

SECTION 13: ENHANCED POLLUTION MANAGEMENT PRACTICES

Background

Several practices can be used to address both point and non-point sources of pollution. Considerable progress has been made in management of pollution from centralized wastewater treatment facilities and other point sources, and management of these sources will continue to be a critical element of Georgia's water quality protection program. For non-point sources, effective non-point source management will continue to require a combination of regulatory, voluntary, self-regulatory, incentive-based and educational approaches to manage polluted runoff. These efforts often involve multiple entities, including Federal, State, and local governments, organizations, regulated entities, individuals, and other stakeholders.

To enhance management of point and non-point sources of pollution, this plan addresses practices in the following areas:

- improving compliance,
- managing non-point source pollution,
- coordinating the environmental planning activities of state and local government,
- regulating on-site sewage management systems, and developing and applying new innovative tools, such as watershed permitting and water quality trading.

Improving Compliance

There are a number of state laws and regulations and local government ordinances in place to manage water pollution. Enhancing the implementation of and compliance with existing laws and regulations on a consistent basis across the State is an effective way to protect and restore water quality. While inspection and enforcement certainly contribute to compliance, other practices, such as provision of regulatory flexibility, may be desirable to improve compliance. Since environmental compliance is the ultimate goal, regulated entities with a significant record of long-term superior environmental performance should be considered for benefits such as a reduced administrative burden (e.g., less compliance testing and reporting, less frequent inspections) and/or expedited requests for permit changes.

Policy: Improving Compliance

- (1) There are a number of laws currently in place in Georgia designed to control water pollution. Implementation of and compliance with these laws should be enhanced.

Implementation Actions

- (1) The Director will update current compliance inspection and enforcement capabilities and recommend enhancements as appropriate to provide consistent implementation of existing laws and rules and regulations across the State and among local issuing authorities authorized pursuant to O.C.G.A. §12-7-8.

Managing Non-Point Source Pollution

A key part of addressing non-point source pollution, which causes the majority of water quality problems in the state, is addressing the impact that changing land use can have on water quality. A critical link exists between land use, stormwater and water quality. When pervious land cover, such as forests and other natural areas, are paved over or otherwise converted to impervious surfaces, rainwater is no longer able to infiltrate into the soil. Stormwater washes across surfaces and into nearby streams, washing mud, oil, chemicals, and bacteria into creeks and rivers. Impervious surfaces increase the volume of stormwater and stormwater-associated pollution, which streams are unable to assimilate. The volume and velocity of flow in streamflows during wet weather is also greatly increased, which often causes erosion and sedimentation.

Effective management of stormwater and the impacts of impervious surfaces on a watershed basis can reduce the adverse effects of runoff. Innovative ways to manage impervious surfaces and to increase infiltration of stormwater include enhancing or expanding existing programs such as post-construction stormwater management, quality growth and low-impact development initiatives, green infrastructure planning, and land conservation and open space protection programs. These and related practices can be applied on a watershed basis to help maintain infiltration and groundwater recharge and reduce or eliminate the adverse impacts of stormwater. These practices are critical elements of effective management of non-point source pollution and protection of Georgia's waters.

Establishing and/or enhancing voluntary, self-regulatory and incentive-based programs will increase the breadth and reach of non-point source management. Incentive-based programs to address non-point source pollution from agricultural lands have been in place for many years through various federal programs and state and local partners. For urban and developing areas, potential incentive programs include reducing loan rates, increasing priority for certain grants and loans, enhancing existing recognition programs (e.g., Georgia Green Growth Certified Program, Clean Marinas Programs) and creating innovative new programs. Self-regulatory programs may include a combination of established and acceptable management practices, industry-specific education and training, and self-inspection and monitoring. The forestry industry currently uses a self-regulation approach to non-point source management. Opportunities may exist to expand this approach to other entities or industries that exhibit successful characteristics such as highly motivated members, stewardship attitudes, a high level of interest in self-management, and a certain level of internal organization. Self-regulation also offers the opportunity to avoid future regulations by demonstrating successful environmental compliance.

Policy: Non-Point Source Pollution

- (1) Effective management of stormwater and the impacts of impervious surfaces are critical to water quality protection and maintenance of assimilative capacity. Land use changes affect water quality largely because the conversion of pervious

land cover (e.g., forests and other natural areas) to impervious land cover (e.g., buildings, concrete surfaces) causes a larger volume of stormwater and stormwater-associated pollution, which streams are unable to assimilate.

- (2) Impervious cover also prevents water infiltration into the soil, which under natural conditions is responsible for degrading pollutants, recharging groundwater and maintaining the stream baseflows needed to maintain assimilative capacity.
- (3) Some stormwater and land use management practices can be applied on a watershed basis to maintain infiltration and groundwater recharge and reduce or eliminate the adverse impacts of stormwater. These practices are critical elements of effective management of non-point source pollution and protection of Georgia's waters.
- (4) While there have been regional improvements in management of non-point source pollution, practices to control non-point source pollution from urban areas and lands being converted to developed uses, in particular, have been marginally effective. Management of non-point source pollution from urban areas and lands being converted to developed uses needs to be reviewed and recommendations made to improve the effectiveness of these practices.

Implementation Actions

- (1) The Director will partner with regulated entities, state and local government agencies involved in land and water management, and other appropriate stakeholders to enhance current approaches to managing non-point sources of pollution, so that sources are managed on a watershed basis in an effective and integrated fashion. The following actions will be undertaken:
 - a. Updating the Georgia Stormwater Management Manual.
 - b. Encouraging local stormwater utilities as a mechanism for funding the administration, operations and maintenance, and capital costs of stormwater and non-point source pollution controls.
 - c. The Division will develop further guidance for local government programs to manage fertilizer for lawn use in watersheds where phosphorus loading is an issue. In developing its guidance for local government programs, the Division will consult the University of Georgia College of Agricultural and Environmental Science and the Cooperative Extension Services as the lead source for advice concerning fertilizer use and with the Department of Agriculture with respect to fertilizer content and labeling.
 - d. The Division will work with appropriate stakeholders to develop industry-specific best management practices and provisions for self-monitoring and enforcement.
 - e. The Division will work with appropriate stakeholders to develop watershed education programs to address non-point source pollution in the urban and home setting.

- f. The regional planning undertaken pursuant to section 14 shall include elements that address stormwater management, including projections of stormflows, evaluation of stormwater permitting requirements, and assessment of practices to promote infiltration and control non-point source pollutant loading.
- (2) In consultation with state and local government agencies involved in land and water management, as well as other appropriate stakeholders, the Director will evaluate the following actions, among others:
 - a. Watershed limitations on effective impervious surfaces
 - b. Innovative programs for protection of riparian buffers as well as requirements for revegetation of buffers
 - c. State or local government requirements related to low impact development, improved site design, and growth management consistent with watershed protection and maintenance of water quality standards
 - d. Enhanced incentives or requirements for land conservation, wildlife conservation, greenspace protection or other land protection programs, including the use of statewide Green Infrastructure Planning requirements to protect land resources with high environmental value or conservation benefits from non-point source pollution.
 - e. Requirements for implementation of best management practices to restore waters and watersheds currently impacted by non-point sources of pollution.
 - f. Closer coordination between state and local government agencies with respect to land use decisions and the protection of water resources.
- (3) The implementation actions discussed in this section will result in an evaluation of a number of potential management practices as well as guidance on the use of the management practices. This guidance will be made available to the Water Planning Councils for use in the development of regional Water Development and Conservation Plans.

Coordinated Environmental Planning

Changing land uses can be one of the most significant causes of poor water quality. Increasing coordination of environmental planning can help reduce the adverse effects of land use and stormwater on water quality. One way to mitigate certain effects of land use on water quality is completion and implementation of the comprehensive plans required by the Georgia Planning Act. These plans enhance local government authority to make land use decisions to protect water quality.

Another way to mitigate some of the effects of land use change on water quality is to plan for watershed protection in growing areas. As localities grow, the need for additional capacity to assimilate the treated wastewaters is often needed. At the same time, the growth within the municipality significantly increases the potential for non-point source pollution, placing a further demand on assimilative capacities of water bodies in the area. Local governments that request a wastewater discharge permit

are currently required to conduct watershed assessments and develop watershed protection plans. These plans are a tool that can, if implemented, minimize the impact on water quality of both the treated wastewater discharge and the potential increase in non-point source pollution associated with growth and development. Specific purposes of the watershed protection plans are to: 1) address water quality standards violations, 2) develop and implement best management practices to prevent future water quality standards violations, and 3) provide ongoing monitoring to either verify the effectiveness of the best management practices or provide information necessary to modify those practices to achieve water quality standards.

As described below, EPD will simplify the planning process by combining planning requirements so that one consolidated plan will cover as many of EPD's regulatory requirements as possible.

Policy: Coordinated Environmental Planning

- (1) Coordination of environmental planning and management between state agencies, permittees, and local government entities responsible for land use planning and management will serve to reduce the adverse effects of land use and stormwater on water quality.

Implementation Actions

- (1) The Board of Natural Resources will consider, upon adoption of this plan, to amend its rules and regulations to provide the following:
 - a. To prohibit the Director from issuing a requested new or expanded water withdrawal, drinking water, discharge or land application permit unless the local government applicant has Qualified Local Government status as approved by the Georgia Department of Community Affairs, in accordance with O.C.G.A. §§12-2-8 and 50-8-30 et seq. For permit renewals to governments without Qualified Local Government status, additional permit conditions may be added.
 - b. To require that watershed assessments and protection plans, developed pursuant to O.C.G.A. §12-5-23(a)(1) (S), be prepared in accordance with the latest guidance provided by the Division and implemented following the schedule indicated in the plan. Population forecasts used in support of permit applications shall be used to assess whether local governments are projected to become subject to municipal stormwater permitting requirements pursuant to DNR Rule 391-3-6-.16(3)(b) (7). For those local governments projected to become subject to stormwater permitting requirements, watershed protection plans shall include pre-planning for stormwater management to ensure compliance with permitting requirements when applicable.
 - c. In review of water withdrawal and drinking water permit applications, require the Director to evaluate the information in, and status of, any watershed assessments and watershed protection plans affected by the water use and associated discharge.

- d. The Division will work with local governments, other State agencies, and regulated entities to coordinate and integrate watershed monitoring, assessment and protection planning requirements associated with various State water programs in support of regional planning performed pursuant to section 14 of this plan. Information from watershed monitoring and assessments will be incorporated in water quality assessments pursuant to section 6 of this plan.

On-site Sewage Management Systems

On-site sewage management systems are fixed sewage management systems that do not discharge directly to a public sewer. One of the most common on-site systems is the residential septic tank. In order to minimize the risk of water quality impacts from on-site sewage management systems to surface waters and groundwater, these systems must be properly sited, designed, installed, and maintained. Septage from these systems must also be managed in an environmentally sound manner. Laws and rules are currently in place and implemented by the Department of Human Resources, Division of Public Health to address siting, design and installation.

Policy: On-Site Sewage Management Systems

- (1) On-site sewage management systems that are properly sited, designed and maintained can effectively reduce most human health or environmental threats. On-site sewage management systems should be properly sited, designed, installed, and maintained to ensure long-term performance so that negative impacts to surface water and groundwater quality are effectively reduced or eliminated.
- (2) Georgia faces environmental and health hazards associated with the illegal disposal of septage. Acceptable methods of disposal of septage include discharge to a wastewater treatment plant; discharge to a separate septage handling facility; or direct land application to land with a low potential for public exposure.

Implementation Actions

- (1) The Director will partner with state and local agencies and regulated entities involved in land and water management to enhance requirements for inspection and maintenance of on-site sewage management systems. The Director will evaluate the effect of the following practices, among others:
 - a. Inspection and maintenance ordinances implemented by local governments as a condition of public water supply system permits;
 - b. Monitoring and management of existing on-site sewage management systems;
 - c. State and local government implementation of "Voluntary Guidelines for Management of Onsite and Decentralized Wastewater Systems" produced by the EPA.

- (2) The Division will continue to coordinate with the Department of Human Resources on proper septage disposal. In accordance with O.C.G.A. §12-8-41, the Division will regulate and permit land disposal sites that receive septage from a septage pumping or hauling business.

Potential New Tools for Pollution Management.

Watershed permitting and water quality trading may be useful tools for managing water quality. Watershed permitting involves consideration of the condition of an entire watershed and the variety of discharges to the water source, instead of examining each individual point source discharger.

Water quality trading, which is also called pollutant allocation trading, is an innovative approach to achieving water quality goals more efficiently. Sources in a watershed can face very different costs to control the same pollutant. Trading programs allow facilities to meet regulatory obligations by purchasing equivalent or superior pollution reductions from another source, achieving water quality improvements in a cost-effective manner.

The EPA has endorsed the use of watershed permitting and water quality trading as tools for achieving watershed goals, and has provided guidance on watershed permitting as an approach to developing discharge permits. The United States Natural Resources Conservation Service has also endorsed the use of water quality trading, signing a Partnership Agreement with the U.S. Environmental Protection Agency in October 2006 to promote the concept.

Application of these tools in Georgia may help accomplish water quality protection goals. However, there are a number of unanswered questions about how best to apply the tools here to ensure water quality protection, and their potential use should be carefully evaluated following guidance to be developed in consultation with water-related interests across the state.

Policy: New Tools

- (1) The State should assess new water quality management tools, such as watershed permitting and pollutant allocation trading, to determine if they can be effectively applied to support the objectives of this plan and Georgia's water quality control program.

Implementation Actions

- (1) The Director will partner with state and local government agencies, regulated entities, and other appropriate stakeholders involved in land and water management to review the practice of watershed permitting to determine the potential for use of this tool in Georgia.
- (2) The Director will partner with state and local government agencies, regulated entities, and other appropriate stakeholders involved in land and water management to review the practice of pollutant allocation trading to determine the potential for use of this tool in Georgia.