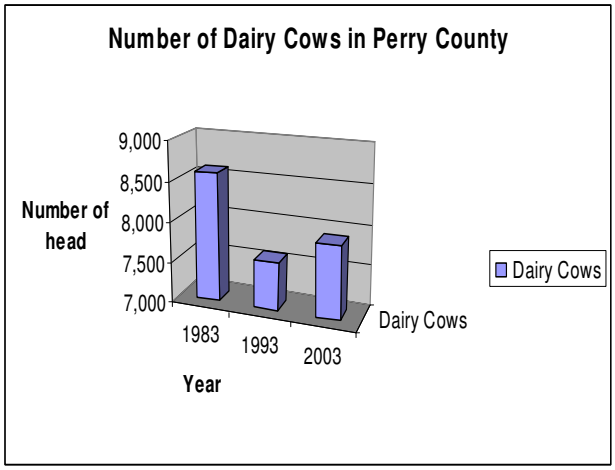
The Susquehanna Watershed covers approximately 8 percent of Perry County with 28,365 acres (44 sq. mi.), and is mostly wooded and residential. There are a number of farms where BMPs would be beneficial, especially along impaired Bucks Run.

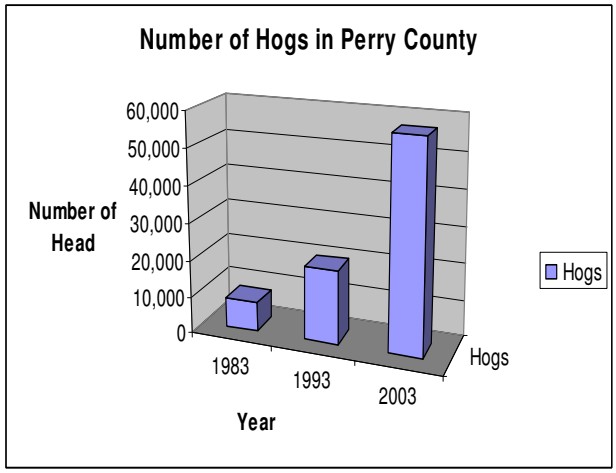
Perry County Tributary Strategy Watersheds

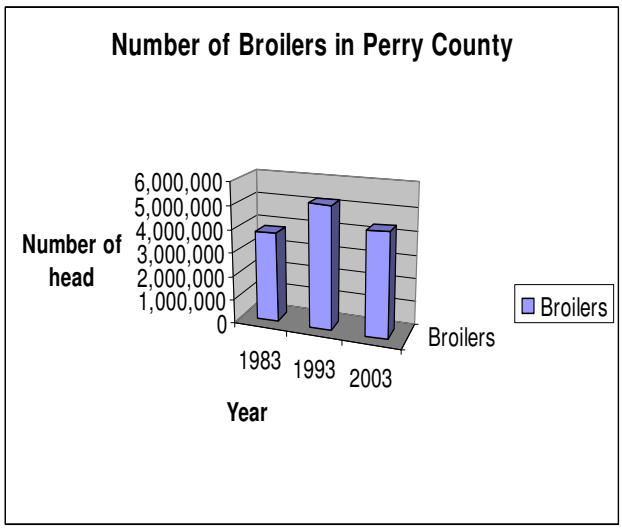


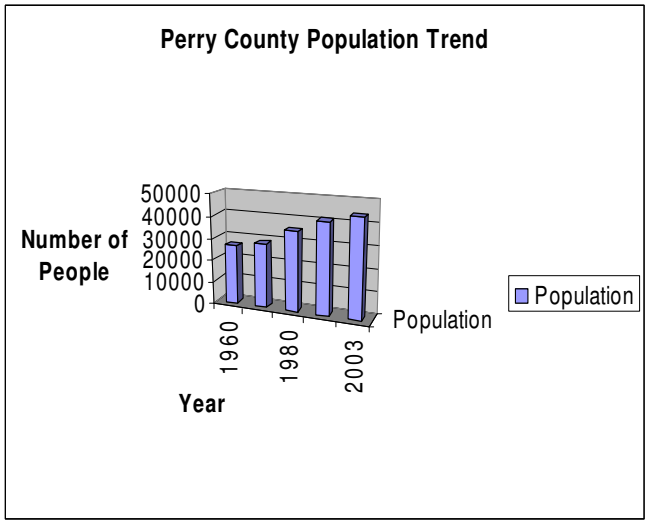
D. Trends of Significance to Water Quality

