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Report: Urban Runoff Impeding Chesapeake Bay Cleanup Efforts

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CHRIS TORRES Staff Writer

While the ag community is making progress in reducing nutrient runoff into the Chesapeake Bay, a new report shows the exact opposite when it comes to controlling runoff from residential developments.

The scathing report, which was released recently by the Environmental Protection Agency's (EPA) Office of Inspector General, shows nutrient runoff attributed to development is growing faster than it is being controlled and that it will likely prevent reaching the 2010 goal of significantly reducing the overall amount of nutrient runoff into the bay.

According to the report, the levels of nitrogen, phosphorus and sediment going into the bay from "urban runoff" increased significantly from 2000 to 2005. It is a trend, according to the report, which started back in 1985 and is growing as population levels in the watershed continue to increase.

Since 1985, sediment loads in the bay from urban or suburban sources have increased by 57 percent, while phosphorus loads have increased by 67 percent and nitrogen loads have increased by 90 percent.

The report points to many factors inhibiting progress in this small but expensive component of the Chesapeake 2000 cleanup initiative. Among them are a lack of community level loading caps, out-of-date information on development patterns, the ineffective use of the EPA's lone regulating tool for stormwater management systems and a lack of funding.

The Chesapeake 2000 agreement, which involved several Mid-Atlantic states as well as the federal government, set goals for reducing nutrient runoff levels in the bay by 2010.

Excessive nutrient runoff leads to the formation of algae blooms in the bay that eventually kill wildlife and create "deadzones" in the water.

While agriculture was and is still seen as the biggest source of these nutrients, several other sources were identified, including runoff from urban and suburban areas attributed to increased fertilizer applications in home lawns and constructions projects that lead to stream bank erosion.

Stabilizing nutrient runoff levels from urban areas is the most expensive component of the Chesapeake 2000 initiative. It is estimated from the Chesapeake Bay Program Office that \$18 billion will be needed to implement programs and upgrades to reduce nutrient runoff levels in tributaries and in the bay itself. That number makes up over half of the estimated \$28 billion that is needed to clean up the bay by 2010.

Lee Epstein of the Chesapeake Bay Foundation said Wednesday he is not surprised with the findings and said the bay is starting to reach a tipping point when it comes controlling excessive nutrients flowing into it.

“The findings are not surprising to us,” he said. “These same issues and analysis of causes and effects have been known for a number of years. It appears that growth and development issues are increasing distress on the bay.”

While rampant development in the watershed, especially in Maryland, is blamed for the continued high runoff levels, Epstein pointed out that areas far away from the bay are also contributing to the problem.

Retrofitting city stormwater systems with such things as underground tanks is necessary but expensive, Epstein admits.

But there are cost effective things that could be done, including better infiltration practices, the installation of rain gardens and green roofs.

Simple and cheap ways of doing the job cleaner and more environmentally friendly is what Epstein said has cut down drastically on runoff from agriculture operations.

Since 2000, according to the Chesapeake Bay Program, the levels of nitrogen, phosphorus and sediment runoff attributed to agriculture operations has gone down, even though agriculture is still the biggest contributor to excessive nutrient levels.

Epstein pointed to incentive programs as well as better conservation practices used by farmers that has contributed to the success.

But when it comes to development, he said the process must start before a single shovel goes into the ground, with better comprehensive plans, site planning and using open space better.

“It’s easier to deal with this stuff right from the get go,” he said. “We have got to make changes in the way we think about new development.”