

Cleaning Up The Chesapeake Bay

The Challenge for Lancaster County



June, 2011

H
HOURGLASS

PREFACE

The following background was written by John Jarvis in August, 2003.

The late John Jarvis was the driving force behind the founding of the Hourglass Foundation. He was passionate about water as a precious resource. He worked tirelessly to inform the community on the history of the Susquehanna River and the importance of protecting it for future generations.

THE SUSQUEHANNA RIVER

Early explorers, writers and artists have marveled at its beauty. There was ruggedness, and yet serenity that impressed those who penetrated its borders.....

- ❖ At the mouth of the Conestoga River on the rocks of the Susquehanna are “the picture rocks” which are now listed on the National Register of Historic places. They were carved many years before the first Europeans by unknown Indians to celebrate the sacredness of their homeland.
- ❖ William Penn wrote “the river was broader than the Thames at London Bridge... Deer and elk cross the river in great herds.”
- ❖ Thomas Mifflin, Lancaster artist, depicted its mystery.
- ❖ The creator of Treasure Island and The Childs Garden of Verses said, “The beauty of the name Susquehanna was part and parcel of the beauty of the land.”



Lancastrians have perhaps not always fully appreciated the Susquehanna. It was, after all, a boundary of the County just as it had been a frontier land when the first settlers moved inland. It was a boundary in the Civil War when forces from the South reached the river a few days before the battle of Gettysburg and were stopped by the burning of the bridge at Wrightsville.

Yes, the Susquehanna has been a border and those who live near it have often assumed that where it came from, or went to, were of little or no concern of theirs. The Susquehanna River is the nation's sixteenth largest river and is the largest river lying entirely in the United States that flows into the Atlantic Ocean. The Susquehanna and its hundreds of tributaries drain 27,510 square miles, an area nearly the size of South Carolina, spread over parts of the states of New York, Pennsylvania, and Maryland and delivers 25 billion gallons to the Chesapeake Bay on an average day and on a day of high flood, 650 billion gallons. The river meanders 444 miles from its origin at Otsego Lake near Cooperstown, N.Y., until it empties into the Chesapeake Bay at Havre de Grace, Md. The Susquehanna contributes one-half of the freshwater flow to the Bay.

It is now time for Lancastrians and all in the Susquehanna watershed to care for this natural phenomenon that has shaped and is shaping our lives, whether we know it or not.

The men and women who crossed the river to reach new lands and new opportunities were not aware of the effect of their imprint on the river basin. The lands were so vast that it did not occur to them that what they did would affect the health of the river and future generations.

The magnificent forests along the West Branch were stripped and the rivers running into the Susquehanna ran foul with debris.



Later, the mining of rich coal seams of the North and West Branches killed the river and its creatures, for when air and water mix with coal, sulfuric acid is formed – no creature can survive that caustic mixture.

The cities and towns along the river and in its watersheds viewed the water as useful drainage ditches for their sewage. Homes and businesses were built on the river banks. The Susquehanna periodically shows its might and destroys these encroachments. The tropical storm, Agnes, in 1972, swept away the levees, dams and homes – 25,000 homes and apartments were destroyed in the Wyoming Valley and the overall property costs were \$4,000,000,000.



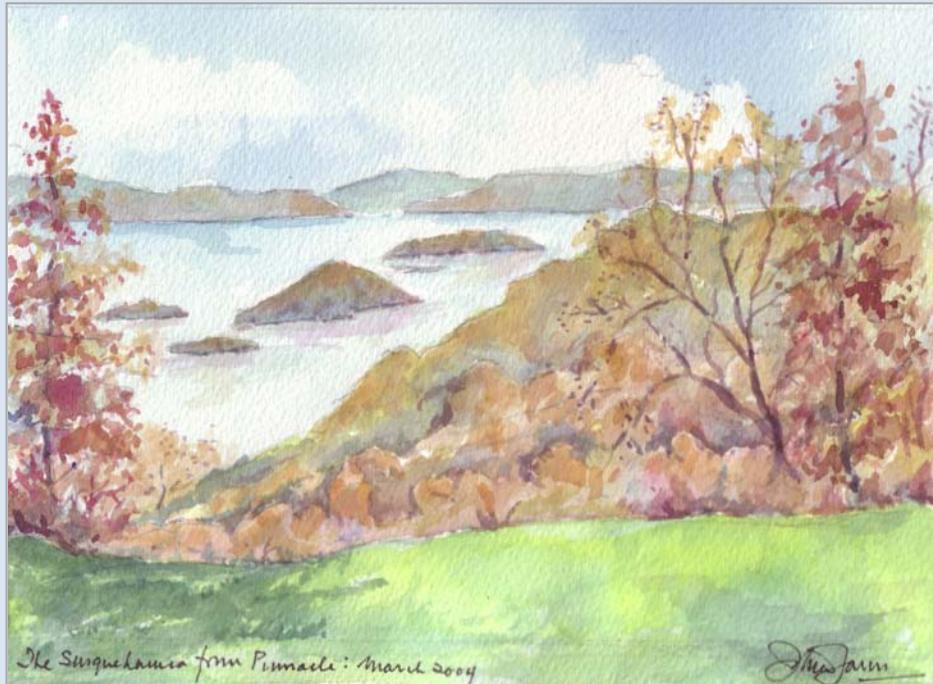
The Susquehanna River is a force to be reckoned with. It is telling us that we cannot allow private gain to be acceptable and the common good be ignored.



As Susan Stranahan, in her book, “*Susquehanna, River of Dreams*”, concludes... “Every day along the river, the ranks of those with great hopes for the Susquehanna are growing. And the dream for this majestic river is no longer selfishness.”

The Susquehanna is at a turning point ... we can either care for its well being or we can help destroy the fragile ecosystem in which we live. **It's not enough to consider the river alone, but its entire watershed. It has become obvious that the Chesapeake Bay and the Susquehanna are a unified part of our heritage.**

**As THE LARGEST RIVER ON THE EAST COAST of the United States,
the Susquehanna River
is the indispensable tributary of the Chesapeake Bay,
the nation's largest estuary.**



Gathering strength from thousands of streams along its 444-mile journey,
the river delivers half of the freshwater the bay requires to maintain
its ecological balance.

Down the Susquehanna to the Chesapeake
Illustration by John Jarvis

CLEANING UP THE CHESAPEAKE BAY

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THE CHALLENGE FOR LANCASTER COUNTY

The clean-up of the Chesapeake Bay is no longer a voluntary goal. The Federal government has mandated standards that place strict limits on discharges into the Susquehanna River from all sources. Pennsylvania, like other states, has been required by the Environmental Protection Agency to submit and adhere to a watershed improvement plan that will meet total maximum daily load requirements for controlling river pollutants.

Lancaster County will be required to meet the tough new standards. It will be a difficult and costly task since river pollution is affected by farm runoff, municipal/industrial wastewater, stormwater runoff, and other sources.

The purpose of this document is to provide insight and information into the challenge for Lancaster County in cleaning up the Chesapeake Bay.

INTRODUCTION

The Chesapeake Bay is the valley of the Susquehanna River that became flooded with the rise in sea level that followed the retreat of the Pleistocene glaciers. The Bay has over 11,000 miles of shoreline. Fresh water enters the Bay from 110,000 miles of creeks, streams and rivers. The largest of these rivers, and the Bay's principal source of water, is the Susquehanna River.

The Chesapeake Bay is a national treasure. The Chesapeake Bay is America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish and shellfish. The Bay serves as the center of the ecologically vital North American Flyway for migratory birds, and it is the spawning area for 90 percent of all the striped bass in the Atlantic.¹

The United States Congress calls the Chesapeake Bay "a national treasure and a resource of worldwide significance."

Efforts to restore the water quality of the Bay go back many years. The passage of the Clean Water Act by Congress has made improvement of water quality a National objective. The initial Chesapeake Bay Agreement in 1987 set goals for the surrounding states and the District of Columbia to voluntarily reduce the flow of pollutants into the Bay. The initial and subsequent voluntary agreements failed to fully reach the established goals. Although significant reductions in pollution loads were achieved, the amounts of nitrogen, phosphorus, and sediment reaching the Bay continue to impair the quality of the Bay's water and the myriad forms of life that are dependent upon the ecology of the Bay. The previous rate of cleanup has been determined to be too slow to save the Bay from further degradation.

There is no single source of pollution that has caused all the current problems in the Chesapeake Bay. Agricultural runoff, stormwater runoff, sewage treatment plant discharges, the practices of every homeowner and business in the watershed, and even naturally occurring processes have all contributed significant amounts of pollution. Those who study the Bay also know that no single entity can reasonably be expected to shoulder the full burden of cleaning up the Bay. It will take a concerted effort by everyone.

Because all the waterways in Lancaster County ultimately flow in the Chesapeake Bay, pollution reduction in Lancaster County is vitally important. Also because Lancaster County is located at the lower end of the Susquehanna River Basin pollution has less distance to travel than from upper reaches of the watershed. As a consequence impacts are more immediate. This means that Lancaster's farmers must protect their streams and control their runoff. Municipalities and developers must do more to improve both the quantity and the quality of stormwater runoff. Sewage treatment plants must Reduce and improve the quality of discharges. Businesses and homeowners must limit what runs off their properties and be careful what they put down their drains.



Figure 1.1 – The Chesapeake Bay and its Watershed

¹ Saving A National Treasure

Although the initial Chesapeake Bay Agreement set voluntary goals for Pennsylvania, and by extension Lancaster County, to reduce pollution, the continued impairment of the Chesapeake Bay waters can no longer be countenanced. As a result of lawsuits and a US District Court settlement order, the federal government has now substituted mandatory targets for the former voluntary goals. These mandatory standards are incorporated in Total Maximum Daily Loads (TMDLs) that place limits on discharges from all sources into streams along with more stringent tracking and reporting requirements.

A TMDL is defined as the “maximum allowable load of a pollutant that a water body can receive while still meeting its water quality standard.” The Chesapeake Bay TMDL initially addresses three pollutants – nitrogen, phosphorus, and sediment.

Because the Chesapeake Bay and its watershed² are so large and complex, regulatory agencies such as the Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (DEP) have relied on computer models for critical information about the ecosystem’s characteristics and the impact of various environmental actions to reduce pollution. These model simulations are based on state-of-the-art, extensively peer-reviewed science.

The Chesapeake Bay Program relies upon models to forecast the effects of changing nitrogen, phosphorus and sediment management in the Chesapeake Bay. The models also form the basis of the current total maximum daily load (TMDL) allocations.⁷

To simulate the Chesapeake Bay watershed, the river flows, and associated transport and fate of nutrients and sediment that contribute to Chesapeake Bay water quality degradation, the Chesapeake Bay Community Phase 5.3 Watershed Model was developed. The Phase 5.3 Model, in conjunction with models of the Chesapeake air shed and estuary, provides estimates of management actions needed to protect water quality and restore living resources in the Chesapeake.

Detailed information on Phase 5.3 Watershed Model can be found at:

http://www.chesapeakebay.net/model_phade5.aspx?menuitem=26169

Information on progress in implementing the Chesapeake Bay TMDL can be found at the Chesapeake Bay TMDL Tracking and Accounting System (BayTAS):

<http://stat.chesapeakebay.net/>

² Appendix A – Chesapeake Bay Watershed

TIMELINE OF CLEAN WATER LAWS AND REGULATIONS

- 1948** Federal Water Pollution Control Act of 1948 (WPCA) authorized the Surgeon General of the Public Health Service, in cooperation with other Federal, state and local entities, to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries. *Note the emphasis on state and local plans and water quality improvement initiatives.*
- 1970** The United States Department of Environmental Protection Agency (EPA) was established to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. EPA's mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends.
- 1972** The Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500) stipulated broad national objectives to restore and maintain the chemical, physical, and biological integrity of the Nation's waters ([33 U.S.C. 1251](#)).
For the first time the law recognized a distinction between *point* and *non-point* sources of water pollution. It was not until the amendments of 1987 that the act authorized measures to address non-point source pollution (stormwater runoff from farm lands, forests, construction sites, and urban areas), then estimated to represent more than 50% of the nation's remaining water pollution problems.
The 1972 amendments established the National Pollutant Discharge Elimination System (NPDES) to authorize EPA issuance of discharge permits ([33 U.S.C. 1342](#)).
- 1977** "Clean Water Act" (CWA) became the Act's common name with WPCA amendments in 1977.
- 1987** CWA amendments authorized measures to address such pollution by directing states to develop and implement nonpoint pollution management programs (Section 319 of the act). States were encouraged to pursue groundwater protection activities as part of their overall non-point pollution control efforts. Federal financial assistance was authorized to support demonstration projects and actual control activities. These grants may cover up to 60% of program implementation costs.
While the act imposes great technological demands, it also recognizes the need for comprehensive research on water quality problems. This is provided throughout the statute, on topics including pollution in the Great Lakes and Chesapeake Bay, in-place toxic pollutants in harbors and navigable waterways, and water pollution resulting from mine drainage. The act also provides support to train personnel who operate and maintain wastewater treatment facilities.
Section 117 of the Act focused on the Chesapeake Bay, requiring scientific and estuarine research of the Chesapeake Bay.
- 1987** [Chesapeake Bay Agreement](#) is signed by Bay Program partners. The 1987 Agreement sets a goal to reduce nitrogen and phosphorus entering the Bay by 40 percent by the year 2000. It also directs the Bay Program to study atmospheric inputs to the Bay.

- 1992** The [Chesapeake Bay Agreement 1992 amendments](#) are issued, giving nutrient reductions a tributary focus. The amendments call for a permanent nutrient cap after 2000.
- 2000** The deadline established in the 1987 Bay Agreement is not met. Cleanup had succeeded in reducing phosphorus only by 25 percent and nitrogen only by 13 percent, according to EPA. In response, state and federal leaders made an even bolder promise: the "Chesapeake 2000 Agreement." They would cut pollution more than they had pledged in 1987 and have the Chesapeake removed from an EPA list of "impaired waters" by 2010.
- 2009** By the beginning of 2009 it was obvious that the goals of the Chesapeake 2000 Agreement would also not be met. In response, on May 12th, President Barack Obama issued Executive Order 13508³ for the Protection and Restoration of the Chesapeake Bay, which recognized that while the Chesapeake is one of our nation's greatest treasures, the efforts of the past 25 years were not showing sufficient progress in restoring the health of the Bay and its watershed⁴.

The Order required EPA to draft and release a *Strategy for Protecting and Restoring the Chesapeake Bay Watershed* and to release a *Fiscal Year 2011 Action Plan* not later than September 30, 2010.

- 2010** On May 11th, the EPA entered into a [settlement agreement](#) in *Fowler v. U.S. Environmental Protection Agency* that specified a timetable for EPA to implement programs to reduce nutrients and sediment pollution in the Chesapeake Bay. The following day, EPA issued the final [Strategy for Protecting and Restoring the Chesapeake Bay Watershed](#). As part of the settlement agreement EPA committed to adopting a new Total Maximum Daily Load (TMDL) for the Chesapeake Bay by the end of 2010.

Each State was required to develop and submit to EPA for approval a Watershed Implementation Plan (WIP) that meet the pollution reduction standards of the new TMDL.

On Nov. 29, 2010 the Pennsylvania Department of Environmental Protection submitted to the EPA Pennsylvania's draft Phase 1 Chesapeake Bay Watershed Implementation Plan (WIP). The draft WIP focused on increasing enforcement of current laws. The draft WIP, however, was not accepted by the EPA.

On Dec. 23, 2010 DEP provided a revised WIP to EPA. The major revision made between the Nov. 29, 2010 WIP and the Dec. 23, 2010 WIP was the inclusion of a schedule for implementation of "best management practices."

On December 29, 2010 the EPA adopted the final TMDL for the Chesapeake Bay.

- 2011** On Jan. 11, 2011, after making some additional revisions to the draft WIP, the Pennsylvania DEP provided the revised final WIP to EPA.

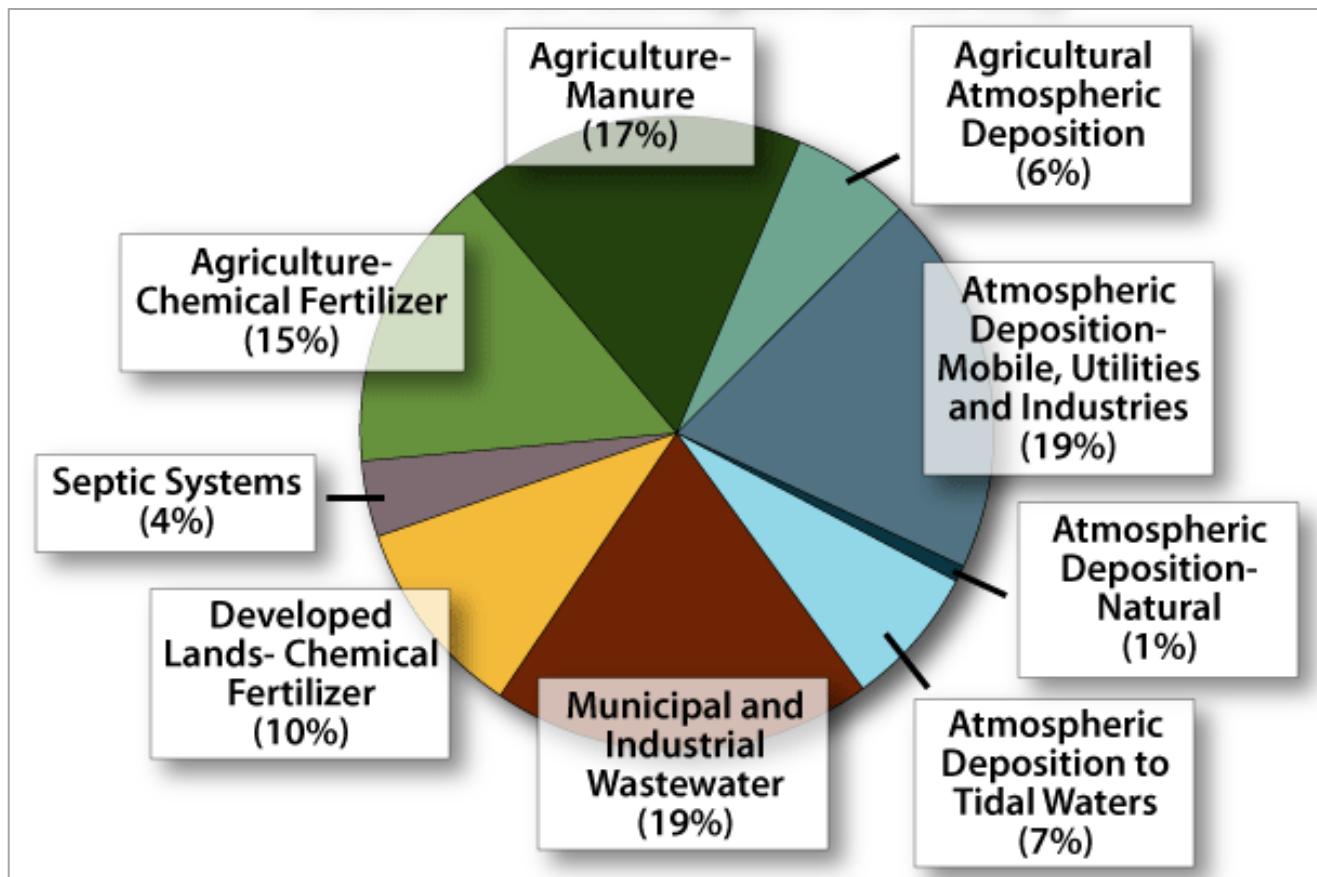
³ Appendix D – Executive Order

⁴ Appendix A – Watersheds of the Chesapeake Bay

COMPONENTS OF THE PROBLEM - NITROGEN, PHOSPHORUS, AND SEDIMENT IN THE CHESAPEAKE BAY WATERSHED

The three major forms of pollution of the Bay that are derived from the Susquehanna Watershed are nitrogen, phosphorus, and sediment. The sources of these pollutants are shown below:

