

# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005

## **1. County Description**

Potter County has a population of 18,141 and a land cover of 691,840 acres. The county is unique and fortunate to be home to the headwaters of three major river systems, the Susquehanna, the Allegheny and the Genesee. Forestry and agriculture are the primary land use in Potter County with forestry covering 86% of the land with 593,300 acres (270,000 acres of this in the Susquehannock State Forest) and 14% of the land in farms with 94,000 acres.

Over the past 5 years (1998 to 2003) the farming industry has seen a 10% decrease in the number of farms to 345 an 8.7% increase in land in farms to 94,000 acres and a 21% increase in the acreage size of farms to 276 acres.

Within the farming industry, there are 190 cattle farms a decrease of 10% over the past 5 years (1998-2003). There are 50 dairy farms a decrease of 40%, 20 hog farms an increase of 25%, 15 sheep farms an increase of 33% and 47 poultry farms an increase of 36%. All of this information can be found in Statistics, Appendix I.

The Chesapeake Bay Watershed encompasses approximately 694 square miles of drainage in the Eastern portion of Potter County within the following sub watersheds:

- ❖ Cowanesque River
- ❖ Pine Creek
- ❖ First Fork of the Sinnemahoning Creek
- ❖ Kettle Creek.

According to the Chesapeake Bay Program Office's watershed profiles (see Appendix II), these sub watersheds hold a population of 5,404 and encompass 674 square miles of land cover. Of this land cover, 633 square miles is forestry, 406 of that is the Susquehannock State Forest (see Maps, Appendix III) and 36 square miles of agriculture as its primary land use.

## **2. Water Resources and Significance to Water Quality**

### **A. Cowanesque River**

The main stem of the Cowanesque River, a warm water fishery, within Potter County has been considered impaired with a medium priority as designated by the 303(d) list in 2002 (See Appendix II). Due to the soils and its primary land use practice of agriculture, mass erosion and deposition occurs throughout the entire Cowanesque River Watershed.

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Another stem of the Cowanesque River, the North Fork Cowanesque River, a cold water fishery has also been designated by the 303(d) list as impaired due to excess nutrient and sediment loading. This watershed was resurveyed as part of DEP's ongoing un-assessed waters program. The 2002 303(d) list reflects the findings of the survey work. A total of 6.63 stream miles in the North Fork Cowanesque River Watershed are listed as impaired due to siltation and nutrients from agricultural activities. Efforts to alleviate the sediment and nutrient loads have been initiated through the Conservation Districts Chesapeake Bay Program by the implementation of BMP's and promotion of the necessity of preserving and enhancing water quality. The Cowanesque Watershed Association has begun conducting stream erosion surveys of the entire watershed and is also promoting local awareness of water quality.

## **B. Pine Creek**

The Pine Creek watershed houses numerous streams designated as exceptional value or high quality cold water fisheries. Pine Creek as a whole is relatively pristine in comparison with the Cowanesque Watershed with 35% of the watershed located within the Susquehannock State Forest. The mission of the Pine Creek Headwaters Protection Group, which formed in 1987, is to promote local awareness of water quality, take an active role in the preservation of the Pine Creek's high quality waters, and to cooperate with local, county, and state agencies and individuals for the betterment of Pine Creek.

The steering committee in charge of developing a Pine Creek Conservation Plan, which formed in 2002, will initiate recommendations and management options for the Pine Creek Watershed. While these plans mirror the efforts of the Pine Creek Headwaters Protection Group, they specifically include developing strategies for the reduction of non-point source silt and sediment deposition, incorporate riparian buffers in land use controls, and evaluate, improve, and protect important wildlife habitats.

## **C. Sinnemahoning Creek**

The same holds true for the Sinnemahoning Creek Watershed, which also houses numerous streams designated as exceptional value or high quality cold water fisheries. Attributes for the pristine watershed include 85% of the Sinnemahoning Creek being located within the Susquehannock State Forest and a vast majority of the watershed covered with natural vegetation.

## **D. Kettle Creek**

The entire reach of the Kettle Creek Watershed located within Potter County is considered to be an exceptional value cold water fishery with 90% also located within

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the Susquehannock State Forest and a vast majority of the watershed covered with natural vegetation. In 1998 Trout Unlimited accepted Kettle Creek as its third project under its national Home Rivers Initiative. Since that time, the Kettle Creek Watershed Association and Trout Unlimited have been working in partnership toward these four main goals: Develop a watershed conservation plan, reclaim the lower watershed (Clinton County) through treatment of acid mine drainage, improve aquatic habitat throughout the watershed and implement a community environmental education program.

The Chesapeake Bay Program promotes the informed use, management, and protection of the water and related land resources of the Chesapeake Bay. The Cowanesque River Watershed presents several priority resource problems, which include agricultural pollution dealing generally with nutrient management, soil erosion, sedimentation control, and water quality. Lack of riparian vegetation, pastures, and croplands that extend right up to the stream banks, and unrestricted livestock access to streams have allowed excessive levels of sediment and nutrients to reach surface waters.

