

Pennsylvania Response
To
EPA's Request for a Sector Load Management Demonstration

DRAFT – For Discussion Purposes Only

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Background

The Environmental Protection Agency (EPA) has requested a Demonstration of Sector Load Management. In a draft technical memorandum dated December 21, 2012, EPA stated that if “a jurisdiction has not set aside loads to account for new and increased loads as a result of growth, a jurisdiction must either have in place an offset program for these loads or demonstrate that a formal offset program is not necessary as loads are sufficiently controlled by existing regulation and local planning to ensure that new and/or expanding sources will not contribute additional loads that will prevent attainment of the Chesapeake Bay TMDL.”

The intent of this paper is to respond to EPA’s request.

General

Given the significant effort already placed into developing plans for the Chesapeake Bay, Pennsylvania does not believe that there is a need for a demonstration of sector load management. More specifically, in response to requirements established by EPA, the Commonwealth drafted two Watershed Implementation Plans (WIPs) that provide extensive details on how Pennsylvania will help to achieve the goals of the Chesapeake Bay Total Maximum Daily Load (TMDL). Although Pennsylvania believes these documents, combined with other requirements set in place by EPA (such as two year milestones), are sufficient, this paper will provide additional information regarding sectors and growth.

Agriculture

In Section 6 of Pennsylvania’s Phase 1 WIP, the Commonwealth stated that “USDA National Agriculture Statistics Service (NASS) data indicates little expectation for growth in agricultural operations or acreage in Pennsylvania. In addition, recent reports from USDA on the national level that show a decrease in acres planted reinforce this expectation. Projections for growth and increased loads from agriculture do not appear to be warranted. This is borne out by the significant decreases in nutrient and sediment loads from EPA data and Pennsylvania’s existing regulatory requirements...”

In the December 21, 2012 memo, EPA recommended reviewing agricultural census data and USDA’s 10 year forecast for agricultural commodities. That information has been reviewed.

The census data for 2002 indicated a 1 percent decrease in acres of “Land in Farms” in Pennsylvania, while the 2007 data indicated a 1 percent increase.¹ Concerning livestock, the USDA forecast projects nationally mixed numbers: a decrease in milk cows; decreases and increases in beef cattle that result in little change overall; an increase in pork and an increase in poultry.² Based on a review of census data for Pennsylvania, a reasonable assumption could be made that Pennsylvania will follow these trends.³ Given no change in number of acres farmed and the mixed projections for animal numbers, this information does not warrant a change in Pennsylvania’s approach for the agricultural sector.

The following information provides additional support of Pennsylvania’s determination that a change in approach is not warranted:

- The agricultural sector continues to see productivity gains, which generally translates to less animals needed per product. Stated another way, growth in agricultural products does not necessarily translate to increased nutrient loadings. Page 82 of the USDA Agricultural Projections document provides an example of this for dairy herd and milk production per cow.
- The agricultural industry has seen increases in consolidation, which has the potential to increase the number of farms consolidated into CAFOs.
- While the USDA projections indicate an increase in poultry, nutrients from that sector are manageable, as discussed in the WIPs. This is also an area where new technologies are being implemented.

Based on controls more fully described in the WIPs, along with the review of census data and agricultural forecasts, Pennsylvania does not see the need for developing any additional programmatic activities, such as an offsetting program.

¹ Reference:

http://www.agcensus.usda.gov/Publications/2007/Online_Highlights/County_Profiles/Pennsylvania/cp99042.pdf
and http://www.agcensus.usda.gov/Publications/2002/County_Profiles/Pennsylvania/cp99042.PDF

² Reference: “USDA Agricultural Projections to 2021”, Pages 78 and 82

³ Reference: Various tables at

http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_US_State_Level/

Urban and Suburban Stormwater

As explained in detail in the Phase 1 and 2 WIPs, Pennsylvania's Stormwater Management programs are designed to take a comprehensive approach to managing the impacts of stormwater. An important goal is that new construction or redevelopment activities result in the elimination or reduction of any new, additional or increased stormwater discharges. Regulatory requirements for new construction projects include a "no net increase" in nutrients or sediment from stormwater sources to be achieved when the volume of stormwater discharge matches predevelopment (assumes land cover is meadow in good condition or better) volume of discharge at the 2 year 24 hour storm event, and the rate of stormwater discharge for all storms up to and including the 100 year storm matches the predevelopment rate. For redevelopment projects the regulatory requirements are basically the same as for new development projects with the exception that there is an additional requirement that 20% of all existing impervious area that is to be disturbed is to be considered meadow in good condition for the purposes of runoff calculations. The regulatory requirements are established in Chapter 102.

For activities not covered by the construction permit, Act 167 stormwater management planning and ordinance development by local governments address new development and redevelopment activities of under one acre which are not regulated under federal requirements for MS4 or construction activities. In addition, Pennsylvania anticipates nutrient and sediment reductions to occur as a result of the recently updated MS4 permit. MS4 permittees will be submitting Chesapeake Bay Pollutant Reduction Plans (PRPs).