SOURCES OF NITROGEN TO THE CHESAPEAKE BAY

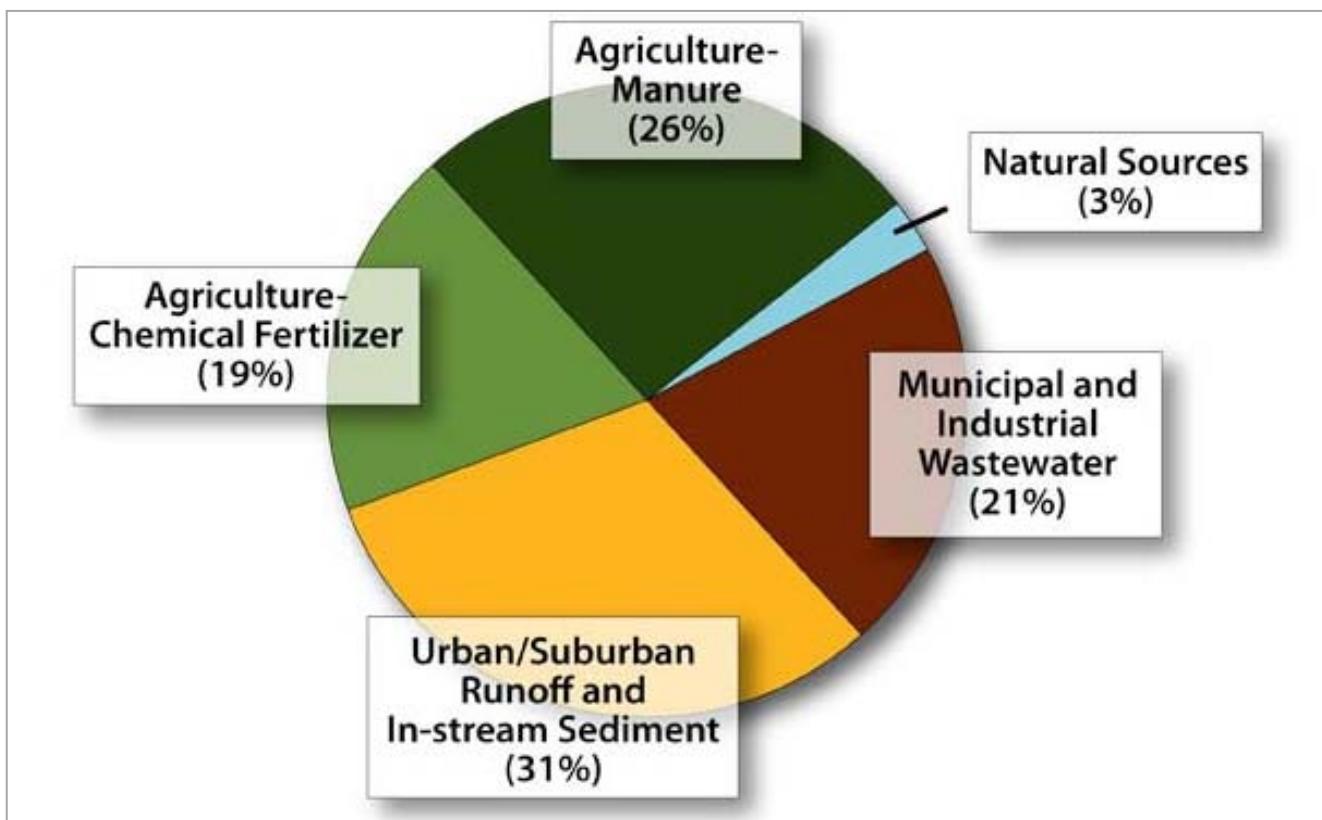


SOURCE: CBP (2010a).

Once introduced into the watershed, the fate of nitrogen is dependent upon its source. A large fraction of the nitrogen from municipal and industrial wastewater point sources and urban runoff, which can be categorized either as a non-point source or regulated source, is rapidly transported to the Bay. Of the nitrogen introduced into agricultural systems, most is used in the system and then lost to the atmosphere, discharged into an aquatic system or stored in the soil.⁵

⁵ Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay: An Evaluation of Program Strategies and Implementation

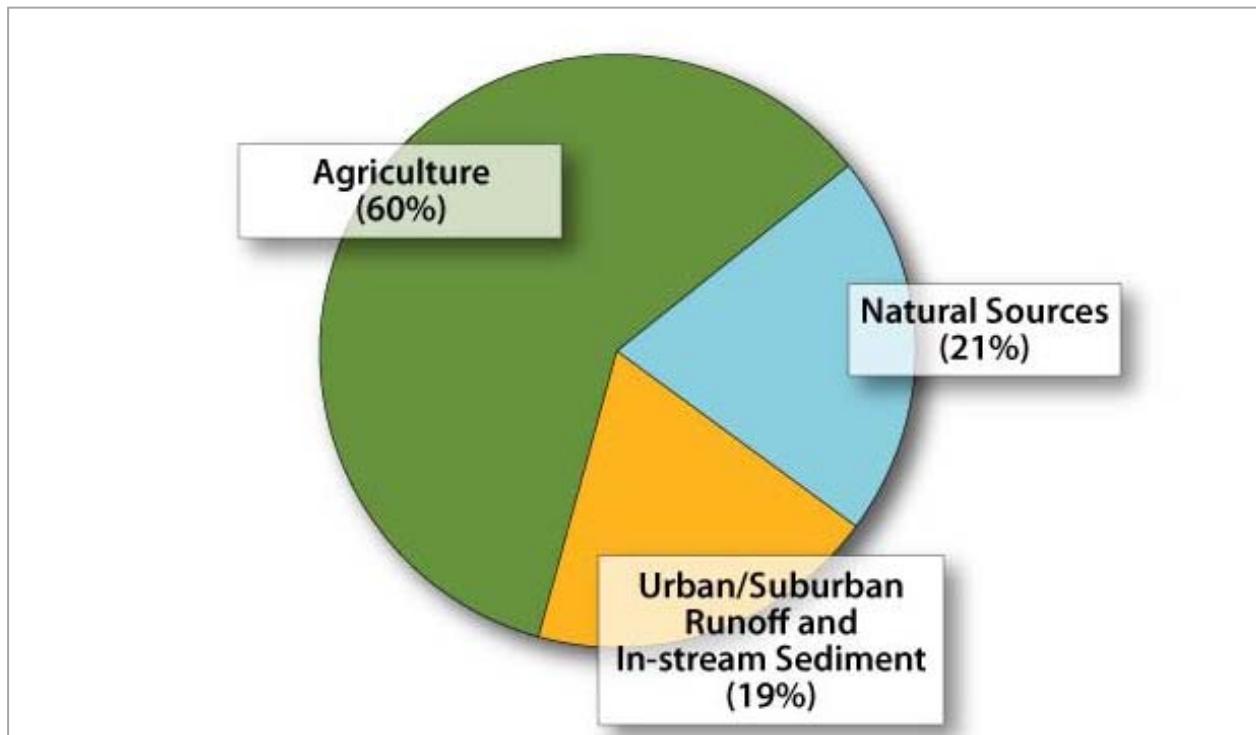
SOURCES OF PHOSPHORUS IN THE CHESAPEAKE BAY



SOURCE: CBP (2010a).

Phosphorus occurs naturally in the soils and sediments of the Chesapeake Bay and its watershed, released slowly from minerals weathering and from decomposition of vegetation, with limited injection from the atmosphere. However, with growth in the human population and per-capita resource use, phosphorus has been introduced into the Bay watershed through the import of phosphorus fertilizer and of phosphorus-containing commodities, especially food and feed. Phosphorus is either incorporated into agricultural products or lost to the environment during the food and feed production process.⁴

SOURCES OF SEDIMENTS IN THE CHESAPEAKE BAY



SOURCE: CBP (2010a).

Sediment delivery to coastal waters by rivers and streams is a natural process created by the weathering of rocks and soil, but agricultural and urban/suburban activities have accelerated erosion and are now major contributors to sediments loads to the Bay.⁴

IMPLEMENTATION OF THE TMDL

The basic means of implementing the Chesapeake Bay TMDL is the National Pollution Discharge Elimination System (NPDES). Mandated by Congress under the Clean Water Act, NPDES is a comprehensive national program for addressing the discharges which adversely affect the quality of our nation's waters.

The NPDES permitting mechanism will require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

Regulated entities must obtain coverage under an NPDES permit that effectively reduces or prevents the discharge of pollutants into receiving waters.

The permitting authority is an NPDES permit issued directly by the EPA Regional Office, or a Pennsylvania General Permit, depending on the type of entity and its locations.

Related General Permits include:

- PAG-2 NPDES GP for Stormwater Discharges Associated with Construction Activities
- PAG-03 Discharges of Stormwater Associated with Industrial Activities, 3800-PM-WSWM0083
- PAG-04 Small Flow Treatment Facilities, NOI for Coverage, 3800-PM-WSWM0093
- PAG-05 Discharges from Petroleum Product Contaminated Groundwater Remediation Systems, NOI for Coverage, 3800-PM-WSWM0171
- PAG-06 Wet Weather Overflow Discharge from Combined Sewer Sys, NOI for Coverage, 3800-PM-WSWM0076
- PAG-07 Beneficial Use of Exceptional Quality Biosolids, 3800-PM-WSWM0339
- PAG-08 Beneficial Use of Biosolids by Land Application, 3800-PM-WSWM0340
- PAG-09 Beneficial Use of Residential Septage by Land Application, 3800-PM-WSWM0341
- PAG-10 Discharges Resulting from Hydrostatic Testing of Tanks and Pipelines, 3800-PM-WSWM0173
- PAG-12 Concentrated Animal Feeding Operations, NOI for Coverage, 3620-PM-WQ0032
- WQG-01 Water Quality Management General Permit for Small Flow Treatment Facilities, 3800-PM-WSWM0020
- WQG-02 Water Quality Management General Permit for Sewer Extensions and Pump Stations, 3800-PM-WSFR0045a

Polluted stormwater runoff is a leading cause of impairment to the nearly 40 percent of surveyed U.S. water bodies which do not meet water quality standards. Over land or via storm sewer systems, polluted runoff is discharged, often untreated directly into local water bodies. When left uncontrolled this water pollution can result in the destruction of fish, wildlife, and aquatic life habitats; a loss of aesthetic value; and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

THE PENNSYLVANIA WATERSHED IMPLEMENTATION PLAN

EPA and the seven Bay Watershed Jurisdictions, including Pennsylvania, are subject to a court-approved settlement agreement and an Executive Order from the White House to reduce pollution in the Bay. EPA has adopted the Chesapeake Bay TMDL, which is the most stringent TMDL in the Nation. Essentially, the TMDL establishes a “diet” of how much pollution Pennsylvania can allow to flow down the Susquehanna River and other tributaries into the Bay. To meet this pollution “diet” Pennsylvania has been required to adopt a Watershed Implementation Plan.

The Pennsylvania Watershed Implementation Plan sets forth a detailed action plan for reducing contaminants, maintaining water quality, promoting ecological restoration and sustainability, while allowing for greater transparency and accountability for improved performance. The WIP includes specific information on the actions that farmers, businesses, local governments, and water and sewer authorities need to employ to control nitrogen, phosphorus and sediment to achieve the required allocations.

Pennsylvania's plan defines in great detail, how it will achieve the pollution reductions from all sources as outlined by its "pollution diet" – reductions from farms, wastewater treatment plants, industry, cities, new developments, and existing neighborhoods – with enforceable measures by 2025. Moreover, the milestones identified for achieving the WIP must be evaluated and reported to the EPA every two years.

What the WIP requires to be done in Lancaster County –

AGRICULTURE

The Pennsylvania Clean Streams Law requires that all farms in Lancaster County, regardless of size or ownership, must control the discharge of nutrients or sediments into streams. Sources of these discharges include all farm operations including those conducted on fields, in manure or silage storage areas, in barnyards, milk houses, and animal concentration areas. All farming operations that disturb more than 5,000 square feet of land are required to have an erosion and sedimentation control plan (E&S Plan) or a conservation plan. Farms that involve heavy animal use, such as concentrated animal feeding operations (CAFO) or other animal breeding or feeding operations require application of best management practices (BMPs) on any field within 100 feet of a stream, reduction of soil erosion to the greatest extent possible while still maintaining sustainable crop productivity, and implementation of a schedule for improvement. Such farms are also required to have a nutrient management plan that covers the collection, storage and disposal or application of manure on fields. Limited financial assistance is available to farmers through the federal Environmental Quality Incentive Program or Chesapeake Bay Watershed Initiative.



The EPA is stressing increased inspection of farms for compliance with E&S, conservation, and manure management plans. The EPA will be targeting farms within selected watersheds of the

County for inspection. These inspections will focus on compliance with requirements for riparian buffers and fencing, manure storage and application, cover crops, and phosphorus and nitrogen reduction efforts. Farmers that are not in compliance with relevant conservation and manure management plans may be severely fined.

Concentrated Animal Feeding Operations (CAFOs)

Farms with greater than 700 dairy cows (milking and dry) and concentrated animal operations with more than 300 cows are classified as Concentrated Animal Feeding Operations (CAFOs). There are 97 CAFOs in Lancaster County. CAFOs must obtain a NPDES permit or related Pennsylvania General Permit and have a current nutrient management plan that has been written by a certified plan writer and approved by the State Conservation Commission or local Conservation District. . Nutrient Management Plans are similar to manure

management plans, but are more in-depth and must be reviewed as mentioned. CAFOs are inspected yearly by the Conservation District to make sure conservation plans and nutrient management plans are being implemented. All CAFOs with greater than 1000 Animal Equivalent Units must also obtain a state Water Quality General Permit from DEP for new or expanded manure storage facilities.



CAFO – Hog Operation
gmojournal.com

Non-CAFO Agriculture

All farms with animals must develop a manure management plan. Farms with crops should have a conservation plan. All farms with animals that have significant (and some non significant) point source dischargers may have to obtain a NPDES permit or related Pennsylvania General Permit. Nutrient monitoring and reporting requirements will be incorporated into the NPDES permits.

Recording Best Management Practices (BMPs)

Up to this time, some farmers have been reluctant to report BMPs that have been installed. This is because of fears of misuse of the information by special interest anti-farm organizations, such as has happened in Maryland with the poultry industry. As a consequence most of the existing BMPs have not been reported, and, therefore, have not been taken into account in the previous runs of the Chesapeake Bay Community Phase 5.3 Watershed Model.

15.7 percent of the farmland within the county has been surveyed. Of this area 24,710 acres of small grain cover crop were identified in the survey. If extrapolated to the entire county, this would result in a total of about 157,389 acres (i.e., $24,710 / 0.157 = 157,389$) which was not accounted for in the EPA watershed model. According to recent NASS data, there are 208,900 acres of row crops and 17,400 acres of small grains in the county. In 2009, there were also 3,798 acres reported for “No Till” land.

Subtracting the acres of “small grain” and “no till” from the acres of “row crops” suggests that 187,702 acres of tilled land are available for further use of cover crops. In this case, it appears that cover crops are presently being used on about 84 percent of the available land (i.e., $157,389 / 187,702 = 0.84$).

- **BMPs that need to be inventoried:**

No-till cropping	Conservation tillage
Manure storage facilities	Barnyard runoff control
Stream Fencing	Rotational grazing
Prescribed grazing	Horse pasture management
Enhances nutrient management	Forested stream buffers
Grassed stream buffers	Animal mortality composting
Dairy precision feed	Wetland Restoration



No-till corn field
unwrrd.org

DEP is proposing expansion of state regulatory programs for erosion and sedimentation control on agricultural land with Required Output Measures (ROMs) by the Conservation District for the E&S program. DEP will be working with the State Conservation Commission and the county conservation districts to negotiate new ROMs for the E&S program and DEP plans to include agricultural compliance in these ROMs.

Assistance with developing conservation plans, manure management and nutrient management plans is provided by the Conservation District. Conservation plans are a requirement for all farms that are protected with conservation easements.

WASTEWATER TREATMENT PLANTS

There are presently 28 publicly owned wastewater treatment plants in Lancaster County with a total permitted treatment capacity of 84.5 Million Gallons per Day (mgd). It is projected that another 46,000 households will need to connect to sewer service within the next 20 years, with significant accompanying nitrogen and phosphorus loads. The County is currently evaluating existing capability (and expansion needs) to meet those projections considering the nutrient load caps established under the current TMDL, which by their nature reduce treatment plant capacity⁶

The point source discharge of total nitrogen (TN) and total phosphorus (TP) loads are capped by the TMDL. These regulatory caps will be enforced through individual or watershed-based federal National Pollution Discharge Elimination System (NPDES) permits. Most wastewater treatment plants will be required to meet specific permitted loads for each of the significant pollutants. Permitted discharges are based on achieving 6 milligrams per liter (mg/l) TN at design flow. Annual load limits for TP are based upon achieving a 0.8 mg/l discharge concentration at design flow, except for any facilities causing in-stream, near-field impacts from their TP discharges. These few dischargers will require a specific locally-driven refinement of the annual TP load limit and a concentration limit.⁵

Permitting for existing significant sewage discharges is being implemented by revoking and re-issuing permits using a phased approach, initially imposing TN and TP cap loads for significant sewage dischargers.

Smaller dischargers (design annual average daily flow on August 29, 2005 less than 0.2 mgd and

⁶ Mike Kyle – LASA - Pressures and mandates on wastewater treatment plants in Lancaster County

greater than 0.002 mgd) will be given the choice to monitor levels of TN and TP in their discharge for two years when their permit is up for renewal or in a subsequent permit renewal.

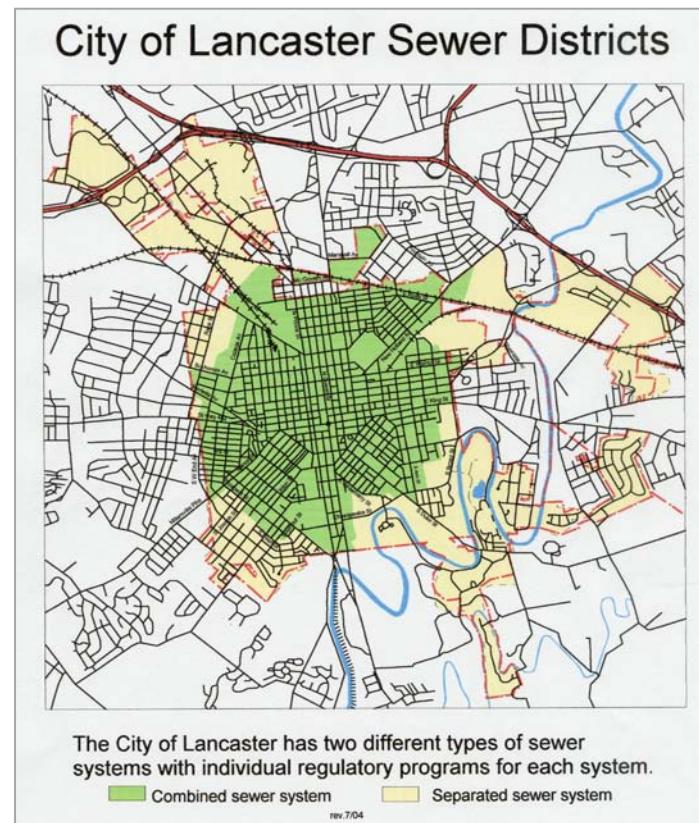
Sewage dischargers that have already accepted NPDES permit renewals based on achieving 8.0 mg/l TN and 1.0 mg/l TP at 2010 projected flows, voluntarily, will not be required to achieve lower cap loads based on the alternate approach. These facilities are listed below:

Permit No.	Permittee
PA0026743	Lancaster City
PA0027405	Ephrata Borough Authority
PA0087181	Ephrata Borough Authority
PA0081574	Salisbury Township
PA0084026	Northwestern Lancaster County Authority

Sewer Collection Systems

Within the municipal boundaries of the City of Lancaster, two different types of sewer systems exist: Combined Sewer System and Separated Sewer System. These systems are responsible for collecting and conveying sewage and/or stormwater away from Lancaster City residences and businesses.