### **3. Present Accomplishments**

Presently the Potter County Conservation District with its programs and partners have made great strides to promote local awareness of water quality and develop strategies for the reduction of non-point source silt and sediment deposition from agriculture and other land use activities.

Since 1996, the District and DEP, through the implementation of the Chesapeake Bay Program, have worked with 11 landowners spending \$588,000 with the district allocating \$330,000 in cost-share payments to implement:

- ❖ 10 Ag Waste Management Systems
- ❖ Eight (approximately 60,000 square feet) Heavy Use Area Protection Area (Barnyard Runoff Controls)
- ❖ 4,537.4 acres are protected under developed nutrient management plans.
- ❖ Through DEP's Streambank Fencing program, 12,512 of stream length was fenced, creating 11.8 acres of buffer at a total cost of \$13,963.80.

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A majority of these BMP's were implemented within the Cowanesque Watershed, but practices were also applied within the Pine Creek and Kettle Creek Watersheds. According to monitoring results, BMPs installed through the district's Bay program have reduced nitrogen, phosphorus and sediment loads by 1-10%.

## **A. Programs**

### **Farmland Preservation Program**

The district has worked closely with the Potter County Farmland Preservation Board, formed in 2000, to have two farms preserved under easements for a total of 340 acres.

### **Energy Harvest Grant**

The District will be sponsoring the implementation of a methane digester at a total cost of \$787,912. This digester will be implemented at the Four Winds Farm located on the Cowanesque River with funding received through DEP's Energy Harvest Grant with additional funding through USDA and the landowner.

### **No-Till Seeding Program**

The district has been implementing a No-Till Seeding Program through the rental of the district owned 10' Great Plains Drill for the past 9 years. Through this program landowners within the Chesapeake Bay Watershed have no-tilled 86.7 acres.

### **Dirt and Gravel Road Program**

Great strides have also been made in the reduction of sediment pollution from Dirt & Gravel roads. Potter County has 462 miles of dirt and gravel roads with the Chesapeake Bay watershed and through the implementation of the program have stabilized 18 miles of dirt and gravel roads.

### **START (Students Testing Aquatic Resources Together)**

The district has also instituted the "START" program. This program utilizes local school districts to conduct various stream tests that can then be utilized to monitor the watersheds quality and health. The START program has been completed within schools located within the Cowanesque River, Pine Creek and the Sinnemahoning.

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## **B. Partners**

### **USDA FSA & NRCS**

The district continually works with its USDA partners, the Farm Service Agency (FSA) and NRCS to partner landowners with potential cost-share programs. Through these USDA cost-share programs, landowners have or will implement

- ❖ Approximately 400 acres of land under contract through the CREP and 717.4 acres under contract with the CRP program.
- ❖ Approximately 10,500 acres of land have conservation plans.
- ❖ Landowners have signed-up to implement, if funding is available, approximately, \$100,500 in BMP's through the EQIP program.

### **Watershed Associations**

Landowners have formed Watershed Associations with the Cowanesque and Kettle Creek Watersheds. These organizations have made headway in reducing the sediment load to these watersheds and have created a public awareness campaign to make citizens aware of the importance of watersheds.

- ❖ The Kettle Creek Watershed Association has implemented projects that have enhanced riparian zones. Identified areas for enhancement opportunities and developed public outreach and educational programs.
- ❖ The Cowanesque Watershed Association has also identified areas for enhancement opportunities and developed public outreach and educational programs.

### **Bureau of Forestry - Susquehannock State Forest**

DCNR, Bureau of Forestry's Susquehannock State Forest, have 406 square miles of land within the Chesapeake Bay Watershed under their management. All management activities coincide with the State Forest Resource Management Plan. This District produces some of the most valuable timber in the world and provides clean water, recreational opportunities, habitat for wildlife, and places to enjoy the tranquility of nature.

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As a part of the State's Resource Management Plan, the Susquehannock State Forest is responsible for protecting the state forest land from fire, destructive insects and disease, while managing timber, habitat, water and visitors' recreational needs. The Forest staff also provides professional forestry leadership and technical assistance to the watershed's remaining 227 square miles of private forest. The Susquehannock State Forest is certified as being "well-managed." The timber cut from this state forest can be marketed as "green certified," which ensures the end consumer they are purchasing wood that has been cut from a forest that is managed in an environmentally sensitive manner.

The Susquehannock State Forest also manages 180 miles of forestry roads. Through the Dirt and Gravel Road Program they have stabilized 28 miles of forestry roads. This District has partnered continually with the Conservation District in delivering erosion and sedimentation workshops and educational programs for adults and school age children of Potter County. They were instrumental in developing and participating with the State-Wide Dirt and Gravel Annual Workshop by setting up demonstration sites for participants to learn more about Dirt and Gravel Road BMP's.

## **4. Potter County Bay Tributary Strategy**

The trend for agriculture in Potter County has shown a decrease in the number of farms, however the average size and acreage of these farms has increased. This trend still illustrates an improper use of the cropland and pasture resource along with mismanagement of the riparian areas along streams has induced agricultural non-point source pollution, and degraded riparian vegetation, which protects aquatic and terrestrial habitats. While accomplishments have been made to address the impact agriculture has on our great resources, a significant portion of existing sources of agricultural NPS pollution still need to be addressed by implementation of known and proven management systems and Best Management Practices (BMP's).

Potter County's plan is to continue with the Conservation District's existing Chesapeake Bay Program and will coincide reflect the recommendations of the Cowanesque and Kettle Creek Watershed Associations, the Pine Creek Conservation and DEP's Watershed Team Plan.

In addition to protecting the reaches of the Chesapeake Bay under this plan, the Conservation District will capitalize on the opportunity to provide quantitative evidence to the farmer and the public of the impact of proper management of stream

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corridors, pasture and cropland resources. To achieve this goal, the District will scientifically measure the quality of stream water prior to and after installation of BMP's. This data will be available at the conclusion of all project installations during a BMP tour for other farmers and landowners within the targeted and adjacent watersheds.

## A. Two Year Plan of Action:

1. Three landowners within the 303d listed Cowanesque River watershed have been assessed and have committed (see support letters, Appendix IV) to the installation of approximately 7,485 feet, 13.5 acres of stream bank fencing along .86 miles of stream, 2 stream crossings, one off stream watering systems and 5,713 feet of rotational grazing fencing. These projects will be submitted to the Chesapeake Bay Special Project Assistance Funding program for consideration.
  - ❖ Bruce McCutcheon - 1,384 feet of stream bank fencing.
  - ❖ Rodney Lane - 5,713 feet of rotational grazing fencing to aid in implementing an approved grazing plan, 4,418 feet of stream bank fencing with two stream crossings and one off stream watering system.
  - ❖ Phil Lehman - 1,683 feet of stream bank fencing
2. One landowner within the North Fork of the Cowanesque has agreed to the installation of two barnyard runoff controls if funding is available through the EQIP program and/or other funding sources such as Growing Greener.
  - ❖ Ralph Snyder - 1,664 square feet of Heavy Use Area Protection, a filter area with fencing and an access lane. A roof for an existing Heavy Use Area Protection with runoff management.
3. Four Winds farm located with the Cowanesque River will install a digester that will treat approximately 22,000 gallons per day of manure from 930 animal equivalent units (AEUs) in a 156' X 32' X14' deep mesophilic plug digester. Approximately 78,000 cubic feet of methane rich (60%) biogas will be collected. Funding for this project will be from DEP's Energy Harvest Grant, USDA Rural Business Cooperative Service's

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Renewable Energy Systems and Energy Efficiency Improvements Grant Program and the landowner.

4. Through various USDA programs administered by either NRCS or FSA, there is the potential for area landowners to have approximately 500 acres of land under a conservation plan, 400 acres of land under a nutrient management plan, and convert 1,300 acres to conservation cover and buffer practices through CREP.
5. The Potter County Farmland Preservation Board will approve an additional 134.5 acres for easement.
6. Continuation of the District's No-Till program with 50 acres of seeding.
7. The district will continue the implementation of the Dirt and Gravel Road Program with an additional 4 miles of stabilization.
8. Continue cooperation with the Watershed Associations located with the Chesapeake Bay Watershed to implement education outreach and stabilization of streams.
9. The district will continue partnering with the Susquehannock State Forest with their implementation of the State Resource Management Plan and the Dirt and Gravel Road Program.
10. Upon completion of the BMP's, field day tours will be offered that incorporates observing the BMP's and reviewing water quality testing data obtained prior to and after BMP construction.
11. Completion of a final report that will include before and after photographs of the farm sites where the BMPs will be implemented, water testing results, and press releases/information on field day tours, and some estimates of soil saving/nutrient reductions as a result of implementing the BMPs.

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## B. Work Plan with Timeline:

<b>Work Schedule (Major tasks) duration)</b>	<b>Completion Date (or anticipated)</b>
<u>Implementation of 3 Special Projects</u>	<u>July 1, 2005 - June 30, 2007</u>
<u>Implementation of Ralph Snyder Project</u>	<u>July 1, 2005 - June 30, 2007</u>
<u>Implementation of Four Winds Farm Digester</u>	<u>May 1, 2005 - June 30, 2007</u>
<u>Pre &amp; Post-Construction Water Testing</u>	<u>August 2005-June 30, 2007</u>
<u>Landowners participating with NRCS/FSA</u>	<u>Ongoing</u>
<u>Continuation of District Programs</u>	<u>Ongoing</u>
<u>Partnering with DCNR</u>	<u>Ongoing</u>
<u>Field Days Tour</u>	<u>September 2006 &amp; June 2007</u>
<u>Final Report</u>	<u>September 2007</u>

## C. Resources/Partners:

### 1. Potter County Conservation District

The Potter County Conservation District will be the plan's coordinator in continuing to obtain cooperation from its partners and the farming community in the implementation of the Plan of Action.