Pennsylvania's stormwater management programs are sufficiently protective of the Chesapeake Bay and Pennsylvania does not see the need for developing any additional programmatic activities for the Chesapeake Bay than those already underway. However, the Department is working with stakeholders to develop a statewide offsetting program that would provide permittees additional options for achieving permit compliance. Work on the development of that statewide policy will continue through 2013.

Wastewater Treatment Plants, CSOs

Pennsylvania's approach for WWTPs and CSOs will continue to follow the details outlined in the Phase 1 WIP, the Phase 2 WIP, and the Phase 2 WIP supplement that was provided to EPA. In general, Pennsylvania continues to follow the Point Source Strategy that was established in 2006. Very simply stated, the Strategy requires point source growth to be addressed through

the purchase of nutrient credits, or the use of approved offsets. There is no need to develop additional programmatic requirements for the Chesapeake Bay at this time.

Regarding CSOs, the supplement to the Phase 2 WIP provided information on WLAs. The Department will continue to address CSOs through the CSO policy with Nine Minimum Controls, Long – Term Control Plans and Post Construction Monitoring. As stated in the CSO policy, DEP's goal is to control and eliminate CSO discharges; therefore, there is no need for an offsetting policy or to develop additional programmatic requirements for the Chesapeake Bay for these sources.

OSWTS (Septics)

Pennsylvania's Phase 1 WIP Section 10 addresses DEP's position concerning further tracking or modification of existing and future onsite wastewater systems. As pointed out in the WIP, "DEP requires that onsite systems address denitrification in areas where the groundwater has been shown to be impacted severely. The Commonwealth of Pennsylvania at this time will not be developing or implementing a strategy to ensure that onsite wastewater systems (new or existing) require denitrification solely to provide nutrient reduction for the nutrient loading to the Chesapeake Bay." This approach was taken for three basic reasons: limited technology options; limited contribution to the Chesapeake Bay; and limited benefit relative to cost.

Pennsylvania does not intend to develop an offsetting program for this sector, primarily due to the limited contribution to the Chesapeake Bay. As discussed in the Phase 1 WIP, "if Pennsylvania were to retrofit each of the 759,221 septic systems in the Bay watershed, at most Pennsylvania would see a 0.65 percent reduction in nitrogen loading." Given the relatively small contribution of this sector, Pennsylvania cannot justify the expenditure of resources on the development of an offsetting program or additional programmatic requirements for the Chesapeake Bay for this sector.

Forest Lands

U.S. Forest Service's Forest Inventory and Analysis (FIA) data from 2004 to 2009 indicate that Pennsylvania lost 2 percent of its forests statewide. This loss equates to an average annual permanent loss of 36,000 acres due to residential and industrial development. Approximately half of this loss, 18,000 acres, occurs within the Chesapeake Bay watershed of the state, which closely aligns with the model's 13,600 acre forest loss projection for 2010. However, FIA data for the same period indicates that this 2 percent forest loss was offset by a 3 percent gain in forest land; resulting in a net forest gain of 1 percent. The gains in forest are taking place in

agricultural fields, Abandoned Mine Lands, and other developed land reverting to forests. It is reasonable to assume that the overall net forest gain of 1 percent is also occurring within the Chesapeake Bay watershed of the state.

In addition to afforestation gains, the Department of Conservation and Natural Resources (DCNR) implements 3,000 acres of annual forest regeneration on public lands within the Bay watershed, replaces urban tree canopy annually within Chesapeake Bay communities, and with multiple partners contributes new forest riparian buffers within the Chesapeake Bay watershed. DCNR and other public and private entities across the state also participate in numerous land conservation efforts that permanently protect forests, although these vary year to year with available funding. For the 5 years preceding 2007, DCNR averaged 10,000 acres of forestland acquisition annually not including acreage conserved by the Game Commission, private land trusts, counties, and other entities. Land conservation continues at a lower level at present, and better tracking will help ensure it is accounted for fully.

Best Management practices implemented through the Forest Stewardship Council (FSC) program on DCNR's 2 million acres of state forestland in the Chesapeake Bay watershed, as well as the Game Commission's estimated 500,000 acres of Bay-area state game lands managed with BMPs, not only reduce loading of N, P and sediment during harvesting operations but in every type of management on the forest. Between current Chapter 102 sediment, erosion, and post construction stormwater control regulations, continued use of BMPs on public and private forestlands, continued afforestation and active replanting programs, better tracking of forest conservation acreage, planned expansion of urban canopy planting efforts starting in 2013, and PA's commitment to meet our riparian buffer planting goals for 2025, there is no need for a new offsetting policy or additional programmatic requirements for this sector.

Summary

Pennsylvania remains committed to efforts underway to restore and protect the Chesapeake Bay. As demonstrated in this paper, the Commonwealth has in place policies, programs and regulations that are sufficiently protective of the Chesapeake and address sector growth. Through adaptive management, Pennsylvania will continue to assess its progress and will make improvements or changes if it is determined that they are needed.