A combined sewer system (CSS) is a wastewater collection system owned by a municipality which conveys sanitary wastewater (domestic, commercial, and industrial) stormwater and industrial wastewater through a single pipe system to a publicly-owned treatment works. This differs from sanitary sewer systems that carry only domestic and industrial wastewater. During dry-weather, combined sewer systems carry domestic sewage and industrial wastewater to the Wastewater Treatment Plant (WWTP). During wet-weather events, flows within the sewer system become significantly greater and can exceed the capacity of the combined sewer system or WWTP. Combined sewer systems are designed to overflow this excess wastewater directly to the receiving water body. This overflow of excess wastewater is called a Combined Sewer Overflow (CSO).



Approximately 772 cities in the United States utilize combined sewer systems. These systems are found mostly in older urban areas that experienced rapid population and industrial growth.

Combined sewer systems (CSS) were built to transport sewage, industrial wastewater, and stormwater directly to nearby receiving bodies creating sanitary living conditions. The system collects sewage and rainwater flowing from downspouts, streets, sidewalks, parking lots and over impervious surfaces into the city's storm drains.

The CSS overflows about 1 billion gallons annually into the Conestoga River which then delivers 75-100% of the urban sector's nitrogen and phosphorus to the Bay.

As time passed, pollution in waterways of the United States increased, so WWTPs were constructed to provide treatment prior to discharging to a waterway. During wet-weather events, excess wastewater that cannot be handled by the WWTP or combined sewer system is directly discharged to a waterway.

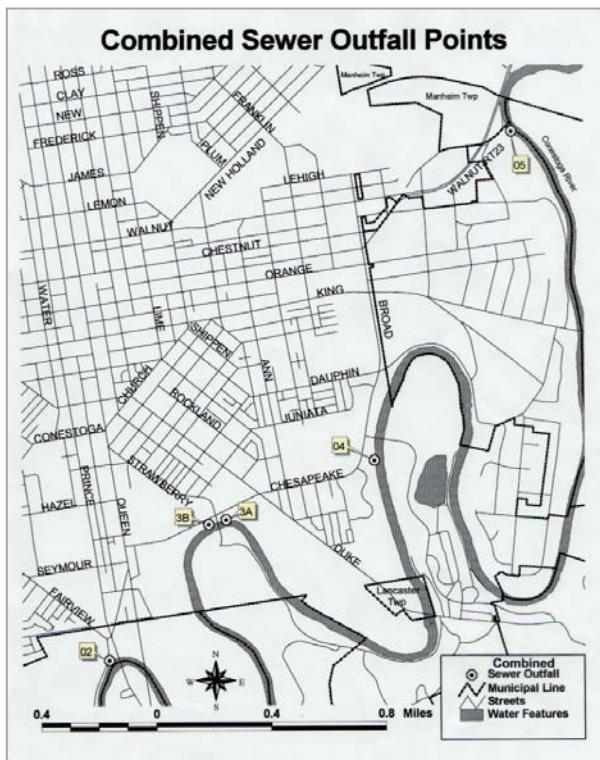
Construction of new combined sewer

systems is no longer permitted. New sewer systems must be separate collection systems.



May 16, 2011 Storm
West Orange St – Lancaster City

In urban areas like the City, buildings and pavement cover most of the land surface. Instead of rainfall and snowmelt soaking into the ground, most stormwater runoff is collected in the combined sewer system by entering stormwater inlets (catch basins, sewer grates, etc.) or direct connections to the combined sewer system. 85% of the time, the City's Advanced Wastewater Treatment Facility is able to manage and clean the volume of water flowing through the combines system. However, during rainstorms and other wet weather events, the system becomes overwhelmed and untreated stormwater flows into rivers.



Location of the City's CSO outfalls

The City of Lancaster operates five CSO outfalls. These CSOs are permitted and regulated by the Pennsylvania Department of Environmental Protection under the City's NPDES Discharge Permit. Hydraulic capacity limitations at the WWTP and pumping stations dictate the discharge of combined sewage to the Conestoga River during a wet-weather event.

This map displays the CSO outfalls listed in NPDES Permit No. PA 0026743:

Key:

- 02: Engleside
- 3A: Susquehanna
- 3B: Strawberry
- 04: Stevens Avenue
- 05: Clay Street

The separated sewer system in the City of Lancaster consists of independent sanitary sewer and storm sewer lines. Sanitary sewer lines deliver domestic and industrial sewage directly to the City's Wastewater Treatment Plant. During rain events, the storm sewer lines collect stormwater and deliver it to the Conestoga River and/or little Conestoga Creek.

Lancaster City's combined sewer system serves not only city residents but 10 other municipalities. The system is large and it's old. The City has developed a Green Infrastructure Plan providing a two-prong strategy for reducing the volume of stormwater entering the combined sewer system.

Green infrastructure generally includes stormwater management methods that:

- Infiltrate (porous payments, sidewalks, and gutters, linear infiltration systems)
- Evaporate, transpire and reduce energy consumption (vegetated roofs, trees, planter boxes)
- Infiltrate and transpire (rain gardens and bio-retention)
- Capture and reuse rainfall (rain barrels, cisterns, irrigation supply systems, and gray water systems)

Green infrastructure encompasses a variety of technologies that replicate and restore the natural hydrologic cycle and reduces the volume of stormwater entering the sewer system.

By implementing this plan, the needed investment in expensive, separate new gray infrastructure for water quality improvement can be significantly reduced and the City can realize additional environmental, social and economic benefits. However, the implementation of the plan will require leadership and cooperation by all parties to bring it to fruition.

Sewage Sludge

The disposal of sewage sludge and bio-solid materials is controversial as it relates to run-off in to the watershed. DEP has been urged to strengthen its regulations and enforcement of the land application of the sludge. Municipalities are not always aware of sewage sludge permits that have been issued for land within their borders and when the sludge is scheduled to be applied. Some townships have sought to regulate the land application of the sewage sludge in their communities, which raises issues of State preemption.

Non-coal Mining

Non-coal mining consists of quarrying for limestone, topsoil, sand and gravel, argillite, shale, slate and unclassified fill. Various mining permits are required for different types of mining operations. The type of mining permit needed is determined by the amount of production per year. There are three categories of production that are tracked (<2,000; <10,000; and unlimited). Most unlimited production permits have associated NPDES permits. NPDES permits associated with non-coal mining activities usually require application of Best Available Technology (BAT) to not exceed limits for sediment (total suspended solids [35mg/l]).

Urban Best Management Practices (BMPs)

- **Urban BMPs that need to be inventoried:**

- Dirt and Gravel Roads Protected
- Stream Bank Protection
- Street Cleaning
- Municipal Sewage Connections
- Wet ponds and wetlands
- Infiltration with sand and vegetation
- Filtering

- **Urban/Suburban Stormwater**

Pennsylvania's Erosion and Sedimentation (E&S) and Post Construction Stormwater Management (PCSM) regulations (Chapter 102) requires erosion and sediment control BMPs on all earth disturbance activities. Revisions adopted on November 19, 2010 now require long-term operation and maintenance of post construction storm water management (PCSM) BMPs and include anti-degradation standards.

The new rules also established significant set-back requirements for riparian buffer and riparian forest buffers in High Quality (HQ) and Exceptional Value (EV) watersheds. In an EV or HQ watershed a project must be set-back 150 feet of a perennial or intermittent river, stream, creek, lake, pond, or reservoir.



Photo Courtesy of Rent It Today

Stormwater discharges are also regulated under the National Pollution Discharge Elimination System. There are two phases to this program:

The NPDES Phase I program was established to manage stormwater pollution from certain industrial and construction sites and to urban areas with populations greater than 100,000 persons, which includes the Lancaster Metropolitan Area.

In 1999, EPA adopted the NPDES Phase II program to address stormwater discharges from sites that were not covered under Phase I. State and municipal stormwater requirements are based upon these regulations. Phase II also incorporates additional provisions to address the specific needs and conditions of individual watersheds.

Phase I NPDES permits are required for:

- Construction sites disturbing greater than five acres
- Companies that fall in one of the eleven categories of industrial sites
- Large and medium municipalities (MS4's) with populations of 100,000 or greater

For permitting purposes, disturbance includes, but is not limited to soil disturbance, clearing, grading and excavation.

Phase II of NPDES permits are required for:

- Construction sites disturbing one to five-acres

- Municipalities in urbanized areas not covered by Phase I

The Phase I National Pollutant Discharge Elimination System (NPDES) discharge program requires all operators of large construction activities which will disturb five or more acres of land to obtain permit coverage.

NPDES Phase II regulations add permit coverage for small construction activities that disturb one to less than five acres.

Effective December 7, 2002, DEP integrated the federal Phase II NPDES requirements into the existing Pennsylvania Phase I NPDES permit for stormwater discharges associated with construction activities (NPDES Construction Permit). An important distinction between Phase I and II is that the small construction activities only require permit coverage when the activity disturbs one to less than five acres and will result in a point source discharge to surface waters of the Commonwealth.



What this means is **all** construction projects that disturb 1 acre or more of land and result in a stormwater discharge must have either an individual stormwater permit, or coverage under one of Pennsylvania's general permits. Operators of sites disturbing less than one acre must also obtain a permit if their activity is part of a larger development with a planned disturbance of one acre or more.⁸

Stormwater designs are no longer based on a “no increase in the rate of discharge” but will now have to meet a “no net change” standard (which includes both rate and volume.) Post construction runoff volume will not be permitted to exceed pre construction runoff volume for a 2-year/24-hour storm based on the assumption that:

- (i) Existing predevelopment non-forested pervious areas shall be considered meadow in good condition, and
- (ii) When the existing project site contains impervious area, 20 percent of the existing impervious area to be disturbed must be considered meadow in good condition or better.

Reconstruction or restoration of roadways or rail lines, or construction, repair, reconstruction, or restoration of utility infrastructure is exempt from these requirements.

- **MS4 Program**

Municipalities meeting certain criteria must participate in the Municipal Storm Sewer System (MS4.) This includes any municipality that has a stormwater “conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that discharge into waters of the United States or that are designed or used for collecting or conveying stormwater.

In practical terms, operators of MS4s can include municipalities and local sewer districts, state and federal departments of transportation, public universities, public hospitals, airports and correctional facilities.

For regulatory purposes, EPA's NPDES Stormwater Program regulates "medium," "large," and regulated small MS4s.

Each new (first-term) MS4 permittee is required to submit an annual report each year to DEP. Each MS4 permittee that is renewing coverage in subsequent years must submit periodic progress reports.

Municipalities may not issue a building or other permit or final approval to anyone proposing to conduct earth disturbance activities until the required NPDES Construction permit (or approved coverage under a related Pennsylvania General Permit) has been issued by DEP or by a delegated conservation district.



Each MS4 municipality must develop a TMDL implementation plan. MS4 TMDL plans will require, at a minimum, implementation of BMPs related to redevelopment, riparian buffers, and enactment of a stormwater management ordinance. Additional requirements include, but are not limited to, retrofits, updated local ordinances, riparian buffers, sustainable BMPs, and opportunity for trading/offsetting.

MS4 Municipalities in Lancaster County are listed in Appendix F- Organizational Directory – Pages 6 thru 9.

See Appendix C for Lancaster, PA Urbanized Area Storm Water Entities as defined by the 2000 Census.⁷

- **Urban Nutrient Management**

Urban Nutrient Management involves the reduction of fertilizer to grass lawns and other urban areas. Measures could include municipal ordinances limiting the application of phosphorus-containing fertilizer to lawns, golf courses, and other mowed turf, allowing the use of fertilizer containing phosphorus only to establish grass during the first growing season, or when reseeding is needed, prohibiting application of fertilizer, manure, or a sewage sludge product to an impervious surface, and restricting the retail sale of turf fertilizer containing phosphorus.



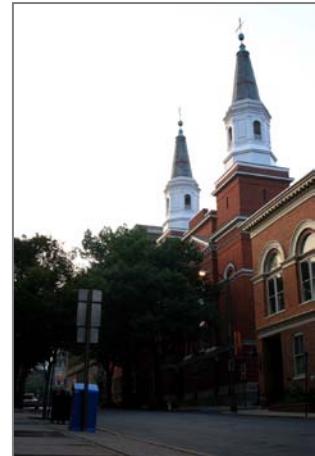
Padutchcountry.com

⁷ Source: http://www.epa.gov/npdes/pubs/ua_pa_lancaster.pdf

- **Urban and Rural Reforestation**

Funding for forestland conservation has historically come primarily from state Growing Greener funds, Key '93 funds, and the Oil and Gas fund. Unfortunately, these sources are in jeopardy.

Despite the potential lack of funding, the Commonwealth has agreed to conserve an additional 100,000 acres of forested land within priority Bay watersheds by 2025 and to work with ten Bay communities to assess existing urban tree canopy cover and to assist communities in setting and attaining new canopy goals. This conservation goal translates into approximately 8,000 additional forested acres a year. Last year state figures for forestland protection within the Bay totaled 4,141 acres, only half the investment needed to meet the 8,000-acre-per-year conservation goal.



Trees in Lancaster City
Picasaweb.google.com

- **Legacy Sediment**

A significant portion of sediment in streams in Lancaster County is the result of erosion of sediment trapped behind mill dams constructed in the 1700s and 1800s. Previously it was

thought that the large majority of sediment in streams was the result of upland erosion. Stream corridor erosion from breached millpond reservoirs—is a substantial source of suspended (i.e., fine grained) sediments and nutrients within the Chesapeake Bay watershed. Furthermore, the processes and rates of stream bank erosion documented are not directly related to modern land use activity (e.g., storm water runoff from urban development or agriculture), but rather to a series of land use activities that began as much as several centuries ago. These activities

transformed valley bottom landscapes, first through reservoir sediment accumulation following milldam construction, then by stream bed incision and bank erosion following milldam breaching.

The Denlinger's Mill Dam in Lancaster County, which was built in the early 1700s, was 20 feet high and backed up water for 2.3 miles. Since breaching in 1901, it has lost 46 percent of its stored sediment, but its steep banks still hold about 171,659 tons.

Credit: Dorothy Merritts and Bob Walter – Franklin & Marshall College Professors

- **Nutrient Trading**

In addition to regulatory standards for discharge of pollutants into the waters of the Chesapeake Bay, the Pennsylvania WIP also provides for Nutrient Trading.

On October 9, 2010, the Pennsylvania Department of Environmental Protection (PADEP) published its nutrient trading regulation, 25 Pa. Code § 96.8, entitled, “Use of offsets and tradable credits from pollution reduction activities in the Chesapeake Bay Watershed.” The

regulation codifies, with some revisions, the Departments' former guidance entitled "Final Trading of Nutrient and Sediment Reduction Credits – Policy and Guidelines" (No. 392-0900-001.)⁸

What is Nutrient Trading?

- Nutrient trading is an approach to improve water quality by using market mechanisms to produce pollutant reductions at lower costs.
- It is a voluntary program that enables point or nonpoint sources that exceed their environmental obligations to generate credits that may be traded to others who are seeking nutrient credits.
- Market mechanisms can provide for an efficient and effective means of solving environmental challenges.
- PADEP recognizes the many benefits of trading, including income to farmers and others who generate credits and flexibility for the regulated community in meeting legal requirements, especially when done on a watershed basis.

General Trading Principles:

- A trade must involve comparable credits (for example, nitrogen may only be traded for nitrogen) that are expressed as mass per unit time (pounds per year);
- Credits generated by trading cannot be used to comply with existing technology-based effluent limits except as expressly authorized by federal regulations;
- Trading may only occur in a PADEP defined watershed;
- Trading may take place between any combinations of eligible point sources, non-point sources and third parties; and,
- Each trading entity must meet applicable eligibility criteria established under PADEP's nutrient trading regulations, 25 Pa. Code § 96.8, for this voluntary program.

⁸ PADEP Nutrient Trading Program

THE COMMONWEALTH OF PENNSYLVANIA—

Responsibility for Clean-Up

In 1978, the state enacted Pennsylvania's Stormwater Management Act (Act 167). The Act requires counties to prepare and adopt watershed based stormwater management plans—and requires municipalities to adopt and implement ordinances to regulate development consistent with these plans.

Past Boards of Lancaster County Commissioners agreed to prepare Act 167 Stormwater Management Plans only when funding was supplied by DEP. The Commissioners assigned responsibility for preparation of plans for several of the watersheds in Lancaster County⁹ (the Cocalico Creek, the Conestoga

“Accounting,” describes the process of analyzing and reporting the practice information and quantifying the estimated and resulting load reductions.⁷



Photograph: FHWA.gov

River, the Little Conestoga Creek, and Mill Creek) to the former County Engineer's Office, not the Planning Commission. With the reorganization of the County and elimination of the County Engineer's Office the stormwater planning function of the County was transferred to the County Planning Commission. In 2008 the General Assembly eliminated all funding for Act 167 planning. With the elimination of funding further preparation of Act 167 plans ceased as the Commissioners regarded stormwater planning as an unfunded mandate.

Likewise, Municipalities are generally unwilling to spend municipal funds to develop and enact stormwater management ordinances absent funding from the County or the State. Under the requirements of the MS4 Program, however, 45 municipalities are mandated to adopt stormwater management ordinances to be covered under an NPDES permit or a related Pennsylvania General Permit.

Municipalities can enact a model stormwater management ordinance promulgated by the Pennsylvania Department of Environmental Protection, which is scheduled for final refinement and adoption by DEP prior to November 9, 2011. Any modification of the State's model ordinance, however, will make the municipality ineligible for coverage under a Pennsylvania General Permit.

In order to allow for ordinance standards that are more directly tailored to conditions in Lancaster County, the County Planning Commission is currently developing a Lancaster County Model Stormwater Management Ordinance to fully meet the requirements of DEP without overly burdening MS4 municipalities. It is the intent of the County to have the Lancaster County Model Stormwater Management Ordinance preapproved by DEP to qualify municipalities for a General Permit.

⁹ Appendix B – Watersheds of Lancaster County

Although exempted from mandatory by the State in the WIP, highways and roadways owned by the state constitute a major source of impervious surface in Lancaster County. Most roadways, outside the City and some boroughs, lack any stormwater management facilities. Stormwater is often channeled off the roadway surface into drainage ditches which lead directly to streams. Reduction of discharges from paved road surfaces could be a significant means of the Commonwealth improving water quality.

The cost of retrofitting highways by PennDOT and the Turnpike Commission will be an objection in this period of budget cutting. The costs of pollution reduction by other sources, however, are likely to be just as high.