According to census data, the population of Perry County has been increasing steadily from 1960 to the present. In 1960 Perry County had a population of 26,615, by 2003 the population had climbed to 44,188. Much of the population expansion is due to rural development in the southeastern part of the County. This expansion of urban sprawl contributes to the loss of farmland and natural areas. Currently, much of Perry County has minimal effective zoning to protect these important green areas. Implementation of effective storm water management techniques and proper construction and maintenance of driveways and lanes is imperative in these developing areas to minimize sediment pollution and accelerated stream bank erosion. Furthermore, proper construction and maintenance of on lot sewage treatment systems will help minimize ground water pollution. Agriculture continues to be the predominant industry in the County with animal numbers increasing and concentrating due to a growing number of intensive production farms and the "economy of scale" factor in dairying. The number of horses in the County also continues to increase; currently there are 1,690 horses in Perry County. This continued trend of intensive agriculture expansion will lead to an increase of nutrients and sediment to the local waters and ultimately the Chesapeake Bay, unless effective agriculture and storm water BMPs are consistently implemented and maintained.









**http://www.nass.usda.gov:81/ipedbcnty/report2.htm*

Quick Stats, Ag Statistics Data Base

E. County Conservation Programs

I. Current Programs/Accomplishments

The Perry Conservation District has a long tradition (since 1950) of working with its cooperating agencies to oversee the implementation of a wide variety of natural resource conservation programs including those aimed at reducing soil erosion and managing nutrients especially on agricultural operations. The following highlights summarize more recent accomplishments.

Conservation Planning
Providing conservation planning and technical assistance to agricultural producers (District Cooperators) is a top priority for the District. Over the decades many farms have been "planned" several times as farm management changes. Working conservation plans, in addition to helping the farmer meet State and Federal requirements, provide the farmer with a blueprint for managing his land while minimizing erosion problems. The conservation plan can also identify BMPs that need to be maintained or installed so the farmer can make financial and land use planning decisions based on identified conservation needs. Much of this technical assistance is provided through the USDA Natural Resources Conservation Service (NRCS). Unfortunately with current staffing resources, we estimate only a third of the conservation plans on file are current.

Conservation Tillage
One of the greatest areas of success in Perry County has been the transition from conventional tillage to conservation tillage by the County's farmers. A large percentage of Perry County farmers have already adopted and implemented conservation and minimum tillage farming practices. According to a tillage survey completed by NRCS during the summer of 2004, a full 60 percent of acres planted were planted using no-till technology and maintain residue at 30 % or more, 10 % of acres planted were in reduced tillage with residue at 15-30 %, and 14% were planted using conventional tillage. Another survey taken at a recent farm meeting indicated that 70% of the farmers were using no-till in their operations. This use of no-till technology is due in part to the District's successful one to one outreach to farmers over the last two decades. This outreach has included a series of farmer no-till "testimonial" meetings in the 1980s, a District no-till program in the mid 1990s which provided farmers the opportunity to test drive a no-till drill at reduced rates, and neighbors seeing neighbors successfully using the technology.

Project Grass/ Pasture Management
The District also has successfully managed the Project Grass program since 2003. To date eight producers have installed intensive grazing systems on 49 acres with 16,950 feet of paddock fence, 404 feet of cattle walkway, two water systems, five spring developments, and related components installed for improved pasture management and stream quality.

Currently, NRCS, Cooperative Extension, and the District are working closely with area grazers to form a Pasture Management group for idea and information exchange. The goal would be to have pasture walks and discussions every two weeks of the growing season.

Dirt & Gravel Road Program
The district administers the Dirt and Gravel Road program which receives approximately $40,000 a year in funding to improve gravel roads in a manner to reduce erosion, run-off and dust. Since the beginning of the program 8 years ago, Perry County has improved 22,994 feet of road way.

Chapter 102 Erosion and Sediment Pollution Control Program
The District administers the State Erosion Control Program. State Law requires all earthmoving activities such as land development, logging and agriculture operations, to develop and implement erosion control plans that meet State engineering standards.

In the past two years approximate accomplishments are: 121 plans reviewed, 36 NPDES permits issued, 52 complaints handled, and 260 site inspections.

Farmland Preservation
Another success story in Perry County is Land Preservation. Recognizing the threat of urban sprawl on the natural resources of the County the District has been instrumental in promoting land preservation for over two decades. Urban sprawl can have many adverse environmental impacts. One major impact is that urban sprawl generally will create more impervious areas which results in more runoff to area streams. This "extra" runoff can substantially accelerate stream bank erosion resulting in increases in sediment and nutrient loadings
In 1996, the fruition of years of effort was realized when Perry County's first farm was preserved with a conservation easement. The District now administers the State Farmland Preservation program, its own woodland/open space easement program and assists the Central Pennsylvania Conservancy (CPC) on any land preservation projects within the county. To date 4,596 acres have been preserved (or are under agreement of sale) with the County Farmland Preservation program, 1,463 of those acres were donated and 3,133 of those acres were purchased. In addition, 304 acres have been preserved with the Perry Conservation District Land Trust, and 490 acres have been protected by the CPC. Preserved woodland and working farmland acres are required by deed of conservation easement to meet high levels of conservation. These acres are inspected annually. This program focus is a high priority with the District.