- ❖ Identified BMPs will be implemented by the District's Nutrient Management Technician, Carol Riedmiller, and the Agricultural Conservation Technician, Chad Moshier. These individuals will also aid in the continuation of the District's No-Till program and coordinating the field days event.
- ❖ The District's Watershed Specialist, Jack Fleckenstein, will oversee the implementation of the START program to gather the water testing

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results. The Specialist will also continue with the coordination and promotion of the Watershed Association's.

- ❖ Implementation of the Dirt and Gravel Road Program and partnering with DCNR Bureau of Forestry will be the responsibility of the District's Conservation Technician, Eric Potter.
- ❖ The District Manager, Sandy Thompson, will oversee the implementation of the entire Potter County Plan.

## **2. USDA Agencies - NRCS & FSA**

The Natural Resources Conservation Service (NRCS) and the Farm Service Agency will continue delivering USDA programs to the landowners which will aid in meeting the goals of the implementation plan. NRCS will assist with implementation of the identified BMPS and update or write conservation plans as needed as well as assisting with the design process (created according to the Pennsylvania Soil and Water Conservation Technical Guide) created by other sources, district staff, PACD TAG or private engineers.

## **3. Landowners**

Participating landowners will implement, depending upon the installation of the BMP, a conservation plan and/or nutrient management plan that meets NRCS 590 standards and install necessary BMP's to alleviate pollution problems. They will assist in monitoring and maintaining BMP effectiveness and assist other farmers both within and outside the watershed to reduce water quality problems.

## **4. Municipalities**

Thirteen Municipalities will cooperate with the District in the implementation of sound maintenance of their dirt and gravel roads through the Dirt and Gravel Road Program.

## **5. Watershed Associations**

The Cowanesque River and Kettle Creek Watershed Association and other watershed teams will continue with their mission to sustain, conserve, protect, enhance and restore Potter County's environment, natural resources and ecological diversity.

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## D. Expected Results

This plan will use a coordinated process, which is expected to result in an approach that will help landowners and municipalities identify their goals and objectives; inventory and assess available resources; select and implement preferred solutions; and monitor results for effectiveness. Participating landowners and municipalities will be selected based on the severity of existing NPS pollution problems and their willingness to address identified problems, especially barnyard NPS sources and stream corridors management problems.

### 1. Direct Environmental Results:

- ❖ There will be a total savings of 8,288 lbs of Nitrogen and 6,541 lbs of Phosphorus from the installation of the three special projects and the Ralph Snyder project from entering the stream.
  - Rodney Lane - Currently producing 17,045 lbs of nitrogen (N) and 10,581 lbs of Phosphorus (P). Based upon the number of AEU's X 25% (assuming a 25% reduction due to being restricted from the stream), the savings would be 4,261 lbs less N and 2,645 less P entering the stream.
  - Phil Lehman - Currently producing 4,669 lbs of N and 10,581 lbs of P. Based upon the number of AEU's X 25% (assuming a 25% reduction due to being restricted from the stream), the savings would be 1,167 lbs less N and 2,645 less P entering the stream.
  - Bruce McCutcheon - Currently producing 3,500 lbs of N and 1,000 lbs of P. Based upon the number of AEU's X 25% (assuming a 25% reduction due to being restricted from the stream), the savings would be 875 lbs less N and 250 less P entering the stream.
  - Ralph Snyder - Currently producing 7,942 lbs of N and 4,001 lbs of P. Based upon the number of AEU's X 25% (assuming a 25% reduction due to being restricted from the stream), the savings would be 1,985 lbs less N and 1,001 less P entering the stream.

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- ❖ The Four Winds Farm Digester will have 1.1 million kWh of self-generation, reduce the CO<sub>2</sub> emissions by 8,000 tons, and over 400 tons/year reduction in methane emissions. There will be 75% reduction in complaints, a 50% reduction in odor and a 50% improvement in the species diversity index.
- ❖ A reduction in sediment from farmsteads as farmers begin or continue to incorporate no-till seeding practices, stream bank fencing, conservation plans, nutrient management plans and land retirement.
- ❖ There will also be a reduction in sediment through the Dirt and Gravel Road program incorporated by municipalities and Bureau of Forestry.
- ❖ The pre-construction and post construction testing of the water quality with in the farmstead will further reinforce the immediate qualitative measures of success.

## **2. Long-term or indirect benefits:**

- ❖ Increased willingness of other farmers in the target watersheds and adjacent watersheds to use a comprehensive planning approach to reduce water quality problems.
- ❖ Also a reduction in NPS pollution from agriculture activities due to better management and planning by farmers and landowners.
- ❖ A reduction in NPS pollution from Dirt and Gravel Roads through the cooperative efforts of municipalities and Bureau of Forestry.
- ❖ The public will continually become aware of the importance of conserving our natural resources.
- ❖ Improved natural diversity within the watershed.