For instance, current estimates show that the nitrogen loading from treatment plants constitute only about 12% of the nitrogen load to the Bay. A study completed by the Commonwealth estimated costs of \$1.4 Billion to upgrade the wastewater plants in Pennsylvania that discharge into the Bay's tributaries to a level of treatment called "Biological Nutrient Removal," which will be necessary to meet the current nutrient cap loads. Upgrading wastewater treatment plants would reduce the nitrogen loading from point sources by about 1/3. If further reductions were required as a result of EPA enforcing potential "backstops", treatment plant upgrade costs could be another \$1.4 Billion dollars, but this time with marginal reductions in nitrogen loading.⁵

These costs are on top of the significant capital and operating investments that are necessary to repair and renovate the state's aging and decaying sewer infrastructure. The real challenge facing all wastewater utilities in the years to come is aging infrastructure, and the need to renovate and replace systems as they deteriorate. Statewide there is projected need for \$25 Billion in capital upgrade costs for sewage systems over the next 20 years, quite apart from reducing pollutant loadings into the Chesapeake Bay waterways. More importantly, it is projected that the costs of operating and maintaining sewage systems across the state will be \$75 Billion, which unfortunately will exceed revenues generated through sewer fees by \$28 Billion over the same period.⁵

The lack of available funding from the federal or state governments for stormwater planning, retrofitting of highways with stormwater controls, and wastewater treatment plant upgrades is a major impediment facing Lancaster County.

WHO DOES WHAT?

Federal, State and Local governmental agencies and organizations with designated responsibilities and those who wish to assume some responsibility for implementing, coordinating and monitoring the PA Watershed Implementation Plan (WIP).

An Organizational Directory is located in the back of this Paper – **APPENDIX F**. The Directory is organized as follows:

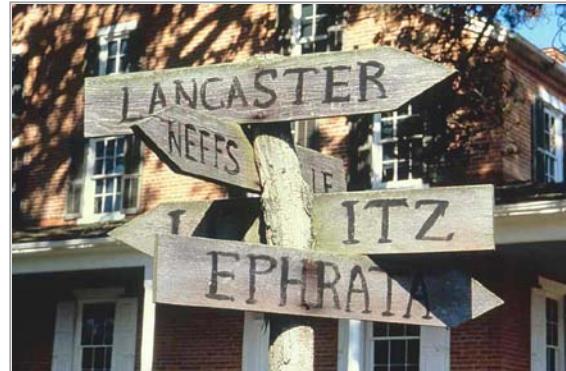
Organization Type	Jurisdiction	APPENDIX E – Page No.
Governmental/Municipal	Federal	1-2
	State	3
	County	4-5
	Local	6-9
	State Authorities	10
	Local – Municipal Sewer Authorities	11-13
	Local – Watershed Associations/Alliances	14-15
Agricultural Alliances/Organizations		16-17
Environmental Organizations		18-21
Consultants/Engineering		22-23
Other Organizations		24-25

Note – This directory has been compiled as a resource for the community. All attempts have been made to be inclusive. If an organization is not included, please contact the Hourglass Foundation with the pertinent information so the listing can be updated. Your cooperation is greatly appreciated. The cleanup of the Chesapeake Bay is a multi-year endeavor and it is the intent of the Hourglass to issue bi-annual updates to this publication. *Thank you.*

CROSSROADS FOR BAY CLEANUP

A Call to Action

The Susquehanna River is the largest source of water, and therefore pollution, into the Chesapeake Bay. The Susquehanna River forms the entire western boundary for Lancaster County, and nearly all its streams and creeks drain into the Susquehanna and eventually the Bay. Lancaster County has been identified as a priority region in the effort for pollution reduction. If Lancaster County can achieve significant reductions in its discharges of nitrogen, phosphorus and sediment, the levels of Susquehanna River and Chesapeake Bay pollution will also be significantly reduced.



In many respects, Lancaster County is uniquely qualified to serve as a role model for others. We have a history of cooperation and innovation in many areas of land use and planning. We have an exceptional agricultural community supported by the overwhelming majority of citizens. We have an abundance of non-profit organizations whose missions are consistent with advancing the environment, economy and quality of life of the region. Our local governments and authorities are often statewide models of efficiency and innovation. We have a strong local economy filled with homegrown businesses that understand the importance of protecting our environment and economy at the same time. We have strong community leaders in all the above organizations that have the ability and the will to do what is needed. And finally, we have a citizen base who highly values the quality of life in Lancaster County and who have taken an active role in addressing previous countywide issues.

Although Lancaster County no doubt has the capacity to make a difference, there are nonetheless hurdles we will have to overcome if we are to be successful in our Bay clean-up initiatives. We have a big task, one that can and should involve everyone. With so many organizations and talented individuals, the Three Cs – coordination, cooperation, and communication – are paramount. With so many interested organizations, overlapping missions, diffused leadership, and turf disputes are a real danger. Some agencies may have to conclude that another is more capable of taking the lead role in a particular task. No one can retreat into silos that disregard the actions of others – the left hand must know what the right hand is doing at all times.

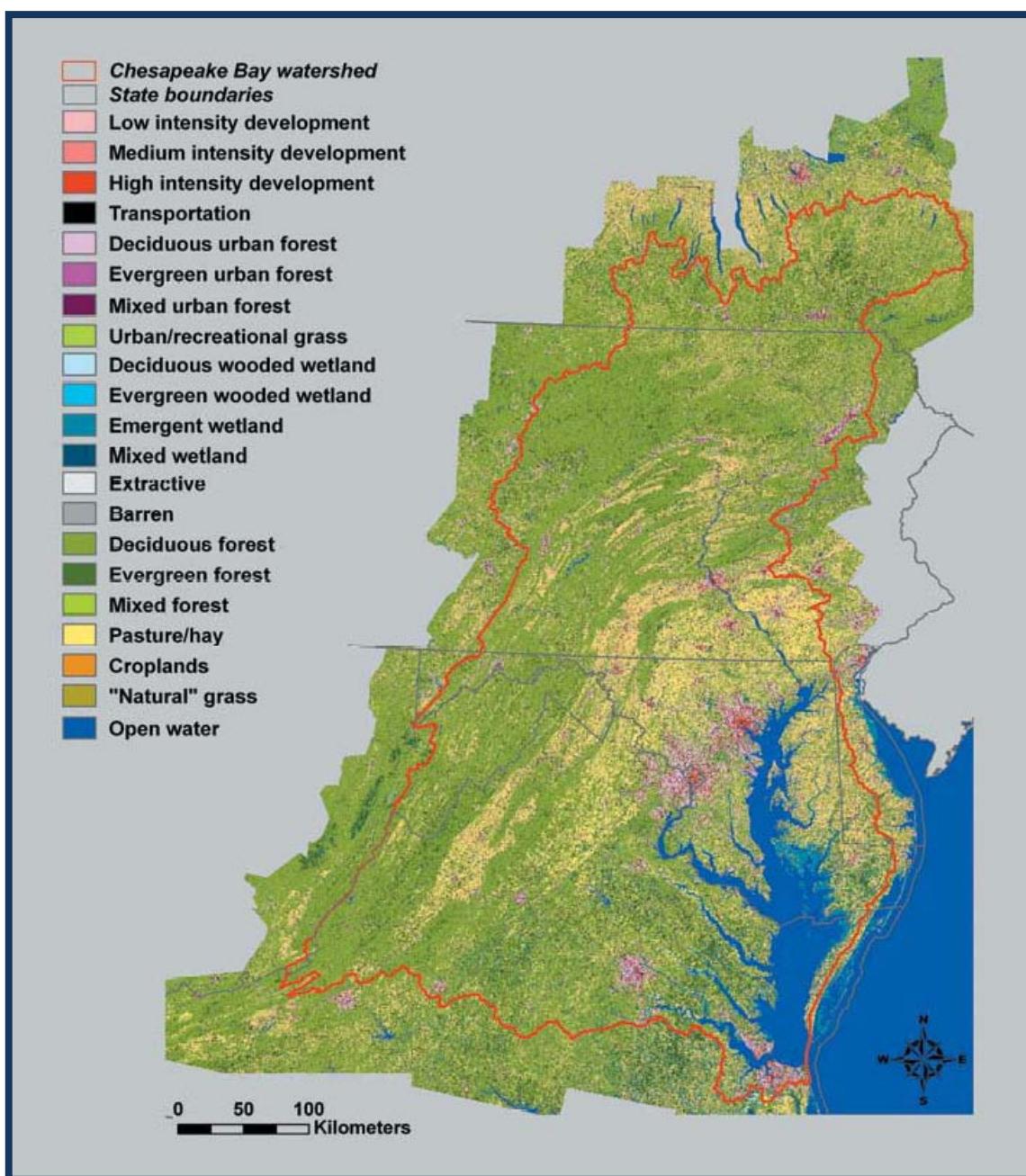
In the preceding pages and following appendices of this report, the Hourglass has articulated what has to be done and identified those institutions and entities that have to do it. It is the opinion of the Hourglass, however, that a strong and legitimate authority has to take the lead in coordinating what will constitute an unprecedented clean-up effort. If in partnership with all the agencies, jurisdictions, authorities, organizations, and business entities that have responsibilities for individual components of this clean-up program, a single coordinating body is not forthcoming, it is likely that the County will fail to achieve the mandated pollution reductions. The consequences of such failure will be significant --both environmental and economic.

The required effort is simply so big, the numbers of individuals and organizations that will play a key role so many, that someone must serve as the coordinating authority. While several agencies and organizations have initiated efforts to convene partners for a strategic Bay clean-up effort, other agencies and organizations have refrained from embracing a single clearinghouse. The likelihood is that a lack of legitimate authority in voluntary associations or agencies and jurisdictional rivalries will frustrate the best of intentions. At least three, possibly more, independent approaches to agency coordination have arisen in the first three months of 2011.

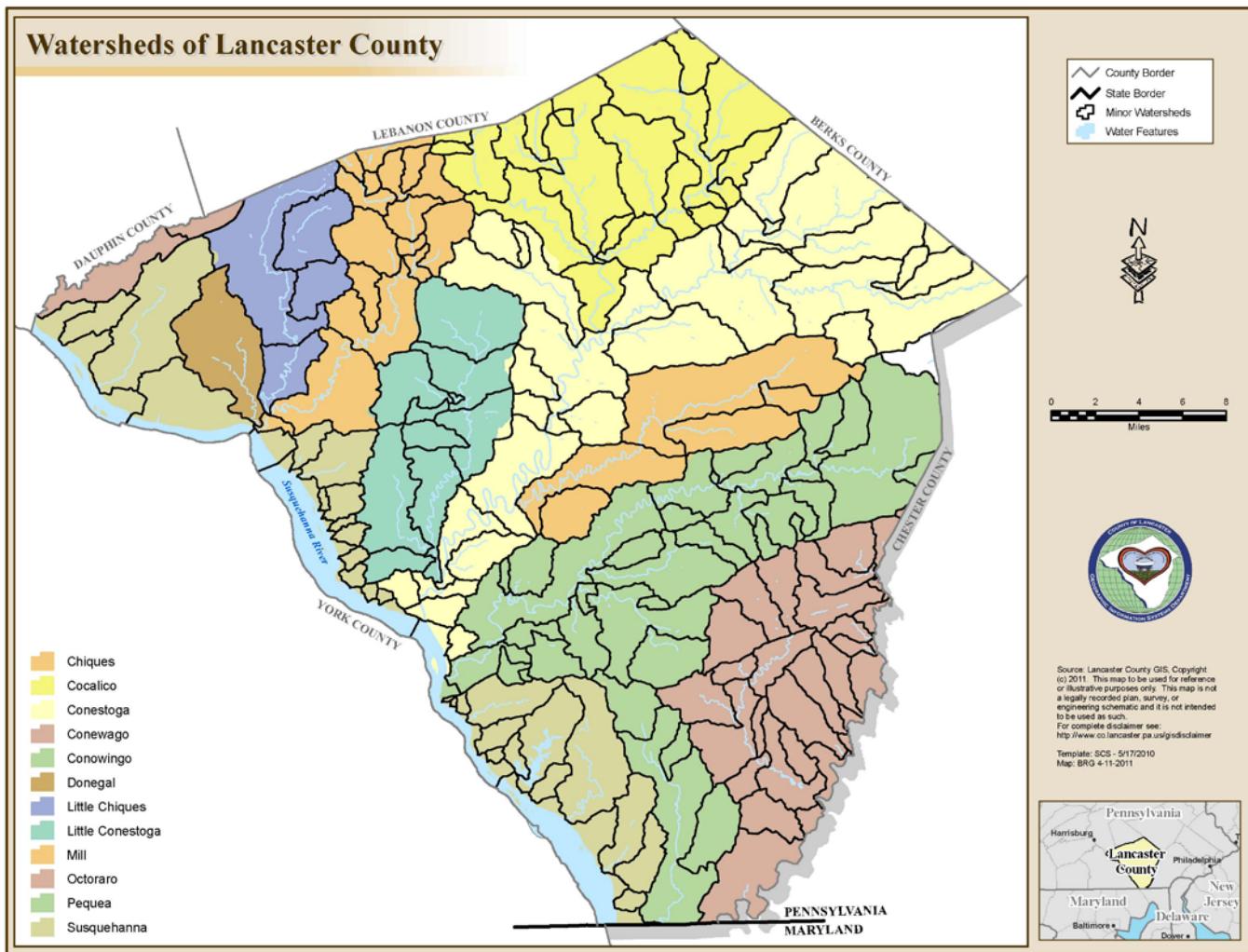
Hourglass believes that the Board of County Commissioners is the only body with: (1) the legitimate authority, vested by the voters of Lancaster County, (2) the control of critical funding, and (3) a comprehensive responsibility for the public welfare to serve in this critical capacity. Only the Board of County Commissioners is in the position to assign responsibility for the creation and execution of a coordinated strategy embracing agricultural, business, and community interests. Through one lead entity, working with county agencies, commissions and authorities, and in partnership with municipalities, businesses, and non-profit organizations, the County Commissioners can provide the needed leadership and coordination. Without it, disparate efforts will be splintered, time and money will be wasted, and our goals will not be realized.

APPENDIX

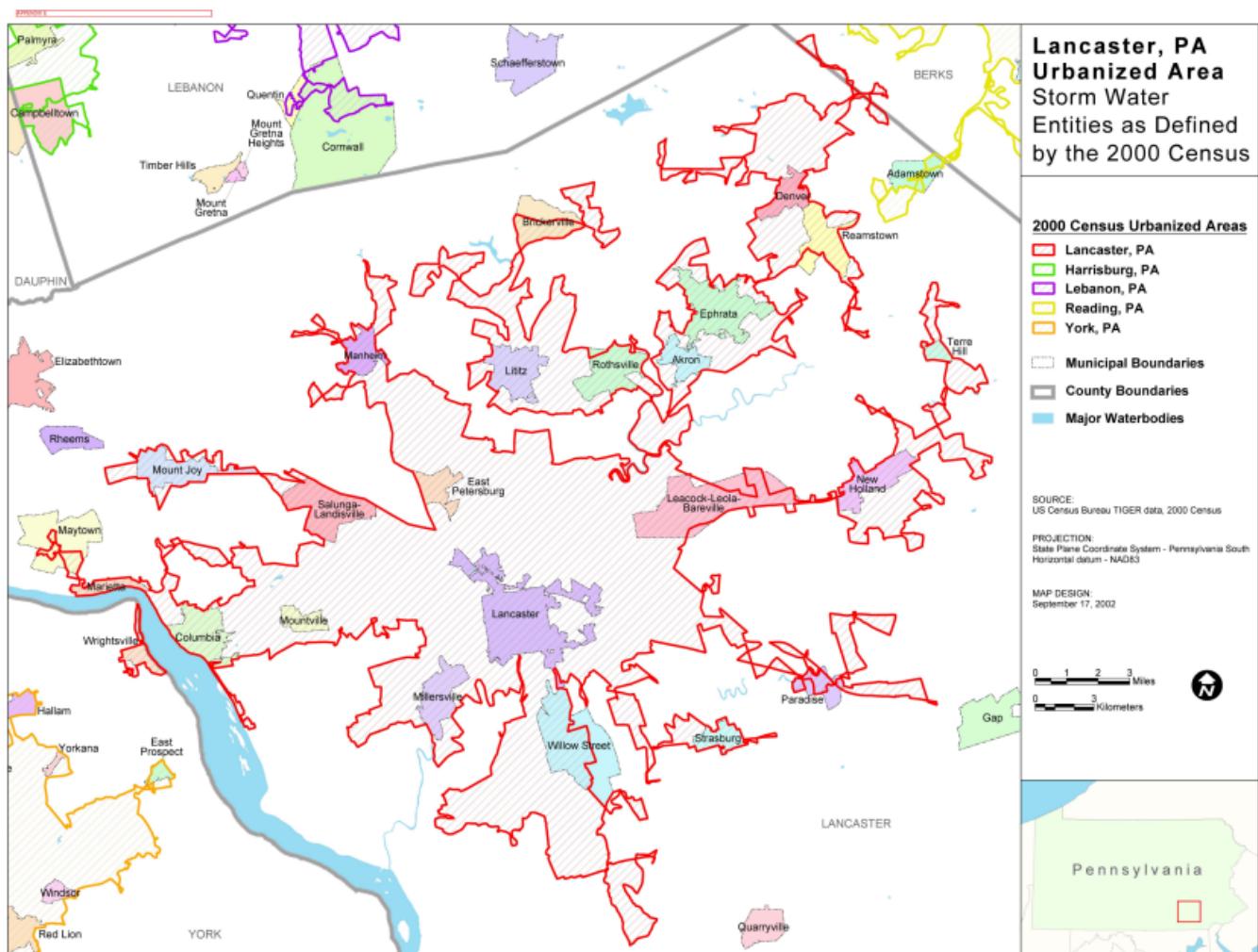
APPENDIX A- CHESAPEAKE BAY WATERSHED



APPENDIX B – WATERSHEDS OF LANCASTER COUNTY



APPENDIX C – LANCASTER, PA URBANIZED AREA STORM WATER ENTITIES



APPENDIX D– EXECUTIVE ORDER 13508

Administration of Barack H. Obama, 2009

Executive Order 13508—Chesapeake Bay Protection and Restoration

May 12, 2009

By the authority vested in me as President by the Constitution and the laws of the United States of America and in furtherance of the purposes of the Clean Water Act of 1972, as amended (33 U.S.C. 1251 *et seq.*), and other laws, and to protect and restore the health, heritage, natural resources, and social and economic value of the Nation's largest estuarine ecosystem and the natural sustainability of its watershed, it is hereby ordered as follows:

PART 1—PREAMBLE

The Chesapeake Bay is a national treasure constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world. The Federal Government has nationally significant assets in the Chesapeake Bay and its watershed in the form of public lands, facilities, military installations, parks, forests, wildlife refuges, monuments, and museums.

Despite significant efforts by Federal, State, and local governments and other interested parties, water pollution in the Chesapeake Bay prevents the attainment of existing State water quality standards and the "fishable and swimmable" goals of the Clean Water Act. At the current level and scope of pollution control within the Chesapeake Bay's watershed, restoration of the Chesapeake Bay is not expected for many years.

The pollutants that are largely responsible for pollution of the Chesapeake Bay are nutrients, in the form of nitrogen and phosphorus, and sediment. These pollutants come from many sources, including sewage treatment plants, city streets, development sites, agricultural operations, and deposition from the air onto the waters of the Chesapeake Bay and the lands of the watershed. Restoration of the health of the Chesapeake Bay will require a renewed commitment to controlling pollution from all sources as well as protecting and restoring habitat and living resources, conserving lands, and improving management of natural resources, all of which

contribute to improved water quality and ecosystem health. The Federal Government should lead this effort. Executive departments and agencies (agencies), working in collaboration, can use their expertise and resources to contribute significantly to improving the health of the Chesapeake Bay.

Progress in restoring the Chesapeake Bay also will depend on the support of State and local governments, the enterprise of the private sector, and the stewardship provided to the Chesapeake Bay by all the people who make this region their home.