Chesapeake Bay Program
Many projects have been completed in Perry County under the State Chesapeake Bay Cost-Share Program since its inception in 1990. Perry Conservation District has assisted 36 cooperators in the installation of 14 ag-waste structures, 17 barnyards/heavy use area protection projects and 4 ag-waste transfer systems, 36 nutrient management plans, 200 acres of cover crop, and other BMPs. Total project cost has totaled in excess of 1.5 million with Chesapeake Bay cost share funding totaling over $780,000.

Nutrient Management
Perry Conservation District has always been on the leading edge of the drive to implement nutrient management plans. In 1990, Perry County developed a Nutrient Management Ordinance that was successfully implemented and maintained prior to the passage of Pennsylvania's less restrictive Act 6 Nutrient Management Law. Currently, the Perry Conservation District administers the State Nutrient Management Program in Perry County. Nutrient Management Plans on 27 CAOs on 1752(owned/operated) acres with 11,931 AEU are updated every three years and inspected annually. Another 13 "volunteer" farmers are assisted under this program.

The District also facilitates other NMA funding such as Nutrient Management Act 6 to cost-share Ag Waste BMPs and related components, and the Plan Development Incentive Program to cost share nutrient plan management writing. In addition, many Ag Waste BMPs have been installed in the County under various USDA programs.

USDA Programs

As a close cooperating agency, the Natural Resources Conservation Service (NRCS) has assisted in the successful completion of numerous projects with the District through technical support delivery and education. Through the years, NRCS in conjunction with the Farm Service Agency has also implemented and administered numerous programs that have reduced sediment and nutrient pollution through out the County. Three major current programs are:

Environmental Quality Incentives Program
The Environmental Quality Incentives Program (EQIP) is a voluntary conservation program from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). It supports production agriculture and environmental quality as compatible goals. Through EQIP, producers may receive financial and technical assistance for management conservation practices and structural BMPs and other practices on agricultural lands.

Agriculture Management Assistance
Agricultural Management Assistance (AMA) provides cost share assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations. Producers may construct or improve water management structures or irrigation structures; plant trees for windbreaks or to improve water quality; and mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming. The program was offered in the following years: 1996, 1997, 1998, and 2001.

Conservation Reserve (Enhancement) Program
The Conservation Reserve Program (CRP) along with the Conservation Reserve Enhancement Program (CREP) has been implemented on approximately 5,490.5 acres in Perry County. Since the inception of the CRP program in 1996 there have been 5,359.3 acres of Non-Riparian areas reserved in CRP and CREP. BMPs installed in these areas include seeding of warm/cool season grasses, wetland restoration, wildlife food plot and habitat areas, and grassed strips. In addition, 31 Riparian Buffer Projects have been completed impacting a total of 170 acres.

Please see attached 2005 Performance Summary for Perry County NRCS

II. 2005 Conservation Accomplishments

a. Conservation Tillage Programs

In 2005, Perry Conservation District took important steps toward meeting the goals set forth in the 2004 Perry County Tributary Strategy. The District hired an Agriculture Resource Specialist to administer and expand the existing cover crop /no-till program. To support that position and program, a no-till drill and a truck to tow the drill from farm to farm were purchased. Response to the cover crop program was very positive. Twenty six farmers enrolled 1,715 acres of cover crop in the program in 2005 compared to 140 acres in 2004. In addition, the no-till drill was rented and used to plant 1,200 acres of crops. Both programs were well received, and the District will continue expanding them over the next five years through further promotion by the Ag Resource Specialist, and with the purchase of a second smaller no–till drill.

Chesapeake Bay Special Project Funds were an integral part of the District's successful cover crop and no-till drill programs. These funds were used to purchase the Ford F-250 truck, allowing the District to offer the service of moving the drill between farms. This service not only made acquiring and using a no–till drill more convenient to farmers, it also provided the District the opportunity to have one on one contact with farmers. The Ag Resource Specialist was able to meet farmers, answer questions, and build awareness of the Conservation District and the programs and educational possibilities it offers. Special project funds were also used to offer incentives to farmers for planting a cover crop. In 2005, the District had two Growing Greener grants in effect that supported the cover crop program. However, response to the program was so great that an additional $13,000 was needed above and beyond grant funding. Funds from the Chesapeake Bay Fund($3,000), and Chesapeake Bay Special Fund money ($10,000) were used to cover the $13,000 gap. The District believes that expansion of the program will continue as farmers become aware of the benefits of conservation tillage practices, and can easily access a no- drill without investing in one. However, expansion of the program will require substantial funding. Please refer to the chart on page 19 for program goals for the next five years.

