

## Benefits of a Collaborative Regional Approach

**1 PROVIDES FLEXIBILITY.** A county-based nutrient credit trading program provides flexibility to WWTPs, since some plants have greater cap load requirements and/or shorter compliance time frames to meet. In turn, this enables more cost-effective technical options to be explored, including planning and design collaboration between WWTPs.

**2 IMPROVES FINANCING OPTIONS.** A regional approach increases the viability of more funding options, including government sources that prefer to address environmental issues on a greater geographic scale. This will help to minimize ratepayer impact.

**3 MULTIPLIES ENVIRONMENTAL BENEFITS.** Local investments in best management practices improve the county's natural habitat, recreational uses and tourism, stormwater management, and flood control. A regional approach also provides more opportunities to implement local resource management plans.

**4 ENABLES ECONOMIC GROWTH.** Businesses are attracted to a county that demonstrates innovative approaches to cost-effectively address compliance. A regional approach also increases the feasibility of brownfields (e.g., old industrial sites) redevelopment and the targeting of economic growth in planned growth corridors.

**DRIVES COST-EFFECTIVE COMPLIANCE AND ENABLES LOCAL CONTROL.** A county-based nutrient credit trading program offers cost-effective alternatives that drive WWTP compliance, while enabling local program control to reduce financial risks.

Maximize Options ... Minimize Costs ... Promote Environmental Stewardship

Contact Lycoming County Planning & Community Development at (570) 320.2130, or visit [www.lyco.org](http://www.lyco.org)

## Chronology of Events

1972	Federal Clean Water Act Amendments introduce a permitting system to regulate point sources of pollution and create a public works financing program for municipal sewage treatment.
2000	Pennsylvania joins Maryland, Virginia, the District of Columbia, and others to sign the Chesapeake Bay 2000 Compact, pledging to improve water quality in the watershed.
2005	Pennsylvania's Chesapeake Bay Tributary Strategy mandates compliance schedules.
2007	Lycoming County begins to evaluate implications of the Bay Compact.
3/2008	Lycoming County hosts a well-attended community stakeholder meeting. Public agreement is reached on the need for a county-based strategy.
4-9/2008	Feasibility study documents potential to develop a viable nutrient management strategy for Lycoming County; strategy development begins.
10/2008	DEP endorses Lycoming County's regional compliance approach and commits state funds for implementation. Educational briefings are held for WWTPs and Community Advisory Committee.
12/2008	Phase II strategy results to be presented to the public.
2009	Implementation of county-based strategy begins in Lycoming County.
10/2010 - 9/2013	Nutrient reduction compliance dates are imposed by the DEP for Lycoming County WWTPs, depending on their individual nutrient discharge levels. Compliance is mandatory and driven by regulatory order. Noncompliance threatens significant and costly penalties. Additional funding sources for implementation will continue to be explored.

(Date of issue: 12/2008, County of Lycoming)

## Understanding Issues, Exploring Options

### Lycoming County

### CHESAPEAKE BAY NUTRIENT MANAGEMENT STRATEGY

Lycoming County Board of Commissioners

Rebecca A. Burke, Chairperson

Ernest P. Larson, Vice Chairperson

Jeff C. Wheeland, Secretary

Fred Marty, Director of Administration



*a collaborative, county-based approach to minimize costs and promote environmental stewardship*

# Understanding the Issues

## What is the Chesapeake Bay issue?

The federal Clean Water Act identifies the Chesapeake Bay as an impaired waterway, suggesting this treasured estuary, once rich with aquatic life, is today degraded by pollution.

Wastewater treatment plants (WWTPs), referred to as point sources of pollution, and agricultural non-point sources contribute significant levels of nutrients (nitrogen and phosphorus) into the Susquehanna River, which feeds into the Chesapeake Bay.

Pennsylvania joined with several neighboring states and agencies to sign the Chesapeake Bay 2000 Agreement.