PART 2—SHARED FEDERAL LEADERSHIP, PLANNING, AND ACCOUNTABILITY

Sec. 201. Federal Leadership Committee

In order to begin a new era of shared Federal leadership with respect to the protection and restoration of the Chesapeake Bay, a Federal Leadership Committee (Committee) for the Chesapeake Bay is established to oversee the development and coordination of programs and activities, including data management and reporting, of agencies participating in protection and restoration of the Chesapeake Bay.

The Committee shall manage the development of strategies and program plans for the watershed and ecosystem of the Chesapeake Bay and oversee their implementation. The Committee shall be chaired by the Administrator of the Environmental Protection Agency (EPA), or the Administrator's designee, and include senior representatives of the Departments of Agriculture (USDA), Commerce (DOC), Defense (DOD), Homeland Security (DHS), the Interior (DOI), Transportation (DOT), and such other agencies as determined by the Committee. Representatives serving on the Committee shall be officers of the United States.

Sec. 202. Reports on Key Challenges to Protecting and Restoring the Chesapeake Bay

Within 120 days from the date of this order, the agencies identified in this section as the lead agencies shall prepare and submit draft reports to the Committee making recommendations for accomplishing the following steps to protect and restore the Chesapeake Bay:

- (a) define the next generation of tools and actions to restore water quality in the Chesapeake Bay and describe the changes to be made to regulations, programs, and policies to implement these actions;
- (b) target resources to better protect the Chesapeake Bay and its tributary waters, including resources under the Food Security Act of 1985 as amended, the Clean Water Act, and other laws;
- (c) strengthen storm water management practices at Federal facilities and on Federal lands within the Chesapeake Bay watershed and develop storm water best practices guidance;
- (d) assess the impacts of a changing climate on the Chesapeake Bay and develop a strategy for adapting natural resource programs and public infrastructure to the impacts of a changing climate on water quality and living resources of the Chesapeake Bay watershed;
- (e) expand public access to waters and open spaces of the Chesapeake Bay and its tributaries from Federal lands and conserve landscapes and ecosystems of the Chesapeake Bay watershed;
- (f) strengthen scientific support for decision making to restore the Chesapeake Bay and its watershed, including expanded environmental research and monitoring and observing systems;
- (g) develop focused and coordinated habitat and research activities that protect and restore living resources and water quality of the Chesapeake Bay and its watershed.

The EPA shall be the lead agency for subsection (a) of this section and the development of the storm water best practices guide under subsection (c). The

USDA shall be the lead agency for subsection (b). The DOD shall lead on storm water management practices at Federal facilities and on Federal lands under subsection (c). The DOI and the DOC shall share the lead on subsections (d), (f), and (g), and the DOI shall be lead on subsection (e). The lead agencies shall provide final reports to the Committee within 180 days of the date of this order.

Sec. 203. Strategy for Protecting and Restoring the Chesapeake Bay

The Committee shall prepare and publish a strategy for coordinated implementation of existing programs and projects to guide efforts to protect and restore the Chesapeake Bay. The strategy shall, to the extent permitted by law:

- (a) define environmental goals for the Chesapeake Bay and describe milestones for making progress toward attainment of these goals;
- (b) identify key measurable indicators of environmental condition and changes that are critical to effective Federal leadership;
- (c) describe the specific programs and strategies to be implemented, including the programs and strategies described in draft reports developed under section 202 of this order;
- (d) identify the mechanisms that will assure that governmental and other activities, including data collection and distribution, are coordinated and effective, relying on existing mechanisms where appropriate; and
- (e) describe a process for the implementation of adaptive management principles, including a periodic evaluation of protection and restoration activities.

The Committee shall review the draft reports submitted by lead agencies under section 202 of this order and, in consultation with relevant State agencies, suggest appropriate revisions to the agency that provided the draft report. It shall then integrate these reports into a coordinated strategy for restoration and protection of the Chesapeake Bay consistent with the requirements of this order. Together with the final reports prepared by the lead agencies, the draft strategy shall be published for

public review and comment within 180 days of the date of this order and a final strategy shall be published within 1 year.

To the extent practicable and authorized under their existing authorities, agencies may begin implementing core elements of restoration and protection programs and strategies, in consultation with the Committee, as soon as possible and prior to release of a final strategy.

Sec. 204. Collaboration with State Partners

In preparing the reports under section 202 and the strategy under section 203, the lead agencies and the Committee shall consult extensively with the States of Virginia, Maryland, Pennsylvania, West Virginia, New York, and Delaware and the District of Columbia. The goal of this consultation is to ensure that Federal actions to protect and restore the Chesapeake Bay are closely coordinated with actions by State and local agencies in the watershed and that the resources, authorities, and expertise of Federal, State, and local agencies are used as efficiently as possible for the benefit of the Chesapeake Bay's water quality and ecosystem and habitat health and viability.

Sec. 205. Annual Action Plan and Progress Report

Beginning in 2010, the Committee shall publish an annual Chesapeake Bay Action Plan (Action Plan) describing how Federal funding proposed in the President's Budget will be used to protect and restore the Chesapeake Bay during the upcoming fiscal year. This plan will be accompanied by an Annual Progress Report reviewing indicators of environmental conditions in the Chesapeake Bay, assessing implementation of the Action Plan during the preceding fiscal year, and recommending steps to improve progress in restoring and protecting the Chesapeake Bay. The Committee shall consult with stakeholders (including relevant State agencies) and members of the public in developing the Action Plan and Annual Progress Report.

Sec. 206. Strengthen Accountability

The Committee, in collaboration with State agencies, shall ensure that an independent evaluator periodically reports to the Committee on progress toward meeting the goals of this order. The Committee shall ensure that all program evaluation reports, including data on practice or system implementation and maintenance funded through

agency programs, as appropriate, are made available to the public by posting on a website maintained by the Chair of the Committee.

PART 3—RESTORE CHESAPEAKE BAY WATER QUALITY

Sec. 301. Water Pollution Control Strategies

In preparing the report required by subsection 202(a) of this order, the Administrator of the EPA (Administrator) shall, after consulting with appropriate State agencies, examine how to make full use of its authorities under the Clean Water Act to protect and restore the Chesapeake Bay and its tributary waters and, as appropriate, shall consider revising any guidance and regulations. The Administrator shall identify pollution control strategies and actions authorized by the EPA's existing authorities to restore the Chesapeake Bay that:

- (a) establish a clear path to meeting, as expeditiously as practicable, water quality and environmental restoration goals for the Chesapeake Bay;
- (b) are based on sound science and reflect adaptive management principles;
- (c) are performance oriented and publicly accountable;
- (d) apply innovative and cost-effective pollution control measures;
- (e) can be replicated in efforts to protect other bodies of water, where appropriate; and
- (f) build on the strengths and expertise of Federal, State, and local governments, the private sector, and citizen organizations.

Sec. 302. Elements of EPA Reports

The strategies and actions identified by the Administrator of the EPA in preparing the report under subsection 202(a) shall include, to the extent permitted by law:

- (a) using Clean Water Act tools, including strengthening existing permit programs and extending coverage where appropriate;

- (b) establishing new, minimum standards of performance where appropriate, including:
 - (i) establishing a schedule for the implementation of key actions in cooperation with States, local governments, and others;
 - (ii) constructing watershed-based frameworks that assign pollution reduction responsibilities to pollution sources and maximize the reliability and cost effectiveness of pollution reduction programs;
 - (iii) implementing a compliance and enforcement strategy.

PART 4—AGRICULTURAL PRACTICES TO PROTECT THE CHESAPEAKE BAY

Sec. 401

In developing recommendations for focusing resources to protect the Chesapeake Bay in the report required by subsection 202(b) of this order, the Secretary of Agriculture shall, as appropriate, concentrate the USDA's working lands and land retirement programs within priority watersheds in counties in the Chesapeake Bay watershed.

These programs should apply priority conservation practices that most efficiently reduce nutrient and sediment loads to the Chesapeake Bay, as identified by USDA and EPA data and scientific analysis. The Secretary of Agriculture shall work with State agriculture and conservation agencies in developing the report.

PART 5—REDUCE WATER POLLUTION FROM FEDERAL LANDS AND FACILITIES

Sec. 501

Agencies with land, facilities, or installation management responsibilities affecting ten or more acres within the watershed of the Chesapeake Bay shall, as expeditiously as practicable and to the extent permitted by law, implement land management practices to protect the Chesapeake Bay and its tributary waters consistent with the report required by section 202 of this order and as described in guidance published by the EPA under section 502.

Sec. 502

The Administrator of the EPA shall, within 1 year of the date of this order and after consulting with the Committee and providing for public review and comment, publish guidance for Federal land management in the Chesapeake Bay watershed describing proven, cost-effective tools and practices that reduce water pollution, including practices that are available for use by Federal agencies.

PART 6—PROTECT CHESAPEAKE BAY AS THE CLIMATE CHANGES

Sec. 601

The Secretaries of Commerce and the Interior shall, to the extent permitted by law, organize and conduct research and scientific assessments to support development of the strategy to adapt to climate change impacts on the Chesapeake Bay watershed as required in section 202 of this order and to evaluate the impacts of climate change on the Chesapeake Bay in future years. Such research should include assessment of:

- (a) the impact of sea level rise on the aquatic ecosystem of the Chesapeake Bay, including nutrient and sediment load contributions from stream banks and shorelines;
- (b) the impacts of increasing temperature, acidity, and salinity levels of waters in the Chesapeake Bay;
- (c) the impacts of changing rainfall levels and changes in rainfall intensity on water quality and aquatic life;
- (d) potential impacts of climate change on fish, wildlife, and their habitats in the Chesapeake Bay and its watershed; and
- (e) potential impacts of more severe storms on Chesapeake Bay resources.

PART 7—EXPAND PUBLIC ACCESS TO THE CHESAPEAKE BAY AND CONSERVE LANDSCAPES AND ECOSYSTEMS

Sec. 701

(a) Agencies participating in the Committee shall assist the Secretary of the Interior in development of the report addressing expanded public access to the waters of the Chesapeake Bay and conservation of landscapes and ecosystems required in subsection 202(e) of this order by providing to the Secretary:

- (i) a list and description of existing sites on agency lands and facilities where public access to the Chesapeake Bay or its tributary waters is offered;
- (ii) a description of options for expanding public access at these agency sites;
- (iii) a description of agency sites where new opportunities for public access might be provided;
- (iv) a description of safety and national security issues related to expanded public access to Department of Defense installations;
- (v) a description of landscapes and ecosystems in the Chesapeake Bay watershed that merit recognition for their historical, cultural, ecological, or scientific values;
- (vi) options for conserving these landscapes and ecosystems.

(b) In developing the report addressing expanded public access on agency lands to the waters of the Chesapeake Bay and options for conserving landscapes and ecosystems in the Chesapeake Bay, as required in subsection 202(e) of this order, the Secretary of the Interior shall coordinate any recommendations with State and local agencies in the watershed and programs such as the Captain John Smith Chesapeake National Historic Trail, the Chesapeake Bay Gateways and Watertrails Network, and the Star-Spangled Banner National Historic Trail.

PART 8—MONITORING AND DECISION

Sec. 801

The Secretaries of Commerce and the Interior shall,

to the extent permitted by law, organize and conduct their monitoring, research, and scientific assessments to support decision making for the Chesapeake Bay ecosystem and to develop the report addressing strengthening environmental monitoring of the Chesapeake Bay and its watershed required in section 202 of this order. This report will assess existing monitoring programs and gaps in data collection, and shall also include the following topics:

- (a) the health of fish and wildlife in the Chesapeake Bay watershed;
- (b) factors affecting changes in water quality and habitat conditions; and
- (c) using adaptive management to plan, monitor, evaluate, and adjust environmental management actions.

PART 9—LIVING RESOURCES PROTECTION AND RESTORATION

Sec. 901

The Secretaries of Commerce and the Interior shall, to the extent permitted by law, identify and prioritize critical living resources of the Chesapeake Bay and its watershed, conduct collaborative research and habitat protection activities that address expected outcomes for these species, and develop a report addressing these topics as required in section 202 of this order.

The Secretaries of Commerce and the Interior shall coordinate agency activities related to living resources in estuarine waters to ensure maximum benefit to the Chesapeake Bay resources.

PART 10—EXCEPTIONS

Sec. 1001

The heads of agencies may authorize exceptions to this order, in the following circumstances:

- (a) during time of war or national emergency;
- (b) when necessary for reasons of national security;

(c) during emergencies posing an unacceptable threat to human health or safety or to the marine environment and admitting of no other feasible solution; or

(d) in any case that constitutes a danger to human life or a real threat to vessels, aircraft, platforms, or other man-made structures at sea, such as cases of *force majeure* caused by stress of weather or other act of God.

PART 11—GENERAL PROVISIONS

Sec. 1101

(a) Nothing in this order shall be construed to impair or otherwise affect:

(i) authority granted by law to a department, agency, or the head thereof; or

(ii) functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the

availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity, by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA
The White House,
May 12, 2009.

[Filed with the Office of the Federal Register, 8:45 a.m., May 14, 2009]
NOTE: This Executive order was published in the *Federal Register* on May 15.

Categories: Executive Orders : Chesapeake Bay Protection and Restoration.

Subjects: Agriculture, Department of : Secretary; Agriculture, Department of : Working lands and land retirement programs; Commerce, Department of : Secretary; Environment : Chesapeake Bay, protection and restoration; Environment : Clean Water Act; Environment : Watersheds and estuaries, protection efforts; Environmental Protection Agency :

Administrator; Environmental Protection Agency : Chesapeake Bay, Federal Leadership Committee for the; Interior, Department of the : Secretary.
DCPD Number: DCPD200900352.

APPENDIX E- WHAT HOMEOWNERS CAN DO TO PROTECT THE BAY



The leading threat to the health of the Chesapeake Bay is excess nitrogen and phosphorous pollution that destroys habitat and causes fish kills. Top sources of these pollutants include agriculture, sewage treatment plants, runoff from urban and suburban areas, and air pollution from automobiles, factories, and power plants.

Other threats to the Bay's health include sprawl, toxic pollution, and poor fishery management. So, in the big picture we are all responsible for the health of the Chesapeake Bay. Whatever we do in our little portion of the Bay watershed will affect the overall water quality of our natural treasure.

Remember, **WE ALL LIVE DOWNSTREAM**, so what we do "up" here will affect our neighbors downstream.¹⁰

As stormwater flows over driveways, lawns, and sidewalks, it picks up debris, chemicals, dirt and other pollutants. Stormwater can flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the water bodies we use for swimming, fishing, and providing drinking water. **Polluted runoff is the nation's greatest threat to clean water.**

By practicing healthy household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clipping, and automotive fluids off the ground and out of stormwater. Adopt healthy household habits and help protect lakes, streams, rivers, wetlands, and coastal waters.¹¹

Healthy Household Habits for Clean Water

Vehicles and Garages

- Use a commercial car wash or wash your car on a lawn or other unpaved surface to minimize the amount of dirty, soapy water flowing into the storm drain and eventually into your local water body.
- Check your car, boat, motorcycle, and other machinery and equipment for leaks and spills. Clean up spilled fluids with an absorbent material. Don't rinse the spills into a nearby storm drain. Properly dispose of the absorbent material.
- Recycle used oil and other automotive fluids at participating service stations. Don't dump these chemicals down the storm drain or dispose of them in your trash.



Storm Drains Connect to Water bodies!

Lawns and Garden

- Use pesticides and fertilizers sparingly. When use is necessary, use these chemical in the recommended amounts. Avoid application if the forecast calls for rain; otherwise, chemicals will be washed into your local stream.



Ehow.com

¹⁰ The Chesapeake Bay in Lancaster County – Lancaster County Conservation District

¹¹ Make your home the solution to stormwater pollution – US EPA

- Select native plants and grasses that are drought and pest-resistant. Native plants require less water, fertilizer and pesticides.
- Sweep up yard debris, rather than hosing down areas. Compost or recycle yard waste when possible.
- Don't overwater your lawn. Water during the cool times of the day, and don't let water runoff into the storm drain.¹²

Home Repair and Improvement

- Before beginning an outdoor project, locate the nearest storm drains and protect them from debris and other materials.
- Sweep up and properly dispose of construction debris such as concrete and mortar.
- Use hazardous substances like paints, solvents and cleaners in the smallest amounts possible, and follow the directions on the label. Clean up spills immediately, and dispose of the waste safely. Store substances properly to avoid leaks and spills.
- Purchase and use nontoxic, biodegradable, recycled and recyclable products whenever possible.
 - Clean paint brushes in a sink, not outdoors. Filter and reuse paint thinner when using oil-based paints. Properly dispose of excess paints through a household hazardous waste collection program, or donate unused paint to local organizations.
 - Reduce the amount of paved area and increase the amount of vegetated area in your yard. Consider directing downspouts away from paved surfaces onto lawns and other measures to increase infiltration and reduce polluted runoff. Consider installing a rain barrel.⁹



Bnriverkeeper.org

Pet Care

When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into water bodies.¹⁰



Petsweekly.wordpress.com

Swimming Pool and Spa

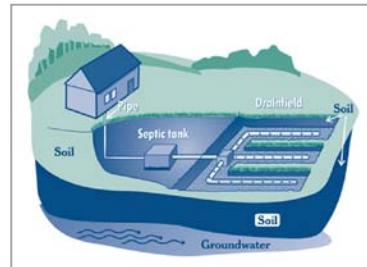


- Drain your swimming pool only when a test kit does not detect chlorine levels.
- Whenever possible, drain your pool or spa into the sanitary sewer system.
- Properly store pool and spa chemicals to prevent leaks and spills, preferably in a covered area to avoid exposure to stormwater.¹⁰

¹² Make your home the solution to stormwater pollution – US EPA

Septic System Use and Maintenance

- Have your septic system inspected by a professional at least every 3 years, and have the septic tank pumped as necessary (usually every 3 to 5 years).
- Care for the septic system drain field by not driving or parking vehicles on it. Plant only grass over and near the drain field to avoid damage from roots.
- Flush responsibly. Flushing household chemicals like paint, pesticides, oil, and antifreeze can destroy the biological treatment taking place in the system. Other items, such as diapers, paper towels, and cat litter, can clog the septic system and potentially damage components.¹⁰



Typical Septic System
Ecoseptix.com

Storm water pollution can be prevented –

- Replace driveways and sidewalks with porous pavement materials.
- Replace high maintenance grass lawns with native vegetation, mulch for rain gardens.
- Use fertilizers sparingly.
- Sweep driveways, sidewalks and roads instead of using a hose.
- Start a compost pile to dispose of yard waste.
- Use, store and dispose of chemicals properly.
- Recycle motor oil and anti-freeze. Don't dispose by dumping it into the storm drain.
- Use commercial car washing facilities that do not generate runoff.
- Households/businesses with septic systems should have them professionally inspected and pumped every 3 to 5 years.
- Practice water conservation.
- Recycle litter and dispose of trash properly to keep it out of waterways.
- Control soil erosion by planting ground cover.
- Learn to recognize what types of discharges to the storm drain system are not allowed and report any signs of illicit dumping.