This plan was unanimously approved by the Potter County Conservation District Board of Directors at their monthly board meeting on February 1, 2005. This plan has also received support (see Support Letters, Appendix IV) from the USDA Farm Service Agency, the Susquehannock State Forest District, the Kettle Creek Watershed Association, and the Cowanesque Watershed Association.

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## APPENDIX I STATISTICS

### Pennsylvania Agricultural Statistics 2003-2004

<b>Pennsylvania County Data - Farm Numbers</b>							
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Land In Farms</u>	<u>Acres Per Farm</u>	<u>Number Of Farms</u>
Farm Numbers	1998	Pennsylvania	Potter	20	86,500 acre	228 acre	380 Number
Farm Numbers	2002	Pennsylvania	Potter	20	94,000 acre	272 acre	345 Number
Farm Numbers	2003	Pennsylvania	Potter	20	94,000 acre	272 acre	345 Number

<b>Pennsylvania County Data – Cattle Farms</b>					
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Number Of Farms</u>
Cattle Farms	1998	Pennsylvania	Potter	20	210 Number
Cattle Farms	2002	Pennsylvania	Potter	20	190 Number
Cattle Farms	2003	Pennsylvania	Potter	20	190 Number

<b>Pennsylvania County Data – Dairy Farms</b>					
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Number Of Farms</u>
Dairy Farms	1998	Pennsylvania	Potter	20	70 Number
Dairy Farms	2002	Pennsylvania	Potter	20	55 Number
Dairy Farms	2003	Pennsylvania	Potter	20	50 Number

<b>Pennsylvania County Data – Hog Farms</b>					
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Number Of Farms</u>
Hog Farms	1998	Pennsylvania	Potter	20	15 Number
Hog Farms	2002	Pennsylvania	Potter	20	20 Number
Hog Farms	2003	Pennsylvania	Potter	20	20 Number

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<b>Pennsylvania County Data – Sheep Farms</b>					
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Number Of Farms</u>
Sheep Farms	1998	Pennsylvania	Potter	20	10 Number
Sheep Farms	2002	Pennsylvania	Potter	20	10 Number
Sheep Farms	2003	Pennsylvania	Potter	20	15 Number

<b>Pennsylvania County Data – Poultry Farms</b>					
<u>Commodity</u> ↑	<u>Year</u>	<u>State</u>	<u>County</u>	<u>District</u>	<u>Number Of Farms</u>
Poultry Farms	1997	Pennsylvania	Potter	20	30 Number
Poultry Farms	2002	Pennsylvania	Potter	20	47 Number


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Potter County, Pennsylvania 🗺️

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 Further information

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## People QuickFacts

	<b>Potter County</b>	<b>Pennsylvania</b>
 Population, 2004 estimate	17,950	12,406,292
 Population, percent change, April 1, 2000 to July 1, 2004	-0.7%	1.0%
 Population, 2000	18,080	12,281,054
 Population, percent change, 1990 to 2000	8.2%	3.4%
 Persons under 5 years old, percent, 2000	6.2%	5.9%
 Persons under 18 years old, percent, 2000	26.0%	23.8%
 Persons 65 years old and over, percent, 2000	16.7%	15.6%
 Female persons, percent, 2000	50.7%	51.7%
 White persons, percent, 2000 (a)	98.1%	85.4%
 Black or African American persons, percent, 2000 (a)	0.3%	10.0%
 American Indian and Alaska Native persons, percent, 2000 (a)	0.2%	0.1%
 Asian persons, percent, 2000 (a)	0.5%	1.8%
 Native Hawaiian and Other Pacific Islander, percent, 2000 (a)	Z	Z
 Persons reporting some other race, percent, 2000 (a)	0.2%	1.5%
 Persons reporting two or more races, percent, 2000	0.7%	1.2%
 White persons, not of Hispanic/Latino origin, percent, 2000	97.7%	84.1%
 Persons of Hispanic or Latino origin, percent, 2000 (b)	0.6%	3.2%
 Living in same house in 1995 and 2000', pct age 5+, 2000	64.9%	63.5%
 Foreign born persons, percent, 2000	1.1%	4.1%
 Language other than English spoken at home, pct age 5+, 2000	3.6%	8.4%
 High school graduates, percent of persons age 25+, 2000	80.6%	81.9%
 Bachelor's degree or higher, pct of persons age 25+, 2000	12.3%	22.4%
 Persons with a disability, age 5+, 2000	3,839	2,111,771
 Mean travel time to work (minutes), workers age 16+, 2000	23.2	25.2
 Housing units, 2002	12,362	5,328,251
 Homeownership rate, 2000	77.3%	71.3%
 Housing units in multi-unit structures, percent, 2000	6.3%	21.2%
 Median value of owner-occupied housing units, 2000	\$68,700	\$97,000

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<b>i</b> Households, 2000	7,005	4,777,003
<b>i</b> Persons per household, 2000	2.54	2.48
<b>i</b> Median household income, 1999	\$32,253	\$40,106
<b>i</b> Per capita money income, 1999	\$16,070	\$20,880
<b>i</b> Persons below poverty, percent, 1999	12.7%	11.0%