2005 Conservation Tillage Program Summary

	Acres Implemented	Rental Rate	Incentive Payment	Funding Sources	Purchases
No-till program	1200	$5/acre	n/a	GG - $5,600	10' JD No-till Drill
				S.P. - $10,000	Ford F-250
Cover Crop Program	1,715	n/a	$20/acre $15/acre	GG- $26,700	Incentive Payments
				S.P. - $10,000	Chlorophyll Meter
				CBP - $3,600	

b. Project Grass Program

The District's Project Grass/pasture management program assisted in the installation of 7,050 feet of paddock fence, 404 feet of cattle walkways, two water systems, one spring development, 600 feet of waterline, and related components installed for improved pasture management and stream quality. Interest in the program remains strong and the District is seeking additional funding to meet the demand, and offer a small no-till drill for pasture and riparian buffer restoration.

c. Watershed Protection and Awareness

The District also made progress toward meeting its watershed protection and awareness goals. This past summer the Maryland's Stream Corridor Assessment Survey was utilized in conducting a stream survey of Perry County's eight ag impaired watersheds. The ag impaired watersheds were surveyed, mapped, and buffer

and bank areas needing restoration were identified. A PACD grant is enabling the district to create an informational display and maps pertaining to impaired watersheds in the County. The District also began mapping and identifying parcels with hydric soils and potential wetland area. A DEP Environmental Education grant was submitted requesting necessary funding to proceed with the project, however the proposal was not funded. In addition, a Growing Greener grant was submitted seeking funding to conduct a nutrient balance survey for the western part of the County where most ag intensive operations are located. However, this proposal was denied.

III. Conservation Program Goals

Sediment and Nutrients come from many sources in the landscape. While agriculture is probably the primary source of nutrients in our watersheds, excess sediment comes from many sources including fields and pastures, stream bank erosion, land development, and from poorly constructed and maintained access drives and lanes, and parking areas. The Perry Conservation District will continue to focus primarily on agricultural soil and water conservation and nutrient management, land preservation, and riparian zone protection and enhancement. To properly address the continually increasing environmental pressures put on the Chesapeake Bay, and to assist the State in meeting the 2010 Pa State Chesapeake Bay Implementation/Strategy goals, the Conservation District estimates the following resource needs will need to be addressed.

Actual Needs: Using the best available technology, the following conservation needs once addressed would significantly improve water quality and maintain natural resource integrity in Perry County.

Conservation Planning Needs: All farms should have an up-to-date conservation plan (about 800 conservation plans covering 88,000 acres of cropland and pasture); these plans should be reviewed annually with the landowner and updated as required. More than half should be at a "best" level of conservation. Presently, about one-third of the conservation plans on file are current. Less than a tenth is at a "best" level of conservation.

Nutrient Management Planning Needs: All CAOs and all animal production farms that receive government financial assistance need to have nutrient management plans that meet Act 6 requirements. These plans need to be updated every 3 years or upon significant change in management. The goal would be to ensure these operations have current plans and are implementing the plans. In addition every farm with production animals is required to have an implemented animal waste management plan meeting Chapter 91 requirements. Most farmers would not meet this baseline requirement.

The comprehensive conservation planning/nutrient management planning specified above would identify the following components as "needs".

1. Animal Waste Management Systems: 50 new systems needed (6,102 AEU)/25old systems need updated (3,000AEU).

2. Conservation Tillage: 90% of farms applying conservation tillage with 50% meeting advanced no-till criteria.

3. Cover Crops: All land with less than 30% residue and/or land without a crop growing which receives manure application, an estimated 25,000 acres.

4. Pasture Management: Pasture land should be managed for good cover with riparian areas protected. The goal being an additional 12,000 acres managed for good cover with installed off stream watering BMPs. This number includes horse pasture management.

5. Rotational Grazing: Converting row crop acres to managed grazing lands. The goal being 1,000 additional acres of rotational grazing.

6. Steam bank stabilization needs: There are 1,284 miles of streams in Perry County. One third, or about 400 miles, would benefit from riparian buffers and/or more aggressive stream restoration practices. Goals: Additional 4,500 acres of riparian buffers, and 1,000 acres of grass buffers.