## How is Lycoming County impacted?

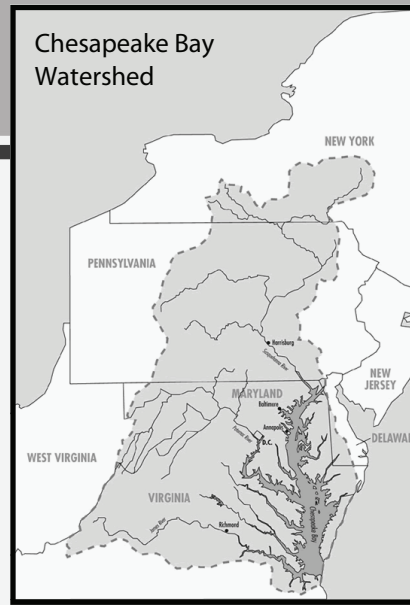
In 2005, the Pennsylvania Chesapeake Bay Tributary Strategy, developed by the Pennsylvania Department of Environmental Protection (DEP) and approved by the U.S. Environmental Protection Agency (EPA), mandated reductions in nutrient discharges.

The seven WWTPs in Lycoming County will face millions of dollars in upgrade costs to comply (and fines/penalties if they do not). The impact of these costs is compounded by required municipal sewage collection system improvements. Ultimately, ratepayers will feel the pinch.

## How is county government helping?

Lycoming County government has invested more than \$500,000 to design a county-based strategy that partners county WWTPs, farmers, and landowners in a nutrient credit trading program to keep compliance costs in check. Credits are created when best management practices (BMPs) reduce total nutrients entering the watershed.

BMPs could include reductions of animal waste on farms, restoration of eroded stream banks, and conversion to no-till planting, for instance. WWTPs could purchase credits from a credit aggregator or credit bank to enable them to comply cost-effectively.



## Nutrient Credit Trading The Power of Partnership

*The Chesapeake Bay watershed includes 26 counties in Pennsylvania and parts of five other states and the District of Columbia that drain into the largest estuary on the East Coast. Federal and state laws require prescribed tonnage reductions of nutrients into the Bay within specified time frames.*



*Pennsylvania was the first state to enact nutrient management laws for farms, which are significant contributors of nitrogen and phosphorus into the Bay. Today, more than 5,000 farms in Pennsylvania are covered by nutrient management plans. County conservation districts will play increasingly vital roles in educating farmers and landowners on ways to preserve land, guard against erosion, and restore stream banks. Agriculture is among the non-point sources of Bay pollution.*

### Nutrient Credit Trading

*A nutrient credit is created when a best management practice is implemented to significantly reduce nutrients entering the watershed. A credit might be created by a watershed group that installs a section of riparian buffer or restores a stream bank, by a farmer who converts to no-till planting, or a wastewater treatment plant (WWTP) that removes more nutrients than is required by its state permit.*

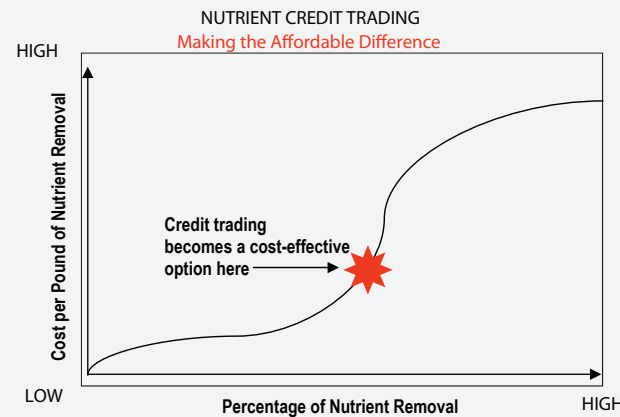
*Credits are generally offered per annual pound of nitrogen or phosphorus, would go into a credit bank operated by a public or private source, and could be sold to WWTPs. This enables WWTPs to meet mandated standards more cost-effectively than with facility upgrades alone.*

*The cost of nutrient removal using facility upgrades alone increases exponentially for most WWTPs. Nutrient credit trading can stave off extreme expense hikes at "the knee of the curve," as pictured at right.*

*Dischargers and developers can use credits as a long-term compliance measure, an interim solution, or in combination with technology upgrades.*



*Wastewater treatment plants often require significant, costly upgrades to meet cap load discharge requirements. An alternative is to combine partial upgrades with purchases of nutrient credits to offset high expenses that otherwise would be passed along to ratepayers.*



## Project Support Provided by:



CELEBRATING  
25 YEARS



pennsylvania  
DEPARTMENT OF COMMUNITY  
& ECONOMIC DEVELOPMENT



pennsylvania  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION