



MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard ● Baltimore MD 21230
410-537-3000 ● 1-800-633-6101

Robert L. Ehrlich, Jr.
Governor

Kendl P. Philbrick
Acting Secretary

Michael S. Steele
Lt. Governor

September 22, 2003

Fellow Marylanders:

Attached is the fourth issue of the Maryland Department of the Environment's (MDE) publication, *EnviroMatters*.

This issue focuses on progress in the installation of biological and enhanced nutrient removal systems at wastewater treatment plants across the state, as administered by MDE's Water Management Administration. Enhanced nutrient removal goes beyond the biological treatment presently in use at many plants and holds the promise of helping us make greater strides in restoring water quality to the Chesapeake Bay and its tributaries. Though the technology is encouraging, challenges remain in its implementation.

We hope you continue to find the information contained in *EnviroMatters* useful, and encourage you to contact us regarding additional information about the topic covered - or if you have a particular topic idea.

In future issues look for articles providing additional information on MDE's environmental initiatives including aquaculture and the state's brownfields reform efforts.

Enjoy this issue of *EnviroMatters*, and we look forward to hearing from you.

Sincerely,

Kendl P. Philbrick
Acting Secretary

September 22, 2003

Enhanced Nutrient Removal Benefits Bay

Maryland's Department of the Environment (MDE), wastewater treatment plant operators and stakeholder groups are engaged in a multi-faceted effort to restore the Chesapeake Bay. One strategy in that endeavor, aimed at significantly cutting nutrient pollution from wastewater treatment plants, is showing marked promise.

Excess nutrients, like nitrogen and phosphorus, lead to degraded water quality, which negatively impacts plant and animal life in the Chesapeake Bay and its tributaries. These excess nutrients can flow into the Bay from wastewater treatment plant discharges, stormwater runoff and from rainfall.

The development and implementation of an Enhanced Nutrient Removal Strategy (ENR) will take Maryland's 66 largest wastewater treatment plants from Biological Nutrient Removal (BNR) currently in use to the limits of technology, vastly reducing the amount of nitrogen and phosphorus entering the Bay and its tributaries. ENR systems can clean wastewater down to 3 or 4 milligrams per liter of nitrogen, compared to 8 milligrams per liter under biological methods. Phosphorus concentrations can be cut to as low as 0.3 milligrams per liter.

There has been enthusiastic participation and interest in this effort from local public works agencies, environmental groups, citizens, tributary teams, engineering firms, the U.S. Environmental Protection Agency (EPA) and others. By the end of the year MDE will have a final strategy for implementing ENR.

Since 1984, Maryland has committed more than \$190 million to local governments for BNR. Those jurisdictions have contributed even greater sums for installation of BNR and other needed plant upgrades. Through this partnership, 42 plants have installed and are operating with BNR while 19 are in design and five are under construction. And the effort has been successful. Since the beginning of the BNR program, targeted plants have removed more than 16 million pounds per year of nitrogen that would have been discharged into the Bay. Although costly, ENR holds even greater potential. Finishing BNR installations and enhancing the plants with additional nutrient removal capabilities could cost up to \$1 billion.

Funding for this ambitious but necessary effort will come from a variety of sources. Governor Robert L. Ehrlich Jr. has made this critical pollution control program one of his highest priorities. He will work with the General Assembly to continue supporting the measures. In addition, Governor Ehrlich is continuing discussions with the Bush Administration, members of Congress and EPA staff to develop funding leads.

Activities building up to the issuance of the final implementation strategy include workshops with state and local government agencies, sewage treatment plant operators, environmental groups and other stakeholders on ENR, as well as soliciting input from subgroups to evaluate the various technologies. Issues to be addressed include: which technologies are best for individual treatment plants, how to prioritize implementation and funding, how ENR fits into a possible nutrient trading program for Maryland, and where sewage treatment authorities can pool their funding resources to equip the most cost effective plants to achieve the same water quality benefit at a reduced cost.

MDE, its stakeholders and other members of the Bay community will continue to wrestle with the issues of equity and how the financial challenges should be shared. There are no easy answers and there is no quick fix. Despite the daunting task, MDE is dedicated to completing and implementing a nutrient reduction strategy that begins to restore water quality in the Chesapeake Bay and its tributaries.

For more information about **EnviroMatters**,
contact: Shirley Garner at 410.537.3006
or email sgarner@mde.state.md.us