



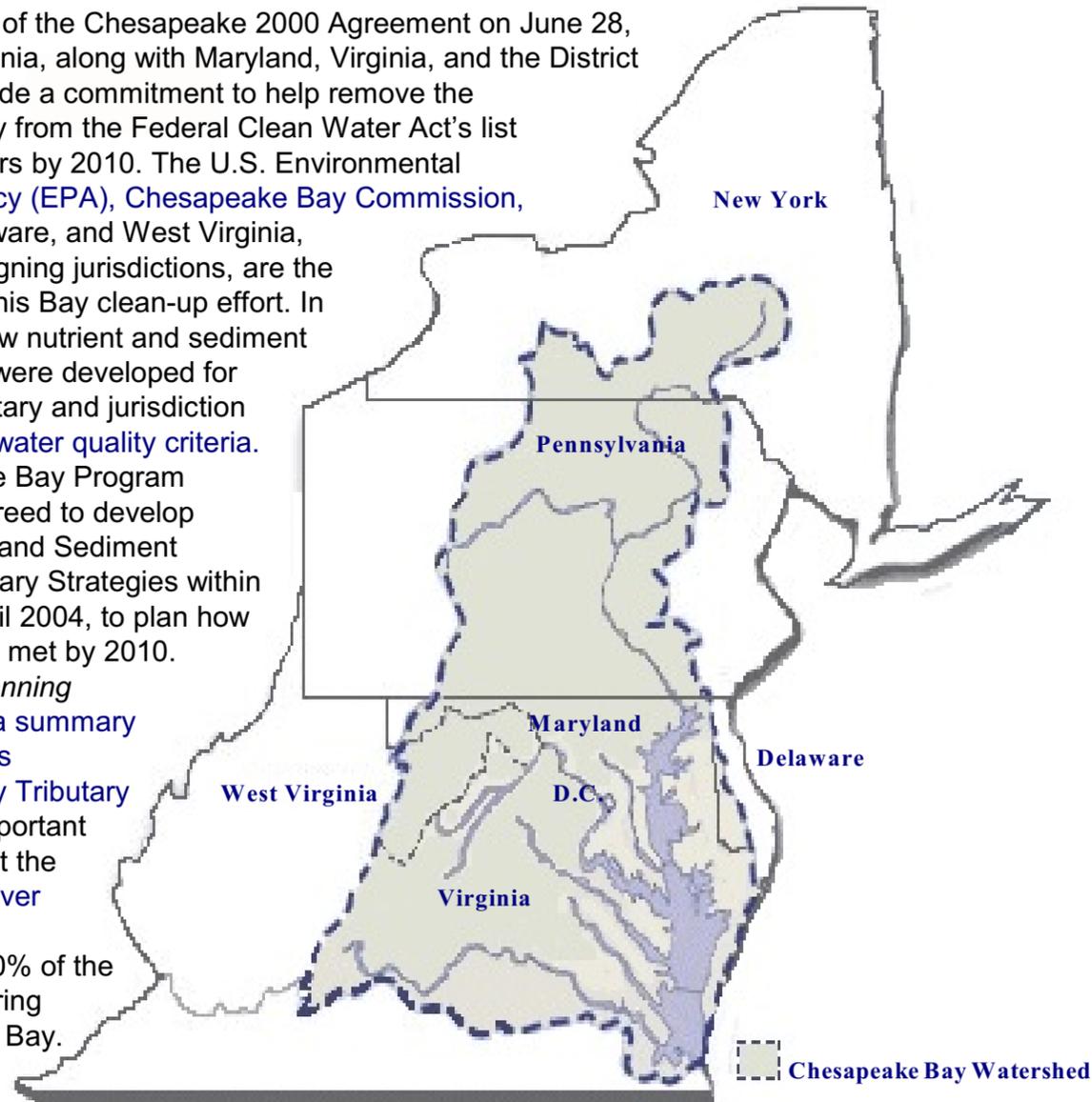
# Planning Perspectives

A Newsletter from the York County Planning Commission

March 2006

## Chesapeake Bay Tributary Strategy

With the signing of the Chesapeake 2000 Agreement on June 28, 2000, Pennsylvania, along with Maryland, Virginia, and the District of Columbia, made a commitment to help remove the Chesapeake Bay from the Federal Clean Water Act's list of impaired waters by 2010. The U.S. Environmental Protection Agency (EPA), Chesapeake Bay Commission, New York, Delaware, and West Virginia, along with the signing jurisdictions, are the key partners in this Bay clean-up effort. In April of 2003, new nutrient and sediment reduction goals were developed for each major tributary and jurisdiction to meet revised water quality criteria. The Chesapeake Bay Program partners also agreed to develop revised Nutrient and Sediment Reduction Tributary Strategies within one year, by April 2004, to plan how the goals can be met by 2010. This issue of *Planning Perspectives* is a summary of Pennsylvania's Chesapeake Bay Tributary Strategy. It is important to remember that the Susquehanna River accounts for approximately 50% of the fresh water entering the Chesapeake Bay.



