U.S. Environmental Protection Agency
Office of Inspector General

2007-P-00009
February 28, 2007

At a Glance

Catalyst for Improving the Environment

Why We Did This Review

This review is one of several conducted by the Office of Inspector General (OIG) in response to a request from a U.S. Senator from Maryland. We were requested to determine how well the U.S. Environmental Protection Agency (EPA) is assisting its Chesapeake Bay partners in cleaning up the Bay. Since atmospheric nitrogen deposition contributes to nitrogen loads in the Bay, we sought to determine the impact air pollution control activities have had in cleaning up the Bay.

Background

The Chesapeake Bay is the largest estuary in the United States, covering 64,000 square miles. Six States and the District of Columbia, various Federal agencies, and others are involved in Bay restoration. EPA estimates that nitrogen depositing back to the earth from the atmosphere accounts for approximately 32 percent of the man-made nitrogen load to the Bay and is a significant contributor to continuing water quality problems in the Bay.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:
www.epa.gov/oig/reports/2007/20070228-2007-P-00009.pdf

EPA Relying on Existing Clean Air Act Regulations to Reduce Atmospheric Deposition to the Chesapeake Bay and its Watershed

What We Found

EPA's Chesapeake Bay Program Office is relying on anticipated nitrogen deposition reductions from Clean Air Act (CAA) regulations already issued by EPA, combined with anticipated reductions from other non-air sources, to meet water quality goals for the Bay watershed. EPA believes these CAA-related activities will provide sufficient nitrogen deposition reduction to enable the Bay to meets its overall nitrogen cap load, assuming non-air activities achieve planned reductions. EPA estimates that CAA regulations already issued will reduce nitrogen that falls directly into the Bay, as well as nitrogen deposited to the Bay watershed, by 19.6 million pounds annually by 2010. Even greater reductions should occur as States undertake additional measures in the next few years to meet the ozone and fine particulate matter standards. Accordingly, State and EPA strategies do not include additional air reduction activities specifically designed to clean up the Bay. Many State activities being implemented to meet national air quality standards should have the co-benefit of reducing nitrogen deposition in the Bay watershed, including the adoption of legislation and/or regulations by four Chesapeake Bay watershed States that go beyond EPA's air regulations.

Whether all of the Bay nitrogen reduction strategies will be successful remains to be seen. EPA acknowledges that its goal of cleaning up the Bay by 2010 will not be met. EPA plans to meet with its Chesapeake Bay Program partners in 2007 to re-visit their strategy for cleaning up the Bay.

If additional reductions in air emissions are needed to clean up the Bay, one potentially significant source of deposition not currently controlled is ammonia emissions from animal feeding operations. The magnitude of these emissions to nitrogen deposition in the Bay is uncertain. Ammonia emissions monitoring of animal feeding operations, expected to begin in the spring or early summer of this year, should provide data to help EPA better determine the amount of such emissions from farming operations.

What We Recommend

We recommend that the EPA Region 3 Regional Administrator instruct the Chesapeake Bay Program Office to use the results of animal feeding operations emissions monitoring studies to determine what actions and strategies are warranted to address nitrogen deposition to the Bay from such operations. EPA concurred with our recommendation.