## **Business QuickFacts**

	<b>Potter County</b>	<b>Pennsylvania</b>
<b>i</b> Private nonfarm establishments with paid employees, 2001	438	295,096
<b>i</b> Private nonfarm employment, 2001	5,438	5,123,111
<b>i</b> Private nonfarm employment, percent change 2000-2001	-10.8%	0.7%
<b>i</b> Nonemployer establishments, 2000	1,272	632,469
<b>i</b> Manufacturers shipments, 1997 (\$1000)	117,617	172,193,216
<b>i</b> Retail sales, 1997 (\$1000)	88,325	109,948,462
<b>i</b> Retail sales per capita, 1997	\$5,158	\$9,150
<b>i</b> Minority-owned firms, percent of total, 1997	F	5.9%
<b>i</b> Women-owned firms, percent of total, 1997	32.1%	24.2%
<b>i</b> Housing units authorized by building permits, 2002	108	45,114
<b>i</b> Federal funds and grants, 2002 (\$1000)	94,536	85,600,644

## **Geography QuickFacts**

	<b>Potter County</b>	<b>Pennsylvania</b>
<b>i</b> Land area, 2000 (square miles)	1,081	44,817
<b>i</b> Persons per square mile, 2000	16.7	274.0
<b>i</b> FIPS Code	105	42
<b>i</b> Metropolitan or Micropolitan Statistical Area	None	

<http://quickfacts.census.gov/qfd/states/42/42105.html>

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## APPENDIX II WATERSHEDS



### The Cowanesque River Watershed

#### AREA MAP



#### WATERSHED STATS

<b>Population<sup>1</sup></b>	<b>10%</b>
1970	9,412
1980	9,751
1990	9,713
<b>2000</b>	<b>1,006</b>
2010	10,065
2020	10,373
<b>Political Boundaries<sup>2</sup></b>	
New York	0%
Pennsylvania	0%
<b>Major Water Bodies<sup>3</sup></b>	
Cowanesque River	
Jemison Creek	
White Branch North Fork	
Cowanesque River	
Cummings Creek	
Holden Creek	
Camp Brook	

#### WATERSHED MAP



Map 1: The Cowanesque River watershed

#### Sources:

- <sup>1</sup> U.S. Bureau of the Census and state-based population projections
- <sup>2</sup> U.S. Geological Survey
- <sup>3</sup> EPA River Reach Files
- <sup>4</sup> National Land Cover Dataset, 1993
- <sup>5</sup> National Land Cover Dataset, 1993
- <sup>6</sup> Mid-Atlantic Regional Earth Science Application Center, University of Maryland, 2000

#### LAND COVER STATS

##### 1993 Land Cover (sq.mi.)<sup>4</sup>

		<b>% Within Potter County</b>
<b>Total Area</b>	232	<b>10%</b>
Open Water	2	<b>23.2</b>
Developed	1	
Low Int. Developed	1	
High Int. Developed	0	
High Int. Comm./Indust	0	
<b>Cultivated</b>	84	<b>8.4</b>
Hay/Pasture	24	
Row Crops	59	
Other Grass	0	
Natural Vegetation	146	
<b>Forest</b>	146	<b>14.6</b>
Everg. Forest	7	
Deciduous	115	
Mixed Forest	23	
Wetland	0	
Woody Wetland	0	
Emergent/Herbaceous	0	
Barren	0	
Quarries, strip mines	0	
Bare rock	0	
Transitional	0	
<b>1993 Land Cover (%)<sup>5</sup></b>		
Open Water	0.8%	
Developed	0.3%	
Cultivated	35.9%	
Natural Vegetation	62.8%	
Forest	62.7%	
Wetland	0.0%	
Barren	0.1%	
<b>2000 Impervious Surface (%)<sup>6</sup></b>		
Impervious	0.22%	

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# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005

## Category 5: Impaired Streams Requiring TMDLs

Updated November 10, 2005

Assessment ID	Source/Cause	List Date	Tmdl Date	Down RMI	Up RMI	Total Miles	Use Assessed
<u>Stream Name=North Branch Cowanesque River Watershed=04A Code:31148</u>							
20010630-0930-JCO	Agriculture/Nutrients	2002	2015	1.56	5.56	4	Aquatic Life
	Agriculture/Siltation	2002	2015				
<u>Stream Name=North Branch Cowanesque River (Unt 31150) Watershed=04A Code:31150</u>							
20010630-0930-JCO	Agriculture/Siltation	2002	2015	0	.95	1	Aquatic Life
	Agriculture/Nutrients	2002	2015				
<u>Stream Name=North Branch Cowanesque River (Unt 31151) Watershed=04A Code:31151</u>							
20010630-0930-JCO	Agriculture/Siltation	2002	2015	0	0.84	0.8	Aquatic Life
	Agriculture/Nutrients	2002	2015				
<u>Stream Name=North Branch Cowanesque River (Unt 31153) Watershed=04A Code:31153</u>							
20010630-0930-JCO	Agriculture/Siltation	2002	2015	0	1.3	1.3	Aquatic Life
	Agriculture/Nutrients	2002	2015				
<u>Stream Name=North Branch Cowanesque River (Unt 31154) Watershed=04A Code:31154</u>							
20010630-0930-JCO	Agriculture/Nutrients	2002	2015	0	1.77	1.8	Aquatic Life
	Agriculture/Siltation	2002	2015				
<u>Stream Name=North Branch Cowanesque River (Unt 31155) Watershed=04A Code:31155</u>							
20010630-0930-JCO	Agriculture/Nutrients	2002	2015	0	1.01	1	Aquatic Life
	Agriculture/Siltation	2002	2015				
<u>Stream Name=North Branch Cowanesque River Watershed=04A Code:31111</u>							
990602-1305-REH	Upstream Impoundment/Organic Enrichment/Low D.O.	2002	2015	6.62	8.83	2.2	Aquatic Life

# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

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## The West Branch Pine Creek - At Galeton Watershed

100 % in Potter County

### AREA MAP



### WATERSHED MAP



Map 1: The West Branch Pine Creek - At Galeton watershed

### LAND COVER STATS

1993 Land Cover (sq.mi.) <sup>4</sup>	
Total Area	72
Open Water	0
Developed	0
Low Int. Developed	0
High Int. Developed	0
High Int. Comm./Indust	0
Cultivated	2
Hay/Pasture	0
Row Crops	2
Other Grass	0
Natural Vegetation	69
Forest	69
Everg. Forest	2
Deciduous	64
Mixed Forest	4
Wetland	0
Woody Wetland	0
Emergent/Herbaceous	0
Barren	0
Quarries, strip mines	0
Bare rock	0
Transitional	0
1993 Land Cover (%) <sup>5</sup>	
Open Water	0.1%
Developed	0.1%
Cultivated	2.7%
Natural Vegetation	96.8%
Forest	96.8%
Wetland	0.0%
Barren	0.2%
2000 Impervious Surface (%) <sup>6</sup>	
Impervious	0.06%

### WATERSHED STATS

Population <sup>1</sup>	
1970	669
1980	723
1990	682
2000	689
2010	666
2020	648
Political Boundaries <sup>2</sup>	
Potter (PA)	7%
Major Water Bodies <sup>3</sup>	
West Branch Pine Creek	
Lyman Run	
Wetmore Run	
Sunken Branch	
Crippen Run	
Beech Flats Run	

Sources:  
<sup>1</sup> U.S. Bureau of the Census and state-based population projections  
<sup>2</sup> U.S. Geological Survey  
<sup>3</sup> EPA River Reach Files  
<sup>4</sup> National Land Cover Dataset, 1993  
<sup>5</sup> National Land Cover Dataset, 1993  
<sup>6</sup> Mid-Atlantic Regional Earth Science Application Center, University of Maryland, 2000

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# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005



## The Pine Creek - At Marsh Creek Watershed

### AREA MAP



### WATERSHED MAP



Map 1: The Pine Creek - At Marsh Creek watershed

### LAND COVER STATS

#### 1993 Land Cover (sq.mi.)<sup>4</sup>

Category	Value	% Within Potter County 80%
<b>Total Area</b>	209	<b>167</b>
Open Water	0	
Developed	0	
Low Int. Developed	0	
High Int. Developed	0	
High Int. Comm./Indust	0	
<b>Cultivated</b>	16	<b>13</b>
Hay/Pasture	5	
Row Crops	11	
Other Grass	0	
Natural Vegetation	192	
<b>Forest</b>	191	<b>154</b>
Everg. Forest	7	
Deciduous	171	
Mixed Forest	14	
Wetland	0	
Woody Wetland	0	
Emergent/Herbaceous	0	
Barren	1	
Quarries, strip mines	0	
Bare rock	0	
Transitional	1	
<b>1993 Land Cover (%)<sup>5</sup></b>		
Open Water	0.1%	
Developed	0.1%	
Cultivated	7.6%	
Natural Vegetation	91.7%	
Forest	91.7%	
Wetland	0.0%	
Barren	0.4%	
<b>2000 Impervious Surface (%)<sup>6</sup></b>		
Impervious	0.06%	

### WATERSHED STATS

Category	Value	%
<b>Population<sup>1</sup></b>		<b>80%</b>
1970	2,616	
1980	2,787	
1990	2,681	
<b>2000</b>	<b>2,734</b>	<b>2,187</b>
2010	2,712	
2020	2,661	
<b>Political Boundaries<sup>2</sup></b>		
Potter (PA)	12%	
Tioga (PA)	7%	
<b>Major Water Bodies<sup>3</sup></b>		
Pine Creek		
West Branch Pine Creek		
Long Run		
Elk Run		
Phoenix Run		
South Branch Pine Creek		

#### Sources:

- <sup>1</sup> U.S. Bureau of the Census and state-based population projections
- <sup>2</sup> U.S. Geological Survey
- <sup>3</sup> EPA River Reach Files
- <sup>4</sup> National Land Cover Dataset, 1993
- <sup>5</sup> National Land Cover Dataset, 1993
- <sup>6</sup> Mid-Atlantic Regional Earth Science Application Center, University of Maryland, 2000

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# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005



## The First Fork Sinnemahoning Ck At Jericho Watershed

### AREA MAP



### WATERSHED MAP



Map 1: The First Fork Sinnemahoning Ck At Jericho watershed

### LAND COVER STATS

Population <sup>1</sup>	80%
1970	1,417
1980	1,514
1990	1,421
2000	1,140
2010	1,379
2020	1,346
Political Boundaries <sup>2</sup>	
Cameron (PA)	14%
Clinton (PA)	0%
Potter (PA)	19%
Major Water Bodies <sup>3</sup>	
First Fork Sinnemahoning Creek	
East Fork Sinnemahoning Creek	
Freeman Run	
South Woods Branch	
Big Moores Run	
Bailey Run	

#### Sources:

- <sup>1</sup> U.S. Bureau of the Census and state-based population projections
- <sup>2</sup> U.S. Geological Survey
- <sup>3</sup> EPA River Reach Files
- <sup>4</sup> National Land Cover Dataset, 1993
- <sup>5</sup> National Land Cover Dataset, 1993
- <sup>6</sup> Mid-Atlantic Regional Earth Science Application Center, University of Maryland, 2000

### LAND COVER STATS

1993 Land Cover (sq.mi.) <sup>4</sup>		% Within Potter County 80%
<b>Total Area</b>	268	<b>214</b>
Open Water	0	
Developed	0	
Low Int. Developed	0	
High Int. Developed	0	
High Int. Comm./Indust	0	
<b>Cultivated</b>	9	<b>7</b>
Hay/Pasture	2	
Row Crops	7	
Other Grass	0	
Natural Vegetation	257	
<b>Forest</b>	257	<b>206</b>
Everg. Forest	8	
Deciduous	232	
Mixed Forest	17	
Wetland	0	
Woody Wetland	0	
Emergent/Herbaceous	0	
Barren	1	
Quarries, strip mines	0	
Bare rock	0	
Transitional	1	
1993 Land Cover (%) <sup>5</sup>		
Open Water	0.2%	
Developed	0.1%	
Cultivated	3.4%	
Natural Vegetation	96.1%	
Forest	96.0%	
Wetland	0.0%	
Barren	0.2%	
2000 Impervious Surface (%) <sup>6</sup>		
Impervious	0.02%	

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# CHEESAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005



## The Kettle Creek - At Westport Watershed

### AREA MAP



### WATERSHED STATS

<b>Population<sup>1</sup></b>	<b>80%</b>	
1970		465
1980		491
1990		470
<b>2000</b>	<b>382</b>	478
2010		477
2020		478
<b>Political Boundaries<sup>2</sup></b>		
Cameron (PA)		0%
Clinton (PA)		8%
Potter (PA)		15%
Tioga (PA)		1%
<b>Major Water Bodies<sup>3</sup></b>		
Kettle Creek		
Cross Fork		
Little Kettle Creek		
Hammersley Fork		
Long Run		
Germania Branch		

### WATERSHED MAP



Map 1: The Kettle Creek - At Westport watershed

#### Sources:

- <sup>1</sup> U.S. Bureau of the Census and state-based population projections
- <sup>2</sup> U.S. Geological Survey
- <sup>3</sup> EPA River Reach Files
- <sup>4</sup> National Land Cover Dataset, 1993
- <sup>5</sup> National Land Cover Dataset, 1993
- <sup>6</sup> Mid-Atlantic Regional Earth Science Application Center, University of Maryland, 2000

### LAND COVER STATS

#### 1993 Land Cover (sq.mi.)<sup>4</sup>

		<b>% Within Potter County 80%</b>
<b>Total Area</b>	247	<b>198</b>
Open Water	0	
Developed	0	
Low Int. Developed	0	
High Int. Developed	0	
High Int. Comm./Indust	0	
<b>Cultivated</b>	8	<b>6</b>
Hay/Pasture	2	
Row Crops	6	
Other Grass	0	
Natural Vegetation	236	
<b>Forest</b>	236	<b>189</b>
Everg. Forest	15	
Deciduous	202	
Mixed Forest	20	
Wetland	0	
Woody Wetland	0	
Emergent/Herbaceous	0	
Barren	1	
Quarries, strip mines	1	
Bare rock	0	
Transitional	1	

#### 1993 Land Cover (%)<sup>5</sup>

Open Water	0.2%
Developed	0.1%
Cultivated	3.2%
Natural Vegetation	95.9%
Forest	95.8%
Wetland	0.1%
Barren	0.6%

#### 2000 Impervious Surface (%)<sup>6</sup>

Impervious	0.01%
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# CHEASAPEAKE BAY COUNTY IMPLEMENTATION PLAN

Potter County Conservation District

February 2005

## APPENDIX III

### MAPS