Pollutants –

- Sediment
- Oil, grease, and toxic chemicals from vehicles
- Pesticides and nutrients from lawns, gardens and golf courses
- Viruses, bacteria, and nutrients from pet waste and failing septic systems
- Road salts
- Heavy metals from roof shingles, motor vehicles, and other sources
- Thermal pollution from dark impervious surfaces such as streets and rooftops

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - FEDERAL						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
United States District Court - District of Columbia	333 Constitution Avenue N.W. Washington D.C. 20001	202-879-1010	http://www.dcd.uscourts.gov	Federal/Nation-wide		Rendered decision on <u>Fowler v. EPA</u> resolving a lawsuit filed in January 2009 claiming that EPA had failed to take adequate measures to protect and restore the Chesapeake Bay.
US Department of Agriculture (USDA)	1400 Independence Ave., S.W. Washington, DC 20250	202-720-2791	http://www.usda.gov	Federal/Nation-wide		Provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.
US Department of Agriculture (USDA) - Farm Service Agency (FSA) * See COUNTY	1400 Independence Ave., S.W. STOP (FSA) 0506 Washington, DC 20250-0506	202-720-3865	http://www.fsa.usda.gov/FSA	Federal/Nation-wide		Administers conservation programs within USDA to assist owners of America's private land with conserving their soil, water, and other natural resources.
US Department of Agriculture (USDA) - Natural Resources and Conservation Services (NRCS) A, Washington, DC 20250 * See COUNTY	1400 Independence Ave., SW, Room 5105 Fax 202-720-7790			Federal/Nation-wide		Helps farmers help the Bay by providing financial and technical assistance for conservation practices such as stream bank fencing, riparian buffer, soil erosion control, grazing, nutrient management and farm land protection.
U.S. Department of Commerce - National Oceanic and Atmospheric Administration (NOAA)	1401 Constitution Avenue, NW, Room 5128, Washington, DC 20230 and 410 Severn Avenue, Suite 107, Annapolis, MD 21403	202-482-4981 and 410-267-5660 Annapolis, MC	http://www.legislative.noaa.gov	Federal/Nation-wide		A partner in the Chesapeake Bay Program. Maintains an office in Annapolis, MD. Provides a conduit to help address the problems and challenges of natural resource management in the Bay region. Provides environmental education in watershed management.
US Department of Environmental Protection Agency (EPA)	Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20004	202-564-4700	http://www.epa.gov	Federal/Nation-wide		EPA's current responsibilities include protection of air and water resources, protection of drinking water supplies, and more recently Superfund. It carries out these responsibilities through research, standards setting, permitting, monitoring and enforcement, information and technology transfer, and financial support of State/local governments.

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - FEDERAL						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
US Department of Environmental Protection Agency (EPA)- Region 3 Regional Office	1650 Arch Street, Philadelphia, PA 19103-2029	800-438-2474	http://www.epa.gov/region03	Federal / Watershed-wide	Responsible for the execution of EPA programs in the Region 3 - Mid-Atlantic States	Administration and enforcement of the Clean Water Act.
US Department of Environmental Protection Agency - Chesapeake Bay Program Office	410 Severn Avenue, Suite 109, Annapolis City Marina, Annapolis, MD 21403	800-YOUR-BAY Fax 410-267-5777	http://www.epa.gov/region3/chesapeake	Federal / Watershed-wide	Responsible for the execution of EPA programs in the Region 3 - Mid-Atlantic States	Regional partnership including the states of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, the District of Columbia, the Chesapeake Bay Commission, a tri-state legislative body, the US Environmental Protection Agency - representing the federal government and participating advisory groups representing citizens, local governments and the scientific community.
U.S. Department of the Interior (DOI) - Office of Fish and Wildlife Service and National Park Service	1849 C Street, N.W., Washington, DC 20240 and USFWS Chesapeake Bay Field Office , 177 Admiral Cochrane Drive, Annapolis, MD 21401	202-208-3100 and 573-4500 Annapolis, MD	410- http://www.doi.gov and http://www.fws.gov/chesapeakebay	Federal/Nation-wide	Provides leadership and assistance to states, tribes and local communities to address competing demands for water through improved conservation, restoration of watershed and resolution of longstanding water conflicts.	Chesapeake Bay Field Office in Annapolis, MD where the Chesapeake Bay Coastal Program is facilitated to conserve coastal resources. The Program identifies problems and solutions, carries out on the ground conservation projects, encourages stewardship of resources by local governments and the public. Works with other federal, state and local agencies and the private sector to implement solution to problems within the region.
The National Research Council	National Academy of Sciences, 500 Fifth St., N.W., Washington, D.C. 20001	202-334-2000	http://sites.nationalacademies.org	Federal/Nation-wide	X	The Environmental Protection Agency (EPA) commissioned a report by the Council to complement the cleanup plan for the Chesapeake Bay. The report states that the EPA hasn't been clear on the consequences of not meeting pollution reduction deadlines. The Report also made clear that the Plan is likely to change over time to account for climate change, population growth and agriculture shifts.
Federal Leadership Committee for the Chesapeake Bay – EPA; USDA, NRCS; NOAA; DOD, Navy, Army; DHS; DOT; DOI, Fish & Wildlife, Parks	N/A	N/A	N/A	Federal / Watershed-wide	X	Team of Federal Agencies Tasked under Executive Order 13508 to developed the <i>Strategy for Protecting and Restoring the Chesapeake Bay Watershed</i> Report to the President about Bay Clean-up Progress.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - STATE						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		Relationship to Bay
				Jurisdiction / Area of Interest	Primary Responsibilities	
Pennsylvania Department of Agriculture (PDA)	2301 N. Cameron St., Harrisburg, PA 17101	717-787-4737	http://www.agriculture.state.pa.us	PA	X	Encourages, protects and promotes agriculture and related industries throughout the Commonwealth.
Pennsylvania State Conservation Commission (SCC) - Department administrative Commission under the concurrent authority of DEP and PDA	2301 N. Cameron St., Harrisburg, PA 17101	717-772-5218	maucin@state.pa.us	PA	X	14-member commission that ensures the wise use of Pennsylvania natural resources to protect and restore the natural environment through the conservation of its soil, water and related resources.
Pennsylvania Department of Environmental Protection (DEP) Southcentral Regional Office	909 Elmerton Avenue, Harrisburg, PA 17110	717-705-4700	http://www.depweb.state.pa.us	PA	X	Administration of Pennsylvania's environmental laws and regulations
Susquehanna River Basin Commission (SRBC)	1721 N. Front St., Harrisburg, PA 17102	717-238-0423	http://www.srbc.net	Multi-State Compact / Watershed-wide	X	Enhance public welfare through comprehensive planning, water supply allocation and management of the water resources of the basin.
United States Department of Agriculture (USDA) - Farm Service Agency (FSA) Pennsylvania	1 Credit Union Place, Ste. 320, Harrisburg, PA 17110	717-237-2117 Fax 717-237-2149	http://www.fsa.usda.gov/pa	Federal/State-wide	X	Administers conservation programs within USDA to assist owners of America's private land with conserving their soil, water, and other natural resources.
US Department of Agriculture (USDA) - Natural Resources and Conservation Services (NRCS)- Pennsylvania	One Credit Union Place, Ste. 340, Harrisburg, PA 17110-2993	717-237-2100 Fax 717-237-2238	http://www.pa.nrcs.usda.gov	Federal/Nation-wide	X	Works with landowners through conservation planning assistance to benefit the soil, water, air, plants and animals for productive lands and healthy ecosystems.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - COUNTY		Characteristics and Tasks			
Organization Name	Address	Telephone & Fax	Website / Email	Jurisdiction / Area of Interest	Primary Responsibilities
Lancaster County Conservation District	1383 Arcadia Road, Room 200 Lancaster, PA 17601	717-299-5361, Ext. 5	http://www.lancasterconservation.org	Land and Soil Conservation / County	Promotes stewardship of the land, water, and other natural resources. It strives to make all citizens aware of the interrelationships between human activities and the natural environment; to provide assistance for current efforts in natural resource conservation; and to develop and implement programs which promote the stewardship of natural resources.
Conservation Foundation of Lancaster County	Donald Robinson, President - Farm & Home Center, 1383 Arcadia Road, Room 200, Lancaster, PA 17601	717-299-5361, Ext.5	http://www.lancasterconservation.org	Environmental/ Conservation/ District/ Countywide	Created by Lancaster County Conservation District to assist in raising funds to support the mission of the District.
Lancaster County Clean Water Consortium	c/o Lancaster County Conservation District, 1383 Arcadia Road, Lancaster, PA 17601	717-299-7254, Ext. 243	http://www.lccwc.com	Environmental Advocate / County	Development of countywide strategy to restore the waterways of Lancaster County, PA resulting in compliance with federal and state regulations intended to reduce pollution and accelerate restoration of the Chesapeake Bay.
United States Department of Agriculture (USDA) - Farm Service Agency (FSA) - Lancaster	1383 Arcadia Road, Lancaster, PA 17601-3149	717-397-6235, Ext. 2 Fax 717-393-7289	http://www/fsa.usda.gov/pa	Federal/County	Administers conservation programs within USDA to assist owners of America's private land with conserving their soil, water, and other natural resources.
US Department of Agriculture (USDA) - Natural Resources and Conservation Services (NRCS) - Lancaster	1383 Arcadia Rd. Lancaster, PA 17601-3149	717-397-6235, Ext. 3	heather.grove@pa.usda.gov	Federal/County	Helps farmers help the Bay by providing financial and technical assistance for conservation practices such as stream bank fencing, riparian buffer, soil erosion control, grazing, nutrient management and farm land protection.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - COUNTY		Characteristics and Tasks			
Organization Name	Address	Telephone & Fax	Website / Email	Jurisdiction / Area of Interest	Primary Responsibilities
The County of Lancaster, PA BOARD OF COMMISSIONERS	150 N. Queen St., Ste. 715, Lancaster, PA 17603	717-299-8300 Fax 717-293-77208	http://www.co.lancaster.pa.us/lanco	County Government	Governing body for Lancaster County.
Lancaster County Agriculture Preservation Board	150 N. Queen St., Ste. 325, Lancaster, PA 17603	717-299-8355	knepperm@co.lancaster.pa.us	Land Trust / County	Agricultural land preservation. Requires land conservation plans for preserved farms and offers technical assistance to prepare such plans. 41,311 acres under easement - 464 farms protected within the watershed.
Lancaster County Planning Commission	150 N. Queen St., Ste. 320, Lancaster, PA 17603	717-299-8333 Fax 717-295-3659	http://www.co.lancaster.pa.us/planning	Planning Agency / County	Serves as the premier land use, growth management, and environmental planning agency for Lancaster County. Expected to complete and adopt a Water Resources Plan in late 2011. Adopted Green Infrastructure Plan in 2009.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL

Organization Name	Address	Telephone & Fax	Website / E-Mail	Characteristics and Tasks			
				Jurisdiction / Area of Interest	Planning Agency / Multi-Municipal	Primary Responsibilities	Relationship to Bay
Lancaster Inter-Municipal Committee (LIMC)	PO Box 8347, Lancaster, PA 17604	717-397-7507 http://www.lancasterintermunicipalcommittee.org				Plans and coordinates multi-municipal planning and cooperative action on a variety of municipal activities.	Supports municipal initiatives to support water quality throughout the county and the LIMC central area.
Bart Township	46 Quarry Rd. Quarryville PA 17566	717-786-2877 Fax 717-786-8463	barttwp@comcast.net	Municipal/Township	X	X	X
Brecknock Township	1026 Dry Tavern Rd. (Rt. 897), Denver PA 17517	717-445-5933 Fax 717-445-9802	brecktwp@ptd.net	Municipal/Township	X		MS4 within urbanized area - Lancaster
Caernarvon Township	2147 Main St., Narvon, PA 17555	717-445-4244 Fax 717-445-7119	http://www.caernarvonlancaster.org	Municipal/Township	X		
Clay Township	870 Durfach Rd., Stevens, PA 17578	717-733-9675 Fax 717-733-3764	infor@claytwp.com	Municipal/Township	X		MS4 within urbanized area - Lancaster
Colerain Township	1803 Kirkwood Pike, Kirkwood, PA 17536	717-529-2570 Fax 717-529-2199	colorain@epix.net	Municipal/Township	X		
Conestoga Township	3959 Main St., Conestoga, PA 17516	717-872-4301 Fax 717-872-5327	conestogatwp@comcast.net	Municipal/Township	X		
Conoy Township	211 Falmouth Rd, Bainbridge, PA 17502	717-367-4927 Fax 717-367-6299		Municipal/Township	X		
Drumore Township	1675 Furniss Rd, Drumore, PA 17518	717-548-2660 Fax 717-548-2913	http://www.co.lancaster.pa.us/drumore	Municipal/Township	X		
Earl Township	5117 N Railroad Ave., New Holland, PA 17557	717-354-0773 Fax 717-355-0599	bbecker@earltpw.com	Municipal/Township	X		MS4 within urbanized area - Lancaster
East Cocalico Township	100 Hill Rd., Denver, PA 17517	717-336-1720 Fax 717-336-1724	http://www.eastcocalicotownship.com	Municipal/Township	X		MS4 within urbanized area - Lancaster and Reading
East Donegal Township	190 Rock Point Rd., Marietta, PA 17547	717-426-3167 Fax 717-426-4881	http://www.eastdonegaltwp.com	Municipal/Township	X		MS4 within urbanized area - Lancaster
East Drumore Township	1246 Robert Fulton Hwy. Quarryville PA 17566	717-736-3622 Fax 717-786-1217		Municipal/Township	X		
East Earl Township	4610 Division Highway, East Earl PA 17519	717-354-5593 Fax 717-355-0426	eastearltwp@comcast.net	Municipal/Township	X		MS4 within urbanized area - Lancaster
East Hempfield Township	1700 Nissley Rd., Landisville, PA 17538	717-898-3100 Fax 717-898-9486	http://www.easthempfield.org	Municipal/Township	X		MS4 within urbanized area - Lancaster
East Lampeter Township	2250 Old Philadelphia Pike, Lancaster, PA	717-393-1567 Fax 717-393-4609	http://www.eastlampertertownship.org	Municipal/Township	X		MS4 within urbanized area - Lancaster
Eden Township	489 Stony Hill Rd, Quarryville PA 17566	717-786-7915	http://edentownship.org	Municipal/Township	X		
Elizabeth Township	423 South View Drive, Lititz PA 17543	717-626-4302 Fax 717-626-0102	http://www.elizabethtownship.org	Municipal/Township	X		MS4 within urbanized area - Lancaster
Ephrata Township	265 Akron Rd. Ephrata PA 17522	717-733-1044 Fax 717-738-4344	http://www.ephratatownship.org	Municipal/Township	X		MS4 within urbanized area - Lancaster

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL

Organization Name	Address	Telephone & Fax	Website / Email	Characteristics and Tasks	
				Jurisdiction / Area of Interest	Primary Responsibilities
Fulton Township	777 Nottingham Rd., Peach Bottom, PA 17563	717-548-3514		Municipal/Township	X
Lancaster Township	1240 Maple Ave., Lancaster, PA 17603	717-291-1213 Fax 717-291-6818	http://www.twp.lancaster.pa.us	Municipal/Township	X
Leacock Township	3545 W. Newport Rd., Intercourse, PA 17534	717-768-8585 Fax 717-768-8471	http://www.leacocktwp.com	Municipal/Township	X
Little Britain Township	323 Green Lane, Quarryville PA 17566	717-529-2373 Fax 717-529-6160	http://www.littlebritain.org	Municipal/Township	X
Manheim Township	1840 Municipal Dr. Lancaster PA 17601	717- 569-6408 Fax 717-560-4183	http://www.manheimtownship.org	Municipal/Township	X
Manor Township	950 W Fairway Dr., Lancaster PA 17603	717-397-4769 Fax 717-397-7913	http://www.manortwp.org	Municipal/Township	X
Martic Township	370 Steinman Farm Road, Pequea PA 17565	717-284-2167 Fax 717-284-4425	http://www.co.lancaster.pa.us/martictwp	Municipal/Township	X
Mount Joy Township	159 Merts Dr., Elizabethtown PA 17022	717-653-4959 Fax 717-367-9208	http://www.mtjoytwp.org	Municipal/Township	X
Paradise Township	12 Township Dr., Paradise PA 17562	717-768-8222 Fax 717-768-8221	paradisetown@comcast.net	Municipal/Township	X
Penn Township	97 North Penryn Rd. Manheim PA 17545	717-665-4508 Fax 717-665-4105	http://www.penn.co.lancaster.pa.us/penn	Municipal/Township	X
Pequea Township	1028 Millwood Rd. Willow Street PA 17584	717-464-2322 Fax 717-464-4098	http://community.lancasteronline.com/Pequeatwp	Municipal/Township	X
Providence Township	200 Mt. Airy Rd., New Providence, PA 17560	717-786-7596 Fax 717-786-2565	http://www.providencetownship.com	Municipal/Township	X
Rapho Township	971 North Colebrook Rd. Manheim PA 17545	717-665-3827 Fax 717-665-7685	http://www.raphotownship.com	Municipal/Township	X
Sadsbury Township	7182 White Oak Rd. Christiana PA 17509	610-593-6796 Fax 610-593-2389		Municipal/Township	X
Salisbury Township	5581 Old Philadelphia Pk. Gap PA 17527	717-768-8059 Fax 717-768-3660	http://www.salisburytownship.org	Municipal/Township	X
Strasburg Township	400 Bunker Hill Rd. Strasburg PA 17579	717-687-6233 Fax 717-687-9780	http://www.co.lancaster.pa.us/strasburgtwp	Municipal/Township	X
Upper Leacock Township	36 Hillcrest Ave., Leola, PA 17540	717-656-9755 Fax 717-656-9609	http://www.ultpw.com	Municipal/Township	X
Warwick Township	315 Clay Rd. Lititz PA 17543	717-626-8900 Fax 717-626-8901	http://www.warwicktownship.org	Municipal/Township	X
West Cocalico Township	156B W Main St., Reinholds, PA 17569	717-336-8720	http://www.co.lancaster.pa.us/west_cocalico	Municipal/Township	X
West Donegal Township	One Municipal Dr., Elizabethtown PA 17022	717-367-7178 Fax 717-367-4622	http://www.co.lancaster.pa.us/westdonegaltwp	Municipal/Township	X

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL

Organization Name	Address	Telephone & Fax	Website / Email	Characteristics and Tasks		Relationship to Bay
				Jurisdiction / Area of Interest	Primary Responsibilities	
West Earl Township	157 W. Metzler Rd. Brownstown PA 17508	717-859-3201 Fax 717-859-3499	http://www.co.lancaster.pa.us/west_east	Municipal/Township	X	MS4 within urbanized area - Lancaster
West Hempfield Township	3401 Marietta Ave. Lancaster PA 17601	717-285-5554 Fax 717-285-2879	http://www.twp.west-hempfield.pa.us	Municipal/Township	X	MS4 within urbanized area - Lancaster
West Lampeter Township	852 Village Road, Lampeter, PA 17537	717-464-3731 Fax 717-464-5047	http://www.westlampeter.com	Municipal/Township	X	MS4 within urbanized area - Lancaster
City of Lancaster	120 North Duke St., Lancaster, PA 17608-1599	717-291-4711 Fax 717-291-4713	http://www.cityoflancasterpa.com	Municipal/City	X	MS4 within urbanized area - Lancaster
Adamstown Borough	3000 N. Reading Rd., Adamstown, PA 19501	717-484-2280 Fax 717-484-1131	http://www.adamstownboro.co.lancaster.pa.us	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Akron Borough	117 S. Seventh St, Akron PA 17501	717-859-1600 Fax 717-859-4589	http://www.akron-pa.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Christiana Borough	10 W. Slokom Ave., Christiana, PA 17509	610-593-5199 Fax 610-593-7073	http://www.christianaboro.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Columbia Borough	308 Locust St. Columbia PA 17512	717-684-2467 Fax 717-684-7764	http://www.columbiabpa.net	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Denver Borough	501 Main St. Denver PA 17517	717-336-2831 Fax 717-336-7190	http://www.denverboro.net	Municipal/Borough	X	MS4 within urbanized area - Lancaster
East Petersburg Borough	6040 Main St., East Petersburg, PA 17520	717-569-9282	http://www.eastpetersburgborough.org	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Elizabethtown Borough	600 S Hanover St., Elizabethtown Pa 17022	717-367-1700 Fax 717-367-6300	http://www.etownonline.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Ephrata Borough	124 S. State St. Ephrata PA 17522	717-738-9222 Fax 717-733-4062	http://www.ephrataboro.org	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Lititz Borough	7 S Broad St. Lititz PA 17543	717-626-2044 Fax 717-626-1329	http://www.co.lancaster.pa.us/lititz/	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Manheim Borough	15 E. High St., Manheim PA 17545	717-665-2461 Fax 717-665-77324	http://www.manheimboro.org	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Marietta Borough	111 E Market St., Marietta Pa 17547	717-426-4143 Fax 717-426-1247	http://www.boroughofmarietta.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Millersville Borough	100 Municipal Dr., Millersville PA 17551	717-872-4645 Fax 717-872-1895	http://www.Millersvilleborough.org	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Mount Joy Borough	21 E. Main St., Mount Joy PA 17552	717-653-2300 Fax 717-653-6680	http://www.mountjoyborough.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Mountville Borough	21 E Main St., Mountville, PA 17554	717-285-5547 Fax 717-285-2094	mountvilleboro@embargoemail.com	Municipal/Borough	X	MS4 within urbanized area - Lancaster
New Holland Borough	436 E Main St. New Holland PA 17557	717-354-4567 Fax 717-354-2979	irf@newhollandborough.org	Municipal/Borough	X	MS4 within urbanized area - Lancaster
Quarryville Borough	300 St. Catherine St. Quarryville PA 17566	717-786-2404 Fax 717-786-0154		Municipal/Borough	X	MS4 within urbanized area - Lancaster

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL					
Organization Name	Address	Telephone & Fax	Website / Email	Characteristics and Tasks	
				Jurisdiction / Area of Interest	Primary Responsibilities
Strasburg Borough	145 Precision Ave. Strasburg PA 17579	717-687-7732 Fax 717-687-6599	http://www.strasburgboro.org	Municipal/Borough	MS4 within urbanized area - Lancaster
Terre Hill Borough	300 Broad St., Terre Hill, PA 17581	717-445-4581 Fax 717-445-9139	http://www.terrehillboro.com	Municipal/Borough	MS4 within urbanized area - Lancaster

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies -STATE - AUTHORITIES						
Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest	Characteristics and Tasks	
					Primary Responsibilities	Relationship to Bay
PENNVEST Pennsylvania Infrastructure Investment Authority	22 S. Third Street, Harrisburg, PA 17101	717-783-6798 1-877-787-8137	or http://www.pennvest.state.pa.us	Statewide/ Authority	<p>Funding sewer, storm water and drinking water projects throughout the Commonwealth. Administration of Pennsylvania nutrient credit trading program in the Susquehanna and Potomac watersheds.</p>	<p>Recent Lancaster County Non-Point Source Projects:</p> <p>Lancaster City - \$7 million loan to construct stormwater control facilities at 35 locations throughout the city - porous payment in parking lots and streets, green roofs, rain gardens and rain barrels thus reducing infiltration into the sanitary sewage system and the resulting discharge of sediment and nutrients into the Conestoga River and ultimately the Chesapeake Bay.</p> <p>Lancaster County Conservation District - \$425,397 grant to construct various manure-control facilities at a dairy and poultry operation in West Lampeter Township that will reduce nutrient runoff into Pequea Creek, which empties into the Susquehanna River and the Chesapeake Bay.</p> <p>\$148,802 grant to construct manure-control facilities at a poultry farm in Strasburg Township, where nutrient runoff during wet weather is contaminating Big Beaver Creek and, ultimately, the Chesapeake Bay.</p>

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL - MUNICIPAL SEWER AUTHORITIES						
Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest	Characteristics and Tasks	
					Primary Responsibilities	Relationship to Bay
Lancaster Area Sewer Authority	130 Centerville Road, Lancaster, PA 17603	717-299-4843 Fax 717-299-9658	http://www.lasa.org	Wastewater Authority / County	Waste Water collection and treatment for East Petersburg Borough, East Hempfield Township, Lancaster Township, Manheim Township, Manor Township, Mountville Borough and West Hempfield Township.	Point Source Water Quality compliance
City of Lancaster Wastewater Bureau	120 North Duke St., PO Box 1599, Lancaster, PA 17608-1599	717-291-4739	http://www.cityoflancasterpa.com	Wastewater Treatment Plant/Municipal	Collects wastewater from the City of Lancaster and portions of Manheim, Lancaster, East and West Lampeter, Upper Leacock, West Earl, Manor, Pequea Townships and Strasburg Borough.	Wastewater is physically treated through screening and primary clarification where inorganic and organic solids are removed as well as ammonia nitrogen and phosphorus. After dechlorination, the processed wastewater is discharged to the Conestoga River.
Christiana Water & Sewer Authority	PO Box 135, Christiana, PA 17603	610-593-5767		Wastewater Authority / Municipal	Waste water collection and treatment for Christiana Borough.	Point Source Water Quality compliance
Columbia Municipal Authority	308 Locust St. Columbia, PA 17512	717-684-2467		Wastewater Authority / Municipal	Waste water collection and treatment for Columbia Borough.	Point Source Water Quality compliance
East Cocalico Township Water & Sewer Authority	102 Hill Rd. Denver, PA 17517	717-336-1731		Wastewater Authority / Municipal	Waste water collection and treatment for East Cocalico Township.	Point Source Water Quality compliance
East Donegal Township Sewer Authority	190 Rockpoint Road, Marietta, PA 17544	717-426-2855		Wastewater Authority / Municipal	Waste water collection and treatment for East Donegal Township.	Point Source Water Quality compliance
Earl Township Sewer Authority	250 Horning, Rd., Mohnton, PA 19540	717-354-0399		Wastewater Authority / Municipal	Waste water collection and treatment for Earl Township.	Point Source Water Quality compliance
East Earl Sewer Authority	4610 Division Highway, East Earl, PA 17519	717-354-5593		Wastewater Authority / Municipal	Waste water collection and treatment for East Earl Township.	Point Source Water Quality compliance
East Lampeter Sewer Authority	2205 Old Philadelphia Pike, Lancaster, PA 17602	717-393-1567 Fax 717-393-4609		Wastewater Authority / Municipal	Waste water collection and treatment for East Lampeter Township.	Point Source Water Quality compliance
Ephrata Borough Authority	124 S. State St., Ephrata, PA 17522	717-738-9232		Wastewater Authority / Municipal	Waste water collection and treatment for Ephrata Borough.	Point Source Water Quality compliance

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL - MUNICIPAL SEWER AUTHORITIES

Characteristics and Tasks						
Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
Ephrata Township Sewer Authority	265 Akron Rd., Ephrata, PA 17522	717-733-1044		Wastewater Authority / Municipal	Waste water collection and treatment for Ephrata Township.	Point Source Water Quality compliance
Georgetown Area Sewer Authority	400 Truce Road, New Providence, PA 17560	717-786-0124		Wastewater Authority / Municipal	Waste water collection and treatment for Georgetown area. (Bart Township)	Point Source Water Quality compliance
Leacock Township Sewer Authority	3545 W. Newport Rd., Intercourse, PA 17534	717-768-8585		Wastewater Authority / Municipal	Waste water collection and treatment for Leacock Township.	Point Source Water Quality compliance
Leola Sewer Authority	PO Box 325, Leola, PA 17540	717-656-6111		Wastewater Authority / Municipal	Waste water collection and treatment for Leola.	Point Source Water Quality compliance
Lititz Sewer Authority Lititz	Wastewater Plant - 50 Lititz Run Road, Lititz, PA 17543	717-626-2044		Wastewater Authority / Municipal	Waste water collection and treatment for Lititz Borough.	Point Source Water Quality compliance
Manheim Borough Authority	Rettew Lane, Manheim, PA 17545	717-665-2737		Wastewater Authority / Municipal	Waste water collection and treatment for Manheim Borough.	Point Source Water Quality compliance
Marietta Borough-East Donegal Township Joint Authority	190 Rockpoint Road, Marietta, PA 17547	717-426-2855		Wastewater Authority / Municipal	Waste water collection and treatment for Marietta Borough and East Donegal Township.	Point Source Water Quality compliance
Mount Joy Borough Authority	21 East Main St., Mount Joy, PA 17552	717-653-2300		Wastewater Authority / Municipal	Waste water collection and treatment for Mount Joy Borough.	Point Source Water Quality compliance
Mount Joy Township Authority	159 Merts Drive, Elizabethtown, PA 17022	717-367-0749		Wastewater Authority / Municipal	Waste water collection and treatment for Mount Joy Township.	Point Source Water Quality compliance
New Holland Sewer Authority	436 E. Main St., New Holland, PA 17557	717-354-4567		Wastewater Authority / Municipal	Waste water collection and treatment for New Holland Boro.	Point Source Water Quality compliance
Northern Lancaster County Sewer Authority	983 Beam Rd., Denver, PA 17517	717-445-7553		Wastewater Authority / Municipal	Waste water collection and treatment for Brecknock Township.	Point Source Water Quality compliance

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL - MUNICIPAL SEWER AUTHORITIES						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
Northwestern Lancaster County Water & Sewer Authority	97 N. Penryn Road, Manheim, PA 17545	717-665-4508 Fax 717-665-4105		Wastewater Authority / Municipal	Penn Township, including service areas on the eastside and south side of Manheim Borough.	Point Source Water Quality compliance
Paradise Township Sewage Authority	Sewer Plant - 35 N. Singer Avenue, Paradise, PA 17562	717-687-8236		Wastewater Authority / Municipal	Waste water collection and treatment for Paradise Township.	Point Source Water Quality compliance
Quarryville Sewer Authority	300 St. Catherine St., Quarryville, PA 17566	Treatment Plant 717-786-8778		Wastewater Authority / Municipal	Waste water collection and treatment for Quarryville.	Point Source Water Quality compliance
Sadsbury Township Municipal Authority	1077 White Oak Road, Christiana, PA 17509	717-593-6796		Wastewater Authority / Municipal	Waste water collection and treatment for Sadsbury Township.	Point Source Water Quality compliance
Strasburg Sewer Authority	145 Precision Avenue, Strasburg, PA 17579	717-687-7732		Wastewater Authority / Municipal	Waste water collection and treatment for Strasburg Borough.	Point Source Water Quality compliance
Suburban Lancaster Sewer Authority	C/O City of Lancaster - 120 North Duke St. Lancaster, PA 17602	717-560-1900		Wastewater Authority / Municipal	West Lampeter Township, Pequea Township, and portions of Lancaster Township.	Point Source Water Quality compliance
Warwick Township Municipal Authority	315 Clay Rd. PO Box 336, Lititz, PA 17543	717-627-2379 Fax 717-627-7997		Wastewater Authority / Municipal	Waste water collection and treatment for Warwick Township.	Point Source Water Quality compliance
West Donegal Water & Sewer	One Municipal Drive, Elizabethtown, PA 17022	717-367-5947		Wastewater Authority / Municipal	Waste water collection and treatment for West Donegal Township.	Point Source Water Quality compliance
West Earl Sewer Authority	PO Box 725, Brownstown, PA 17508	717-859-3201		Wastewater Authority / Municipal	Waste water collection and treatment for West Earl Township.	Point Source Water Quality compliance

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL - WATERSHED ASSOCIATIONS/ALLIANCES										
Organization Name	Contact Info	Streams/Region	Website or E-Mail	Jurisdiction / Area of Interest	Characteristics and Tasks					Relationship to Bay
					Grants	Private	Public	Non-Profit	Regulatory	
Chiques (Chickies) Creek Watershed Alliance	Rapho Township, 971 N. Colebrook Rd., Manheim, PA 17545 Telephone: 717-665-3827	Little Chiques Creek, Rife Run, Shearer's Creek, Doe Run	http://www.raphotownship.com	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Cocalico Creek Watershed Association	Ed Ostrowski, President, PO Box 121, Reinholds, PA 17569	Cocalico Creek, Harnish Run, Indian Run, Little Cocalico Creek		Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Columbia Borough Watershed Association	Columbia Borough, 308 Locust St., Columbia, PA 17515 Telephone: 717-684-2654	Shawnee Run, Stricker Run		Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Conowingo Watershed	Wayne Boggs, President, Donegal Trout Unlimited, PO Box 872, Brownstown, PA 17508 Telephone: 717-733-2365	Conowingo Creek	http://www.donegaltu.org/conowingo.html	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Conoy Creek Watershed Association	Jeff Fry, President, PO Box 62, Elizabethtown, PA 17022	Conoy Creek, Snitz Creek	conoycreek@yahoo.com	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Donegal Chapter of Trout Unlimited	Wayne Boggs, President, PO Box 872, Brownstown, PA 17508	Lititz Run, Shearers Creek, Conowingo Creek, Furnace Run, Segloch Run, Donegal Creek,	http://www.donegaltu.org Email: troutwisper@gmail.com	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Donegal Fish & Conservation Association	Kurt Enck, President, 419 Martin Ave. Mount Joy, PA 17552	Donegal Creek, Charles Run	http://www.donegalfish.com and Email: fishmagic@comcast.net	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Friends of Fishing Creek	Fran Reining, President, 13 Friendly Dr., Quarryville, Pa 17566	Fishing Creek	mreining@yahoo.com	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Furnace Run/Segloch Run Watershed Alliance	Annie Reinhart, President, 721 E. 28th Division Hwy., Lititz, PA 17543	Furnace Run, Segloch Run		Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Hammer Creek Watershed Association	Gary Trostle, President, 21 Buch Mill Rd., Lititz, PA 17543	Hammer Creek	dtrost@dejazzd.com	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.
Lititz Run Watershed Association	PO Box,308, Lititz, PA 17543-0308		http://www.warwicktownship.org	Tributary Watersheds / County	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.

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Agencies and Organizations For the Chesapeake Bay

Governmental/Municipal Agencies - LOCAL - WATERSHED ASSOCIATIONS/ALLIANCES											
Organization Name	Contact Info			Characteristics and Tasks			Primary Responsibilities	Relationship to Bay			
	Streams	Website or E-Mail	Jurisdiction / Area of Interest	Public / Private	Non-Profit	Regulatory	Grants	Physical Projects	Educational Programs	Planning & Research	Policy/Political
Little Chiques Creek Watershed Alliance	Mount Joy Borough, PO Box 25, 21 E. Main St. Mount Joy, PA 17552	Little Chiques Creek, Brubaker Run	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed
Little Conestoga Watershed Alliance	Derek Reese, President, PO Box 6355, Lancaster, PA 17607	Little Conestoga Creek, W. Branch Little Conestoga Creek, Swarr Run, Millers Run, Bachman Run, Jacob's Creek	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed
Lower Susquehanna Conservation Landscape Initiative	John Norbeck, Director - Bureau of State Parks Pennsylvania DCNR Telephone: 717-787-6640	3 major lakes - Lake Clarke, Lake Aildred and the Conowingo Pool. 3 national recreation trails - Susquehanna River Water Trail, Kelly's Run - Pinnacle Trail and the Mason-Dixon Trail.	Susquehanna River and riverside lands in York and Lancaster Counties.	x	x	x	x	x	x	Place-based strategy for natural resources stewardship and advocacy.	Conservation and protection of the natural, cultural, historic and scenic resources that define the special character and qualities of the Susquehanna River corridor in Lancaster and York Counties. The Susquehanna River which provides more than half the freshwater to the Chesapeake Bay.
Millicreek Preservation Association	Christ Miller, President, PO Box 300, Bird-in-Hand, PA 17505	Mill Creek, Muddy Run, Groff Run, Reifers Run	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed
Octoraro Watershed Association	John Shuman, President, 517 Pine Grove Rd., Nottingham, PA 19362 Telephone : 717-529-2132	Octoraro Creek, East Branch Octoraro Creek, West Branch Octoraro Creek, Stewart's Run, Nickel Mines Run, Meetinghouse Creek, Valley Run	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed
Paradise Sportsmen Association	Dewey Null, 41 Peach Lane, R.D.#2, Ronks, PA 17572	Esthleman Run, Londonland Run, Pequea Creek	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed.
Susquehanna Greenway Partnership	201 Furnace Road, Lewisburg, PA 17837	570-524-4491	http://www.susquehannagreenway.org		Tributary Watersheds / Multi-State	x	x	x	x	Dedicated to developing and sustaining the Susquehanna Greenway to connect communities and enrich lives through enhances recreation, healthy living, economic prosperity and environmental stewardship.	Susquehanna Greenway encompasses the area along the Susquehanna River originating in Cooperstown, NY and ending in Havre de Grace, Maryland at the Chesapeake Bay.
Tri-County Conewago Creek Watershed Association	Matt Royer, President, PO Box 107, Elizabethtown, PA 17022	Conewago Creek, Little Conewago Creek, Brills Run	Tributary Watersheds / County	x	x	x	x	x	x	Protect and enhance the quality of streams throughout the county.	Streams flow in to the Chesapeake Bay Watershed

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Agencies and Organizations For the Chesapeake Bay

AGRICULTURAL ALLIANCES / ORGANIZATIONS						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		Relationship to Bay
				Jurisdiction / Area of Interest	Primary Responsibilities	
American Farmland Trust	1200 18th Street NW, Suite 800, Washington, DC 20036	202-331-7300 Fax 202-659-8339	http://www.farmland.org	Land Trust / National	Originally to conserve farm land; AFT more recently has concentrated on research and demonstration of better ways for farmers to preserve critical land and water resources.	AFT has initiated special efforts in the Bay states and especially in Pennsylvania under its "BMP Challenge" programs aimed at reducing farmers' use of nitrogen by guaranteeing income when they adopt new stewardship practices
Lancaster County Agriculture Council	c/o Scott Sheely, Lancaster County Workforce Investment Board, 313 W. Liberty St., Ste. 114, Lancaster, PA 17603	717-735-0333	http://www.keeplancastercountyyfarming.com	Ag Industry Advocate / County	x x	Raise awareness of the Lancaster County Agriculture as a business. Direct involvement in planning issues in the county relating to farmland preservation and economic development plans.
Lancaster Farmland Trust	125 Lancaster Ave., Strasburg, PA 17579	717-687-8484	http://www.lancasterfarmlandtrust.org	Land Trust / County	x x x x x	Farm Land Preservation
Natural Lands Trust	1031 Palmers Mill Road, Media, PA 19063	610-353-5587	http://www.natlands.org	Land Trust/Regional	x x x x x	Land conservation organization dedicated to protecting the forests, fields, streams and wetlands of eastern Pennsylvania and southern New Jersey.
PennAg Industries Association	2215 Forest Hills Drive, Ste. 39, Harrisburg, PA 17112	717-651-5920	http://www.pennag.com	Consumer outreach informing the public about agricultural production in Pennsylvania. Monitors legislative activities at the state and national levels and advocates for policies that maintain a viable and competitive environment of Pennsylvania agribusiness.	x x x x x	Conducts member seminars and workshops about state and federal regulations affecting farmers including the Bay TMDL.
Penn State Cooperative Extension - Lancaster County	11383 Arcadia Road, Room 140, Lancaster, PA 17601-3184		http://www.lancaster.extension.psu.edu	Ag Industry Advocate / PA	x x x x x	Provide local residents easy access to the resources and expertise of the Pennsylvania State University through educational programs, publications and events.
Pennsylvania Farm Bureau	510 S. 31st St., Camp Hill, PA 17011-5214	717-394-3962 Fax 717-394-3962	County Contact - Deborah Benner 717-653-2314	Ag Industry/County/ PA	x x x x x	Pennsylvania Farm Bureau is a general farm organization made up of members providing legislative support, information, and services to Pennsylvania's farmers and rural families since 1950.
				Ag Industry / Advocate / County / PA	x x x x x	The Farm Bureau joined the American Farm Bureau Federation to challenge the EPA established TMDL for the Chesapeake Bay. The Farm Bureau fears that the TMDL will push hundreds of thousands of acres out of production.