Source: [www.chesapeakebay.net/maps/thumbnails/pages/basin\\_inset.htm](http://www.chesapeakebay.net/maps/thumbnails/pages/basin_inset.htm)

## What are Pennsylvania's Nutrient and Sediment Reduction Goals?

Water quality standards needed to restore Bay water quality and living resources were established and based upon measurable criteria such as dissolved oxygen and water clarity. Nutrient and sediment load reductions needed to attain these criteria were developed using the Chesapeake Bay Watershed and Estuary Models along with actual monitoring data. Pollutant reduction goals established in April 2003 are more than twice what has been accomplished since Bay restoration efforts were begun twenty years ago. Pennsylvania's portion of the new pollutant reduction goals needed to achieve the established Bay water quality standards are listed below and focus on three main targeted pollutants; nitrogen, phosphorus, and sediment.

- ☞ Nitrogen discharges to the Bay must be reduced to no more than 71.9 million pounds per year entering the Bay. This is referred to as the "cap load." It will require a reduction goal of 37.3 million pounds per year from the year 2002 watershed model loads.
- ☞ Phosphorus discharges to the Bay must be reduced to no more than 2.47 million pounds/year (cap load). This will require a reduction goal of 1.11 million pounds/year from the year 2002 watershed model loads.
- ☞ Sediment discharges to the Bay must be reduced to no more than 0.995 million tons/year (cap load). This will require a reduction goal of 116,000 tons/year from the year 2002 watershed model loads.

Additional Strategy goals focus on the development and implementation of locally supported watershed management plans in 9.6 million acres addressing protection, conservation and restoration of stream corridors, riparian forest buffers and wetlands. 4000 acres of wetlands are to be restored from 2000 to 2010. Pennsylvania has agreed to having 10,000 miles of riparian forest buffers by 2010. In 2004, a new Fish Passage goal was adopted which requires Pennsylvania to complete fish passage and/or dam removal projects to open an additional 500 miles of river habitat.

## What is the Source of Nutrients and Sediments?

The table below shows the sources of each pollutant in percent of contribution to the total pollutant load to the Bay.

Pollutant	Agriculture	Forest Land	Point Sources	Developed Land	Mixed Open Land
Nitrogen	49%	21%	11%	7%	7%
Phosphorus	63%	-	18%	7%	8%
Sediment	72%	17%	-	5%	6%

## Pennsylvania's Strategy to Reduce Nutrients and Sediments

Excess nutrients originate from nonpoint source discharge, point source discharges and air deposition. Nonpoint source discharges are a diffuse source of pollution that cannot be attributed to a clearly identifiable, specific location, but rather accumulate from a larger area. Stormwater runoff is an example of nonpoint source pollution. Point source discharges are a source of pollution that can be attributed to a specific physical location such as a wastewater discharge pipe from a sewage treatment plant. Pennsylvania's Department of Environmental Protection (DEP) focused on nonpoint and point source discharges when drafting the Chesapeake Bay Tributary Strategy to reduce nutrient pollution to the Chesapeake Bay.

### Pennsylvania's Nonpoint Source Load Reduction Hinges Upon . . .

- Implementation of best management practices (BMP's). These BMP's are listed in the Strategy along with implementation goals.
- A Nutrient Trading Program is also outlined in the Strategy which would allow credits to be allocated by implementing BMP's above a determined "base level". These nutrient credits would then be able to be sold to entities who have not achieved the required level of pollutant reductions. The goal being to achieve a net overall decrease in pollutant loads to the Bay in the watershed even though particular entities have not necessarily reduced pollutants at their particular location. An example would be a sewage treatment plant being able to discharge nutrients at a level of 10% over their permitted allocation because they have purchased credits from a farmer downstream who has reduced loading to the watershed that would be equivalent to 20% above the amount the sewage plant is allocated.
- Urban reduction strategies call for the utilization of a combination of stormwater management, septic system controls, and land use management.

### Pennsylvania's Point Source Load Reduction Hinges Upon . .

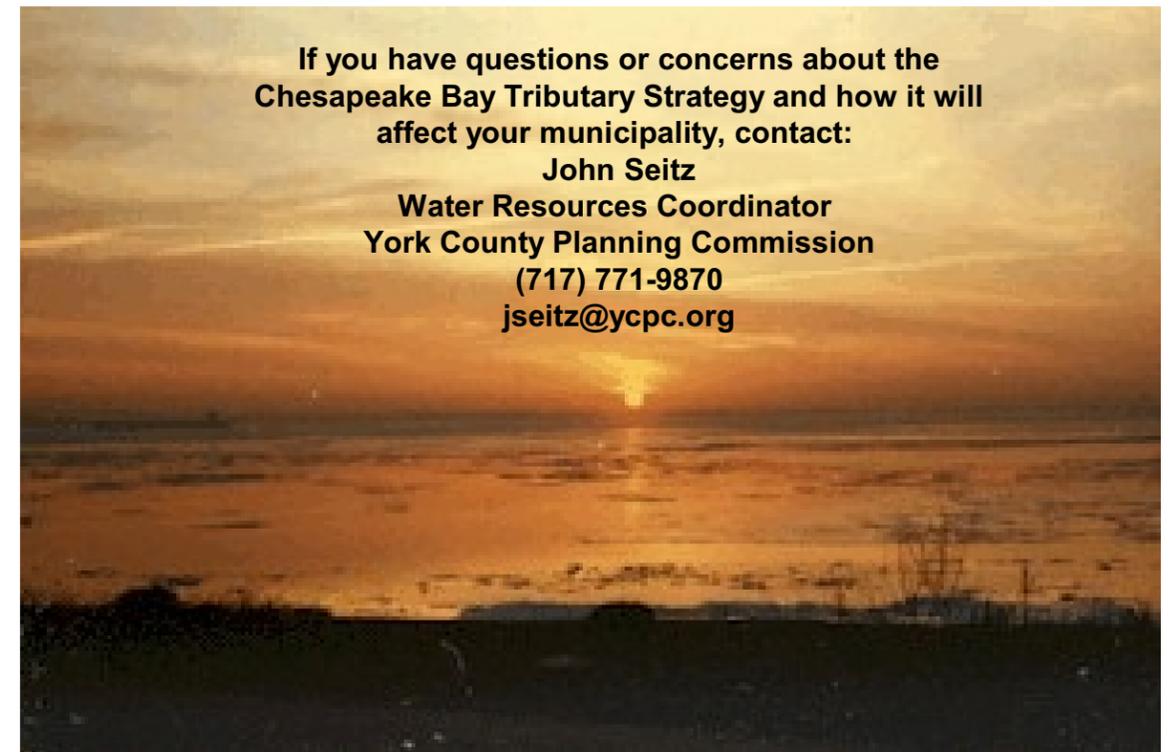
Allocation of annual cap loads to point source dischargers through the permitting process. These cap loads will be determined in various ways depending upon the size of the facility. Large facilities (> 400,000 gpd) will have effluent limits based upon 2010 projected flows. Smaller facilities will have effluent limits based upon design capacity after a specified monitoring period has concluded. The important thing to remember is that the Strategy calls for "no net increase" of loading to the Bay above the cap load allocation. Sewage facilities planning, including Act 537 plans, will be extremely important to future expansion as these cap loads will be "lifetime" allotments.

A third source of nutrients to the Bay is direct deposition from the air. Nitrogen compounds are released into the air from sources such as cars, trucks, boats lawn mowers, power plants, and factories. The air reduction strategy will rely upon reducing loads through full implementation of the Federal Clean Air Act.

## Issues and Concerns:

The York County Planning Commission is not alone in having some questions and concerns about implementation of Pennsylvania's Chesapeake Bay Tributary Strategy. Pennsylvania State Legislators have passed a resolution calling for a nine month delay in Strategy implementation due to concerns revolving around development, funding, and guidance of the Strategy. The Nutrient Trading Program is being implemented, but guidelines are still being developed and a long term tracking mechanism is being researched. Strategy implementation costs are estimated at \$8.2 billion with funding questions unanswered. Some experts suggest that the sources of pollutant loads are not completely understood and the Strategy may not adequately address the major sources of sediment and nutrient loads to the Bay. Steering committee meetings are being held with work groups assigned to specific tasks in order to move toward resolution of specific issues. Agendas and summaries of these meetings, along with other pertinent Chesapeake Bay Tributary Strategy information can be obtained on DEP's website at <http://www.depweb.state.pa.us/chesapeake>.

Several things concerning the Chesapeake Bay Tributary Strategy are certain. Pennsylvania is committed to achieving specific goals by the year 2010. Should Bay goals not be achieved, the Federal government will be required to establish a TMDL (Total Maximum Daily Load) that will essentially set a pollution limit the Bay can handle without violating water quality standards. In other words; if Pennsylvania and the other Chesapeake Bay partners do not meet Agreement goals, the Federal Environmental Protection Agency will take actions needed to restore Bay quality.



Source: [www.chesapeakebay.net/photos.cfm](http://www.chesapeakebay.net/photos.cfm)

Planning Perspectives is a newsletter created by the staff of the York County Planning Commission. It covers current topics of interest in the field of Urban and Regional Planning. If you have a suggested topic for future issues, contact Felicia Dell at 771-9870.