Land Preservation Needs: Preserving 75% of the farms and 25% of the large woodland tracts would result in about 100,000 acres (BMP land retirement) covered by conservation easements.
This number still gives development "room" while protecting the integrity of the natural resource base in the county. Assuming one fourth of these preserved acres would be developed in the mid to long term (20-30 years) a 25,000 acre goal would be met for urban reduction. In addition to farm and woodland preservation, the District has identified the need to protect established riparian buffers to ensure their value in perpetuity. The District has a goal of placing 25 acres of forest riparian buffers in riparian protection easements annually.

Dirt Lanes and Driveways Needs: We estimate 750 miles of dirt lanes and driveways in the County. An estimated 500 of those miles would benefit from being reworked and/or maintained in a manner that reduces erosion.

Storm Water Needs: This issue is a growing concern in Perry County as development continues to encroach into natural areas. Few Municipalities have ordinances which protect the hydro geological integrity and/or water quality of streams. To retrofit existing development including roadways would be a high cost. No dollar estimate made.

IV. Future Projects Pending Funding

In an effort to continue to support the attainment if its goals, the District applied for a number of grants in 2006. They are listed below along with a short description.

DEP Environmental Education Grant ($5,600) Impaired Watershed Outreach
The Perry Conservation District submitted a funding proposal for an educational outreach program aimed at the approximately 125 farmers operating in impaired watersheds in the County. Farmers will be contacted and personally visited by Conservation District staff. They will be provided with information relevant to achieving baseline compliance with environmental regulations and to improving and maintaining stream quality, an introduction to TMDLs and what implications the future implementation of TMDLs in their watershed may have on their farming operation. They will also receive information about cooperating agencies that provide technical and monetary assistance for installing BMPs. Fact sheets and brochures specific to the County's streams will created and distributed. Visit follow-up letters will be sent to each farmer.

NFWF Chesapeake Bay Small Watershed Grant(2) Cover Crop Incentive / Streambank Stabilization
1) Perry County Cover Crop Initiative ($45,500)
The Perry Conservation District proposes offering a per acre incentive to County farmers planting a cover crop with priority given to farmers in impaired watersheds, or who are cover cropping for the first time. This program will be a continuation of a 2 year Growing Greener cover crop program offered by the District. The project will promote cover cropping as an economically and environmentally sound management practice through individual farmer contact, and include a cover crop demonstration field day.

2)Stream Bank Restoration Project ($26,800)
The Perry County Conservation District, and its partners are proposing three stream bank stabilization projects

on The Little Juniata, Shultz, and Big Buffalo Creeks in Perry County. The stream banks at each site have severe erosion causing water quality degradation, and damage to infrastructure. The District plans to implement these projects and use the completed sites as educational demonstration sites for various groups.

DEP Growing Greener Grant

Forest Buffer Protection Agreement Initiative ($30,500)

Proposed program would protect 50 acres of forest riparian buffers with permanent protection agreements. The project will include all of Perry County, and be implemented in both the Juniata and Lower Susquehanna Watersheds. The project will address non-point source pollution that results from maintaining inadequate or non-existent riparian buffers. By permanently protecting 50 acres of riparian forest buffers, or about 21,780 feet of stream side forest buffer, the District will annually reduce sediment pollution by 190 tons, phosphorus pollution by 684 pounds and nitrogen pollution by 12,198 pounds.

County Environmental Initiative

The County has received funding of $1,000,000 through the DEP Growing Greener County Environmental Initiative to spend on community and environmental projects over the next 5 years. The District is proposing that the first $500,000 be spent on Farmland Preservation.

F. Perry County Implementation Plan/Most Effective Approach

I. Plan of Action to Reduce Sediment and Nutrient Loads to the Bay

Much of what can be accomplished is dictated by funding levels. Currently, the District has the following staffing resources available for work in directly implementing this strategy:

Ag Resource Specialist	100 % Bay Technician funding
Ag Resource Specialist	100 % Nutrient Management funding
Farmland Pres. Coor.	50% ACT/ACE funding
	50% Solid Waste funding
Watershed Specialist	60% Watershed Specialist funding
	20% Grant Administration funding
	10% 2nd Technician funding
	5% Recycling funding
Resource Specialist	30% 1st tech (E&S) funded
	60% West Nile funded

Full time NRCS District Conservationist
Part time NRCS Technician
Part time NRCS Soil Conservationist
District Manager/Secretary

In light of current staffing and funding realities, the Perry Conservation District will continue to implement the November 2005 approved 2006 Goals and Objectives (attached) with renewed emphasis for the Bay Technician (Ag Resource Specialist) on no-till promotion, cover crop promotion and pasture management. PCD will continue to focus on building relationships with farmers and landowners in the County.

a. Bay Technician (Ag Resource Specialist) Plan of Action

A primary focus of the Bay Technician will be to promote the use of conservation tillage especially no-till practices. The plan is to make various no-till drills and planters available to our County farmers at competitive rental rates. Our initial short- term (next 2 years) goal will be to have an additional 1,200 acres of cropland and

pasture planted or renovated using no-till methods. Additionally, 2-3farmers will be encouraged to participate in the USDA EQIP No-till Incentive Program. This program provides financial support to hire professional agronomists to help them to permanently convert cropland to a no-till system. Also a conservation tillage/cover crop field day will be planned.

A second goal is to provide financial incentives for 30-50 ag operators to establish 2,000 – 3,000 acres annually of cover crop over the active life of the grants. The bay technician will be integral to ensuring that this goal is met. Cover cropping is an important part of a successful complete no-till system. Also, utilizing cover crops reduces soil erosion, decreases nutrient leaching, increases organic matter, and the resulting increase in residue enhances carbon sequestration. Some funding for both of the no-till initiatives and the cover crop incentive payment can come from two existing approved Growing Greener Grants.

A third focus of the Bay Technician in Perry County will be to continue to work with Project Grass funds to promote intensive grazing and sound pasture management practices. Currently, there is approximately $15,000 in Growing Greener grant funding available for the implementation of BMPs. Even though Growing Greener funds are applied for annually to meet program demands, the District believes that the funding is insufficient and will request additional funding in order to increase BMP installation rates. The District will continue to assist the fledgling pasture walk group in promoting grazing and pasture management.

The Bay Technician will also write and review conservation plans, once trained and certified. The goal for the next two years will be for the Bay Technician to review 40 plans annually, and to write 10 plans annually.

1. 2006 No-till Rental/Promotion Program

Primary coordinator:	Bay Technician				
Goal:	1,200 acres/year				
Cost:	Drill 1	$7,500	**Income:**	1,200 acres@$5	$ 6,000
	Drill 2	14,000		Bay Funds	14,000
	Equipment Maintenance	6,000		GG Funds	7,500
		$27,500			$27,500

2. Cover Crop Incentive Program

Primary coordinator	Bay Technician				
Goal:	3,000 acres/year				
Cost:	$20/acre/3,000 acres	$60,000/year	**Income:**	Bay Funds	$60,000

3. Pasture Management Program

Grazing Lands Management

Project Grass coordinator:	Bay Technician				
Goal	100 acres(spring development, walkways, fencing, crossings etc.)				
Cost	Project Grass	$14,700	**Income:**	Project Grass	$14,700
	Pasture BMP projects	$10,000		Bay Funds	$10,000
		$24,700			$24,700

4. Conservation Plan Implementation

Goal	200 acres(waterways, diversions, etc.)				
Cost		$10,000		Bay Funds	$10,000

5. Nutrient management Planning

Goal	Purchase 15 manure test kits				
Cost		$500	**Income:**	Bay Funds	$500

The District intends to apply for project funding under the Chesapeake Bay Program to be used for the above initiatives. The District is requesting $94,500 to implement the above plan. Of that; $60,000 is needed to continue to expand its cover crop incentive program. The District is planning on once again offering $20.00/acre incentive for no till cover crops and $15/acre for cover crops that are broadcasted. In addition, the District will be implementing 2 year cover crop contracts with its farmers to encourage long term cover crop use. The District no-till drill program was very successful in 2005, and the District is planning on building on that success by purchasing and renting out a second smaller drill. This drill will cost $14,000 to purchase and will be a 6' Great Plains no-till drill for use in pasture renovation and riparian buffer restoration. Due to strong demand for Project Grass funds, the District is requesting $10,000 in Bay funding to be used for the installation of pasture BMPs. Conservation Plan implementation to achieve baseline compliance is another priority, and the District is requesting $10,000 for ag BMP implementation. Priority for these funds will be in ag impaired watersheds. In addition, the District plans on offering manure test kits to promote their use as part of an educational program to encourage the implementation of Manure Management Plans as required under Chapter 91 regulations..

This $94,500 in funding, in conjunction with the Growing Greener grants and any funding received from approval of submitted grant applications will allow the District to make significant progress towards implementing this strategy.

b. Watershed Protection and Awareness

Our watershed coordinator will continue current efforts in this area. New initiatives planned for the next 2 years include:

1. Stream bank survey/restoration. Continue to survey and identify sections of County streams that need buffers/restoration. Once identified, a plan can be created to implement the restoration. Ag impaired streams have been surveyed.

2. Wetland notification. Use GIS technology to identify hydric soils and notify landowners with hydric soils that they may indeed have wetland areas that need to be protected, and possibly enhanced through various cost-share programs. The District submitted a DEP Environmental Education grant application and was denied, it continues to seek funding for this project.

3. Nutrient Balance Survey. This survey in western Perry County (intensive animal ag area) would quantify the amount of phosphorus being imported (as feed, manure, and fertilizer) and the amount of phosphorus being utilized. The collected data will be useful for Nutrient Management Program oversight, and help with individual Nutrient Management plan development. The District submitted a Growing Greener grant application and was denied. The grant will be resubmitted at a later date.

4. Public awareness campaign to assist private landowners with properly installing and maintaining driveways and farm lanes. This assistance can be modeled upon the successful D&GR program. The District is seeking funds to cost-share worst case problem areas.

5. General Environmental Education. Provide natural resources information to Perry County residents, promote individual stewardship, and assist residents in becoming more knowledgeable and better able to make informed decisions on matters relating to our natural resources.

6. Forest Riparian Protection Agreements. Implement a program to educate landowners about riparian forest buffer agreements, and promote their use on established forest riparian buffer areas.

c. Five Year Plan/ Pending Funding:

The Perry Conservation District has a 50 year history of assisting cooperators with conservation planning and BMP implementation. As outlined in previous sections of this report much work remains to be done. The tens of millions of dollars necessary will not be readily available in the near term. The District intends to pursue the following more realistic goals as funding and resources are found. Please see attached table on page 20 for further details.

Staffing needs:

1. Conservation Planning

Additional personnel are needed to address the shortfall in conservation planning. At least **one additional full time conservation planner** is needed to ensure every farmer has an up-to-date conservation plan. The goal would be to visit all farms every 4 years to update plans or encourage higher levels of conservation implementation especially conservation tillage, cover cropping and pasture management. With the addition of this trained conservation planner and with good engineering support, $3-500,000 of Ag BMPs could be installed annually. (Note: this would be a trade off between time spent planning and time spent implementing BMPs)

2. Land Preservation/Planning

Urban Sprawl from the greater Harrisburg metro area is impacting the natural resources of Perry County. Additional personnel are needed to address land planning and land preservation issues. This person should be trained in conservation easements, and municipal land use and development. Goals would be to preserve as much working farmland and forestland as possible (10,000 acres) with existing programs, and work with municipalities to assist with planning to protect vulnerable natural resource areas such as riparian zones, steep slopes, and prime farmland soils.

3. Urban/ Rural Development

Proposed erosion control regulations may require permits and /or approvals for activities not currently required to do so. Funding will need to be developed for a full-time erosion control specialist to work with development, logging, and other earthmoving activities including dirt and gravel roads, both public and private. This position could also assist with Storm Water Act 167 plans that need to be developed for the County.

Conservation Planner/Admin	$60,000*
Open Space Coordinator/Admin	$60,000*
Urban Resource Planner?Admin	$60,000*
BMPs	$350,000/year
Ag Waste	
No-till/cover crop expansion	
Pasture management	
Watershed Initiatives	$150,000/year
Stream bank restoration/buffers	
Driveways, farm lanes	

*some of this estimate is already covered by existing funding

G. Total Resources and Assistance Needed

I. County Wide Goal Implementation Cost Estimate

The table on page 21 summarizes Perry County's BMP implementation history, along with the District and DEP Model goals and projections.

Long range goal costs estimates to fully implement BMPs County wide

Land Preservation at current rates	$120,000,000
Ag BMPs	$12,000,000
Riparian Zone improvement	$10,000,000
Dirt Lane improvement	$5,000,000
Staffing to provide technical assistance	$2,500,000
Staffing to support Land Pres efforts	$2,500,000
Staffing	**$600,000 (annually)**

H. Compliance

Compliance Strategy

The District will continue following the philosophy that education and technical/financial assistance is the best method of attaining environmental compliance in the County. As stated earlier, District personnel will be visiting with farmers in impaired watersheds to discuss the future possibility of TMDL implementation and the resulting implications. The District will offer technical assistance and guidance to accomplish compliance at this time. Any financial assistance funds available will be prioritized to focus on impaired watershed projects. Assistance and cooperation will be sought from both local NRCS personnel and Cooperative Extension to help landowners achieve and move beyond baseline compliance.

I. Expected Results

I. Chesapeake Bay Technician/Special project funds

Adequate levels of funding will be required for successful implementation of the above tributary strategy. If the Perry Conservation District receives $100,000 in funding in addition to funds already obtained through two current Growing Greener grants, the following reductions to nutrient and sediment loads in Perry County streams, and ultimately the Chesapeake Bay can be realized over the next two years.

Assuming 8,400 acres will be cover cropped and/or no-tilled, reductions will be 58,800 tons of sediment, with sediment loading to streams reduced by 11,760 tons (assume a 20% delivery ratio), 41.2 tons of Phosphorus with a 8.23 ton reduction in Phosphorus loading, and 21 tons of Nitrogen with a 4.2 ton reduction in Nitrogen loading. Similar future environmental benefits will not only be sustainable, but immeasurably successful given the fact that once farmers adopt no-till practices they rarely return to conventional tillage methods.

II. Other Conservation District Programs

The goal of Perry County's tributary strategy is improving water quality through the reduction of sediment and nutrients. Implemented, this strategy will improve water quality throughout Perry County, and ultimately help improve the waters of the Chesapeake Bay. As Perry Conservation District is funded for the plan of action outlined in the above strategy, Perry County will be able to dramatically decrease the sediment and nutrient loading of its waters and continue to play an important role in restoring the Chesapeake Bay.

J. Sources

Input and suggestions for changes and updates in the County Implementation Plan were received from a variety of sources. Credit and thanks go to:

NRCS Matthew McCourt
DEP Mark Dubin
DEP Becky Tackis
The Perry Conservation District Board
Penn State Cooperative Extension Service

References:
National Agriculture Statistics Service(NASS), U.S. Department of Agriculture
http://www.usda.gov/nass/
http://151.3.33:8080/census/Pull.Data.Census
www.nass.usda.gov/pa/annsum05/nofarm04.pdf

Pennsylvania Agricultural Statistics

United States Census Bureau (2000 Census)
http://factfinder.census.gov

Natural Resources Conservation Service:
Program Information
http://www.nrcs.usda.gov/

No-Till Information
http://www.crmsurvey.org/printView.asp?FIPS=42099&action=open&state=Pennsylvania

2006 Perry County Implementation Plan Goals

Practice	Units	2006	2007	2008	2009	2010
Animal Waste Mngt.	AEU	200	200	200	200	200
Animal Waste Mngt. Old Systems	AEU	200	200	200	200	200
Conservation Plans(current)	Acres	8000	9000	10000	11000	12000
Conservation Tillage	Acres	1200	1300	1400	1500	1600
Erosion and Sediment Control	Acres					
Forest Buffers	Acres	50	50	50	50	50
Grass Buffers	Acres	20	25	25	25	25
Land Retirement	Acres					
Nutrient Management(current)	Acres	3000	3000	3000	3000	3000
Off-Stream Watering with Fencing	Acres	50	50	50	50	50
Off-Stream Watering without Fencing	Acres	50	50	50	50	50
Rotational Grazing	Acres	100	100	100	100	100
Tree Planting	Acres	4	4	4	4	4
Wetland Restoration	Acres					
Preserved land	Acres	1000	1000	1000	1000	1000
No-Till(Advanced)	Acres	150	150	150	150	150
Cover Crop	Acres	3000	3100	3200	3300	3400

Practice	Units	I. 1985-200	II. 2003-2004	III. TOTAL	IV. DEP Model	V. Perry/DEP Model Goals	VI. Perry Goals
Animal Waste Mgt. AEU	AEU	13,533	2,400	15,933	22,000	6,102	22,000
Conservation Plans (current)	Acres	32,420		32,420	74,700	42,277	75,000
Conservation Tillage	Acres	14,915		24,921b	25,400	479	32,000(a)
Erosion & Sediment Control	Acres	239		239	239	MET	25(a)
Forest Buffers	Acres	129	131	260	3,250	3,000	4,500
Grass Buffers	Acres	13		13	1,200	1,200	1,000
Land Retirement	Acres	2,633	2,737	5,490	6,000	475	6,000
Nutrient Management (current)	Acres	25,031		25,031	11,900	MET	25,000
Off-stream Watering with Fencing	Acres	541		541	7,800	7,200	7,000
Off-stream Watering without Fencing	Acres	53		53	4,700	4,600	5,000
Rotational Grazing	Acres	278		278	1,250	1,000	1,000
Tree Planting	Acres	672		672	600	MET	500
Wetland Restoration	Acres	24		24	120	100	100
Preserved Land	Acres			5,188	80		100,000
No-Till (Advanced)	Acres			10,000			17,500(a)
Cover Crop	Acres			5,000	23,000	22,000	22,000(a)
Animal Waste Mgt. Old Systems	AEU	3,000		0			3,000
D & GR	Miles			4			50

(a) Annual Goals
(b) 2004 NRCS CRM Survey

I. Reported to DEP 85-02
II. Internally tracked
III. Col I plus Col II or best estimate
IV. DEP Model goals for Perry Co. to meet State-wide allocations
V. Col. IV minus Col. III
VI. Perry Co. Goals as determined by Conservation District