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Agencies and Organizations For the Chesapeake Bay

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Agencies and Organizations For the Chesapeake Bay

ENVIRONMENTAL ORGANIZATIONS						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
Alliance for the Chesapeake Bay, Pennsylvania Office	3310 Market Street, Suite A, Camp Hill, PA 17011	717-737-8622 Fax 717-737-8650	https://allianceforthebay.org	Environmental/ Regional	Engage, educate and partner in developing innovative solutions	Collaborates and educates the community to develop innovative solutions that can be implemented to protect the Bay.
American Rivers	Headquarters - 1101 14th Street NW, Suite 1400, Washington, DC 20005 and Mid-Atlantic Offices, 355 N. 21st Street, Suite 206, Camp Hill, PA 17011	202-347-7550 Fax 202-347-9240 717-763-0742 Fax 717-763-0743 Camp Hill	http://www.americandrivers.org	Nationwide/Regional/ Conservation/Clean Water	Protection of wetlands that provide clean water and works with municipalities to effectively treat stormwater and wastewater.	Working with state legislators to implement an innovative stormwater law that requires "environmental site design" incorporating green infrastructure practices to ensure water is managed on site as much as possible.
Brandywine Conservancy	Environmental Management Center, 1 Hoffman's Mill Road, PO Box 141, Chadds Ford, PA 17317	610-388-8340	http://www.brandywineconservancy.org	Environmental/ Watershed- Regional	Conservation of natural resources of the Brandywine River watershed and other selected areas with a primary emphasis on conservation of water quantity and quality.	Conservancy is joining with other groups to initiate a Watershed Reforestation Campaign. Working with GreenTreks Network to provide education and outreach through the statewide Stormwater PA website.
Chesapeake Bay Commission	Marel Raub, Pennsylvania Director, c/o Senate of Pennsylvania, Room G-05, North Office Building, Harrisburg, PA 17120 Email: mraub@chesbay.us	717-772-3651 Fax 717-705-3548	http://www.chesbay.state.vaus	Environmental/ Regional	Coordination of bay-related policy across state lines and to develop shared solutions.	Policy leader in the restoration of the Chesapeake Bay.
Chesapeake Bay Foundation	162 Prince George Street, Annapolis, MD 21401	410-268-8816	http://www.cbf.org	Environmental/ Regional	Fight for strong and effective laws and regulations and works cooperatively with government, business, and citizens in partnerships to protect and restore the Bay.	Serves as a watchdog and speaks out on behalf of the Chesapeake Bay to business, government and the public. Provides educational programs to heighten sensitivity, increase knowledge and empower citizens to take positive action toward the Bay's restoration.
Chesapeake Bay Program	410 Severn Avenue, Suite 112, Annapolis, MD 21403	410-267-5700 Fax 410-267-5777	http://www.chesapeakebay.net	Environmental/ Watershed- Regional	Regional partnership including the states of Maryland, Virginia and Pennsylvania, the District of Columbia and the federal Environmental Protection Agency.	Direction of bay restoration efforts.
Chesapeake Bay Trust	410 Severn Avenue, Suite 112, Annapolis, MD 21403	410-267-5700 Fax 410-267-5777	http://www.cbtrust.org	Environmental/Watershed- Regional	Independent, nonprofit grant-making organization chartered by the Maryland General Assembly in 1985 to engage the public in the protection and restoration of the Chesapeake Bay and its tributary rivers and streams.	Provides funding in support of environmental education and habitat restoration projects that impact the environment and actively engage citizens in Bay and river restoration efforts.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

ENVIRONMENTAL ORGANIZATIONS						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
Clean Water Action	1115 Pine Street, 1st floor, Harrisburg, PA 17101	717-233-1801 Fax 717-233-1816	http://www.cleanwateraction.org	Environmental/ Advocacy/ Nationwide	Grassroots advocacy organization providing policy research and political advocacy focused on holding elected officials accountable to the public.	Supported the federal enactment of the Clean Water Restoration Act that affirmed the Clean Water Act covers all waters of the United States. Advocates for the enforcement of the Clean Water Act as the likeliest means restoring the Bay.
Ducks Unlimited	One Waterfowl Way, Memphis, TN 38120	800-45DUCKS or 901-753-3825	http://www.ducks.org	Environmental Advocate / National	X X X X	Habitat Conservation in the Chesapeake Bay Watershed – Ducks Unlimited has conserved more than 53,000 acres of water fowl habitat.
Environmental Defense Fund	National Headquarters - 257 Park Avenue South, New York, NY 10010	212-505-2100 Fax 212-505-2375	http://www.edf.org	Environmental Advocate / National	X X X X X	EDF is expanding its work on the Chesapeake Bay, where two staffers will focus initially on blue crabs. Their goal: working with watermen and the state of Maryland to design a catch share program by 2013. Longer term, they will study other imperiled Bay fisheries for transition to catch shares, including striped bass, yellow perch and oysters.
Lancaster County Clean Water Initiative	c/o Scott Sheely, Lancaster County Workforce Investment Board, 313 W. Liberty St., Ste. 114, Lancaster, PA 17603			Environmental Advocate / County	X	Collaboration with local watershed groups, the Lancaster County Conservation District, the Chesapeake Bay Foundation, Lancaster Chamber of Commerce & Industry, the County Planning Commission, Lancaster County Cooperative Extension, the Lancaster County Workforce Investment Board, LiVE Lancaster and other conservation-related groups.
Lancaster County Conservancy	117 South West End Avenue, PO Box 7116, Lancaster, PA 17608-0716	717-392-7891 Fax 717-392-8220	http://www.lancasterconservancy.org	Land Trust / County	X X X X	Save and steward the ecosystems and landscapes upon which we depend for food, clean water and air, economic and public health,
LIVE Green	PO Box 509, Lancaster, PA 17608-0509	717-669-5990	http://livergreenlancaster.org	Environmental Advocate / County	X X X X	Live Green concentrates its efforts in urban settings, particularly in the City of Lancaster.
Local Government Environmental Assistance Network (LGEAN)	c/o The International City/County Management Association (ICMA), 777 North Capitol Street, N.E. Suite 500, Washington, DC 20002-4201	877-865-4326	lgean@icma.org http://www.lgean.org	Environmental Assistance / National	X X X	EPA Compliance Assistance Center providing environmental management, planning, funding and regulatory information for local government elected and appointed officials, managers and staff
						Compliance, enforcement and regulatory information relating to the clean up of the Bay.

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Agencies and Organizations For the Chesapeake Bay

ENVIRONMENTAL ORGANIZATIONS						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
National Association of Clean Water Agencies (NACWA)	1816 Jefferson Place, NW, Washington, D.C. 20039-2505	202-833-2672 Fax 888-267-9505	http://www.nacwa.org	Environmental Advocate / National	Clean water community's voice in Congress, at the U.S. Environmental Protection Agency (EPA), in the courts, and in the media.	Technical resource on water quality and ecosystem protection issues.
National Fish & Wildlife Association	11133 Fifteenth Street, N.W. Suite 1100, Washington, DC 20005	202-857-0166 Fax 202-857-0162	http://www.nfwf.org	Environmental Advocate / National	Works with a full complement of individuals, foundations, government agencies, nonprofits, and corporations to identify and fund the nation's most intractable conservation challenges.	Grant recipients have received a total of \$12.9 million in Innovative Nutrient and Sediment Reduction grants to support efforts to reduce or eliminate nutrient and sediment pollution to the Chesapeake Bay and its tributaries. This year's recipients are providing an additional \$19.4 million in matching funds.
The Nature Conservancy	4245 North Fairfax Drive, Suite 100, Arlington, VA 22203-1606	703-841-5300	http://www.nature.org	Environmental Advocate / National	Conserve Land and Habitats.	To date, the Conservancy has helped to preserve more than 160,000 acres in the Bay watershed.
PennEnvironment	1420 Walnut Street, Suite 650, Philadelphia, PA 19102	215-732-5897	http://www.pennenvironment.org	Environmental Advocate / Statewide	Statewide, citizen-based environmental advocacy. Investigate problems, craft solutions, educate the public and decision-makers, and help the public make their voices heard in local, state and national debates over the quality of the environment.	Research and papers relating to the Clean Water Act.
Penn Future	610 North Third St., Harrisburg, PA 17101	717-214-7920 Fax 717-214-7927	http://www.pennfuture.org	Environmental Advocate / State	Advocates for the transformation of public policy, public opinion and the marketplace to restore and protect the environment and safeguard public health. Penn Future advances effective solutions for the problems of pollution, sprawl and global warming; mobilizes citizens; crafts compelling communications; and provides excellent legal services and policy analysis.	Broad initiatives to lobby for enforceable regulations promoting clean water and air in the Chesapeake – Mid-Atlantic Region as the official Pennsylvania representative for the National Wildlife Federation.
StormwaterPA	c/o GreenTreks Network, Inc., 1420 Walnut Street, Suite 1304, Philadelphia, PA 19102	215-545-5880	http://stormwaterpa.org	Environmental Education/State	Helps municipalities throughout Pennsylvania apply the most effective, proven techniques in stormwater management.	Stormwater management best practices.
The Nature Conservancy - Chesapeake Bay Initiative	Mark Bryer, Director - Chesapeake Bay Initiative - The Nature Conservancy, 5410 Grosvenor Lane, Suite 100, Bethesda, MD 20814	301-897-8570, Ext. 229	http://www.nature.org/ourinitiatives/region/northamerica/areas/chesapeakebay	Environmental Advocate/National	Protection/preservation of lands and waters.	Preservation of more than 160,000 acres in the Chesapeake Bay watershed. Through the Chesapeake Bay Initiative the Conservancy partners with public and private agencies to protect and restore the Bay.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

ENVIRONMENTAL ORGANIZATIONS		Characteristics and Tasks		Primary Responsibilities		Relationship to Bay	
Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest			
The Trust for Public Land - National Office	101 Montgomery Street, Suite 900, San Francisco, CA 94104	415-495-4014	http://www.tpl.org	Land Trust / National	X	X	X

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

CONSULTANTS/ENGINEERING						
Organization Name	Address	Telephone & Fax	Website	Characteristics and Tasks		
				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
AET Consulting	PO Box 299, Lititz, PA 17543	717-625-2218	http://www.aetconsulting.com	Private Consultant / PA, DE, MD	Agronomic, environmental and technical services	Nutrient management planning and conservation planning
ARRO Consulting, Inc.	108 West Airport Road, Lititz, PA 17543	717-569-7021 Fax 717-560-0577	http://theatrogroup.com	Private Consultant / PA	Consulting services.	Wastewater and water services, Civil & Municipal services, GIS, Contract operations services, etc.
August Mack Environmental, Inc.	941 Wheatland Avenue, Suite 202, Lancaster, PA 17603	717-399-9587 Fax 717-399-5493	http://www.augustmack.com	Private Consultant / PA	Full-service environmental, health and safety consulting firm.	Consulting services relating to storm water permitting, wastewater treatment plant operation, waste management, etc.
David Miller Associates, Inc.	1076 Centerville Road, Lancaster, PA 17601	717-898-3402	http://www.dmai.com	Private Consultant / PA	Civil engineering services.	Hydrology/hydraulics; Utility Design; Environmental Services; Permit Preparation/Processing and Construction Management.
ELA Group	743 South Broad Street, Lititz, PA 17543	717-626-7271 Fax 717-626-	http://www.elagroup.com	Private Consultant / PA	Consulting services.	Land planning, municipal engineering, civil engineering, water/wastewater engineering, surveying and GIS services
Lancaster Laboratories	2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425	717-656-2300	http://lancasterlabs.com	Private Consultant / PA	Provides a comprehensive array of high quality, NELAP-accredited environmental testing services.	Water quality and waste characterization testing
LandStudies	315 North Street, Lititz, PA 17543	717-627-4440 Fax 717-627-4660	http://www.landstudies.com	Private Consultant / PA	Consulting services, sustainable site design and design/build.	Watershed planning; regional water quality facility; floodplain restoration; stormwater management and groundwater recharge.

NOTE- This listing of firms providing services to the local community may be incomplete. We apologize for any omissions. Contact the Hourglass at hourglass@hourglassfoundation.org to be considered for inclusion in future editions.

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Agencies and Organizations For the Chesapeake Bay

CONSULTANTS/ENGINEERING						
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				Jurisdiction / Area of Interest	Primary Responsibilities	Relationship to Bay
Herbert, Rowland & Grubic	1846 Charter Lane, Lancaster, PA 17601	717-291-1783 Fax 717-291-2093	http://www.hrg-inc.com	Private Consultant / PA	X	Water resources, land development, water & energy, surveying, environmental compliance, GIS and construction phase services.
Red Barn Consulting	309 Old Delp Rd., Lancaster, PA 17601	717-393-2176 Fax 888-850-6015	http://www.redbarnmag.com	Private Consultant / PA	X	Consulting services for the agricultural industry.
Red Barn Trading Company	P.O. Box 155, East Petersburg, PA 17520	717-509-2080 Fax 717-392-3860	http://www.redbarntrading.com	Private Consultant / PA	X	Full service supplier of DEP certified nutrient credits to meet Bay Tributary compliance. Red Barn Trading aggregates, certifies and verifies both nitrogen and phosphorous nutrient credits.
Rettew Associates	3020 Columbia Avenue, Lancaster, PA 17603	800-738-8395 Fax 717-394-1063	http://www.rettew.com	Private Consultant / PA	X	Environmental engineering, geosciences, land development municipal, natural sciences, structural, surveying and transportation services.
TeamAg, Inc.	1120 Lake Street, Ephrata, PA 17522	717-721-6795	http://www.teamaginc.com	Private Consultant / PA	X	Nutrient management, farm management, soil/water resources management, nutrient trading,etc.

APPENDIX F

Agencies and Organizations For the Chesapeake Bay

OTHER ORGANIZATIONS

NOTE- This listing of organizations in the local community may be incomplete. We apologize for any omissions. Contact the Hourglass at hourglass@hourglassfoundation.org to be considered for inclusion in future editions.

Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest	Characteristics and Tasks							
					Grants	Physcial Projects	Educational Initiatives	Industrial Education	Planning & Research	Policy & Lobbying	Primary Responsibilities	Relationship to Bay
Associated Builders and Contractors, Inc. (ABC)	Keystone Chapter, Rapho Business Park, 135 Shellyland Rd., Manheim, PA 17545-8683	717-653-8106 Fax 717-653-6432	http://www.abckeystone.org	Trade Association Construction /Nationwide/ Local Chapter							Construction and construction-related membership based organization providing government representation, legal advocacy, education, workforce development, awards programs, employee benefits, information on best practices and business development.	Advocates for full reauthorization of the Clean Water State Revolving-Loan Fund (SRF) program by the federal government to shift resources to state revolving fund to provide a stable revenue source for improvements to water and wastewater infrastructure.
Building Industry Association of Lancaster County (BIA)	204 Butler Avenue, Suite 200, Lancaster, PA 17601	717-569-2674 Fax 717-569-5187	http://www.lancasterbuilders.org	Trade Association / Construction / County							Membership based organization for the building industry. Provides professional development, education and advocacy.	Grassroots lobbying efforts on issues affecting the building industry in the Chesapeake Bay watershed.
Coalition for Smart Growth	1383 Arcadia Road, Room 001, Lancaster, PA 17601	717-509-4711 Fax 717-509-4711	http://www.coalitionforsmartgrowth.org	Smart Growth Advocate / County							Provides education and advocacy specific to matters of smart growth and growth management in Lancaster County.	Conducts periodic summits on issues relating to smart growth - 2010 Summit - The Chesapeake Bay and Lancaster Count - Making the Connection.
Elizabethtown College	One Alpha Drive, Elizabethtown, PA 17022-2290	717-361-1000	http://www.etown.edu	College / University							Higher Education.	For many years Elizabethtown College has taken a proactive approach to the efficient use of water, natural gas, fuel oil, electricity, in the reduction in the amount of storm water we send to the Chesapeake Bay and the sanitary waste and solid waste we generate.
Franklin and Marshall College	415 Harrisburg Avenue, Lancaster, PA 17603	717-291-3911		College / University							Higher Education.	F & M has conducted groundbreaking research on Colonial Mill Ponds of Lancaster County as a Major Source of Suspended Sediment to the Susquehanna River and Chesapeake Bay. The Mill ponds are responsible for the accumulation of Legacy Sediments - Sediment that was eroded from upland areas after the arrival of early Colonial settlers and during centuries of intensive agricultural and industrial land uses along the streams - Great Watersheds - a course investigating the Delaware and the Chesapeake (including their big rivers, the Susquehanna and the Potomac) watersheds.
Hourglass Foundation	123 North Prince St., Lancaster, PA 17603	717-295-0755 Fax 717-295-0757		Quality of Life Advocate / County							A local, nonpartisan think tank founded in 1997 championing the smart growth of Lancaster County. Provides information and facilitates discussion on growth-related issues that impact the distinct character of the County. Works with local people, organizations and government to find effective solutions to the issues.	White Paper on Lancaster County's relationship to the cleanup of the Chesapeake Bay - From the Susquehanna to the Chesapeake Bay.

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Agencies and Organizations For the Chesapeake Bay

OTHER ORGANIZATIONS						
Organization Name	Address	Telephone & Fax	Website	Jurisdiction / Area of Interest	Characteristics and Tasks	
					Primary Responsibilities	
Lancaster County Association of Realtors (LCAR)	1930 Harrington Drive, Lancaster, PA 17601	717-569-4625 Fax 717-569-5994	http://www.lcaronline.com	Trade Association / County	Providing buyers and sellers with knowledgeable, ethical and competent real estate agents. Provides Multiple Listing Service (MLS) and training for agents in Lancaster County. Involved in community outreach efforts.	Advocates of smart growth.
Lancaster Chamber of Commerce & Industry	100 S. Queen St., Lancaster, PA 17603	717-397-3531	http://www.lancasterchamber.com	Business Advocate / County	Membership organization of community-minded businesses working collectively to make Lancaster County a great place to live, work and do business. Leverages collective power of the group to weigh in on legislative and community issues that affect Lancaster County's business climate and quality of life.	x
Lancaster County Workforce Investment Board	313 W. Liberty St., Suite 114, Lancaster, PA 17603	717-735-0333	http://www.lancastercountywib.com	Business Advocate / County	To coordinate, develop and maintain an effective responsive system of programs and services that integrates the needs of employers for an ample and productive workforce in Lancaster County.	x x x
Millersville University	PO Box 1002, 1 South George St., Millersville, PA 17551	717-872-3011	http://www.millersville.edu	College / University	Higher Education	x x
Pennsylvania State Association of Township Supervisors	4855 Woodland Drive, Enola, PA 17022	717-763-0930 Fax 717-763-9732	http://www.psats.org	Municipal Advocate / PA	An association committed to preserving and strengthening 2nd class township government by lobbying state and federal lawmakers and educating and informing members through workshops, publications, etc.	x x x
Penn State University College of Agricultural Sciences	201 Agricultural Administration Building, University Park, PA 16802	814-865-2541	http://www.psu.edu	College / University	Higher Education	x x x



The Hourglass Foundation, founded in 1997, is a non-partisan, non-profit organization focused on making Lancaster County an even better place to live. The Hourglass works to raise awareness, facilitate discussion, provide information and create the conditions that will allow residents to understand and participate in decisions that impact the quality of their lives. We believe that strategic growth management is critical to controlling our destiny and protecting Lancaster County's unique character and special quality of life. The Hourglass works with individuals, groups, organizations and government officials to enable informed decision making on issues affecting the future of Lancaster County.