

**Maryland's  
Continuing Planning Process  
for  
Water Quality Management**

**Developed by**



**DEPARTMENT OF THE ENVIRONMENT**  
1800 Washington Boulevard, Suite 540  
Baltimore MD 21230-1718

**July 2007 Update**

**Martin O'Malley**  
Governor

**Shari T. Wilson**  
Acting Secretary

# CONTENTS

<b>CHAPTER 1.0</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	REQUIREMENTS FOR CONTINUING PLANNING PROCESS (CPP).....	1
1.2	PROCESS FOR UPDATING MARYLAND'S CPP DOCUMENT .....	1
1.3	PURPOSE AND ORGANIZATION OF CPP.....	1
1.4	REPORT DISTRIBUTION.....	2
1.5	PARTICIPATING AGENCIES .....	2
<b>SEE INDIVIDUAL COUNTY OR MUNICIPAL WEB SITES FOR RELEVANT LOCAL AGENCIES.CHAPTER 2.0</b>		
<b>MAJOR GOALS OF THE CONTINUING PLANNING PROCESS .....</b>		<b>3</b>
<b>CHAPTER 2.0</b>	<b>MAJOR GOALS OF THE CONTINUING PLANNING PROCESS .....</b>	<b>4</b>
2.1	FEDERAL AND STATE MANDATES (PLANNING AND MANAGEMENT).....	4
2.2	PROGRAM GOALS OF THE STATE'S CONTINUING PLANNING PROCESS.....	6
2.3	COORDINATION OF MARYLAND'S WATERSHED RESTORATION AND PROTECTION INITIATIVES.....	9
2.3.1	<i>Clean Water Act and Total Maximum Daily Loads (TMDLs) .....</i>	<i>9</i>
2.3.2	<i>Chesapeake Bay Agreement.....</i>	<i>11</i>
2.3.3	<i>Maryland Coastal Bay Program (MCBP).....</i>	<i>14</i>
2.3.4	<i>Maryland's Source Water Assessment Program.....</i>	<i>15</i>
2.3.5	<i>Restoration of Watersheds in Western Maryland.....</i>	<i>15</i>
2.3.6	<i>Other Coordination.....</i>	<i>16</i>
<b>CHAPTER 3.0</b>	<b>ELEMENTS OF THE CONTINUING PLANNING PROCESS.....</b>	<b>18</b>
3.1	DEVELOPMENT OF EFFLUENT LIMITS AND SCHEDULES OF COMPLIANCE .....	18
3.1.1	<i>Development of Effluent Limits.....</i>	<i>18</i>
3.1.2	<i>Schedule of Compliance.....</i>	<i>22</i>
3.2	INCORPORATING SECTIONS 208 AND 209 OF CWA.....	23
3.3	DEVELOPING TOTAL MAXIMUM DAILY LOADS (TMDLs).....	23
3.3.1	<i>Purpose .....</i>	<i>23</i>
3.3.2	<i>Background.....</i>	<i>23</i>
3.3.3	<i>State Water Quality Monitoring Programs for Assessing the Waters of the State and for Establishing TMDLs.....</i>	<i>24</i>

## CONTENTS

3.3.4	<i>Section 305(b) and 303(d) Integrated Reporting</i> .....	25
3.3.5	<i>State Process for Establishing TMDLs</i> .....	26
3.4	UPDATING AND MAINTAINING WATER QUALITY MANAGEMENT PLANS..	27
3.5	INTERGOVERNMENTAL COOPERATION .....	28
3.6	ESTABLISHING AND IMPLEMENTING WATER QUALITY STANDARDS .....	30
3.7	MANAGEMENT OF RESIDUALS FROM WATER TREATMENT PROCESSING .	31
3.8	CONSTRUCTION NEEDS FOR WASTEWATER TREATMENT.....	32
3.8.1	<i>Needs Survey</i> .....	32
3.8.2	<i>Integrated Project Priority System</i> .....	34
3.8.3	<i>Maryland Water Quality Financing Administration (WQFA)</i> .....	35
3.8.4	<i>General Water Quality State Revolving Fund Eligibility – Point Source Project</i>	35
3.8.5	<i>General Water Quality State Revolving Fund Eligibility – Nonpoint Source Project</i> .....	36
3.9	DETERMINING THE PRIORITY OF PERMIT ISSUANCE .....	37
<b>CHAPTER 4.0</b>	<b>PUBLIC PARTICIPATION .....</b>	<b>39</b>
4.1	PUBLIC PARTICIPATION: DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS.....	41
4.2	PUBLIC PARTICIPATION: DEVELOPMENT AND STATE REVIEW OF COUNTY WATER AND SEWERAGE PLANS .....	42
4.3	PUBLIC PARTICIPATION: ESTABLISHMENT OF WATER QUALITY STANDARDS .....	42
4.4	PUBLIC PARTICIPATION: EFFLUENT LIMITATIONS, WASTELOAD ALLOCATIONS (TMDLs), AND SCHEDULES OF COMPLIANCE FOR WASTEWATER DISCHARGES.....	43
4.5	PUBLIC PARTICIPATION: PRIORITY PROCEDURE FOR THE ISSUANCE OF SURFACE WATER DISCHARGE PERMITS RELATING TO WASTEWATER TREATMENT.....	43
4.6	PUBLIC PARTICIPATION: MANAGEMENT OF RESIDUALS FROM WASTEWATER TREATMENT PROCESSING.....	44
4.7	PUBLIC PARTICIPATION: INVENTORY AND RANKING OF CAPITAL FUNDS	

## CONTENTS

	FOR CONSTRUCTION WASTEWATER TREATMENT WORKS.....	45
4.8	VOLUNTEER MONITORING ACTIVITIES .....	45

---

## **1.1 REQUIREMENTS FOR CONTINUING PLANNING PROCESS (CPP)**

Section 303(e) of the federal Clean Water Act (CWA) and the United States Environmental Protection Agency's (EPA) implementing regulations (40 CFR §130.5) require each state to submit to the EPA a Continuing Planning Process (CPP) document. Maryland's CPP explains the processes the State uses to administer its water programs. Also, the CPP describes the methodology used to develop plans to protect, maintain, and improve the quality of the State's waters. The EPA approved Maryland's CPP document in 1976. The CPP was updated in 1986 and in 2001. This document updates Maryland's existing CPP, which was submitted to, and reviewed by the EPA in 2001.

## **1.2 PROCESS FOR UPDATING MARYLAND'S CPP DOCUMENT**

Maryland's water quality programs evolve over time in response to maturing management methods, legislation, policy decisions, case law and institutional reorganizations. It is necessary to review and update Maryland's CPP from time to time to reflect these changes in operating procedures. The Science Services Administration<sup>1</sup> (SSA) of the Maryland Department of the Environment (MDE) oversees this review and update process.

Beginning in 2007, about one-quarter of the sections of the CPP are planned to be updated annually resulting in a complete update of the document about every four years. In addition, major program changes may be reflected in annual updates, regardless of the sections of the document being updated in a given year.

## **1.3 PURPOSE AND ORGANIZATION OF CPP**

Each state is required to establish and maintain a CPP for water quality management as described under Section 303(e) of the CWA. Maryland's CPP provides a description of the processes the State uses to administer its water programs and to develop plans to protect, maintain, and improve the quality of the State's waters.

In accordance with 40 CFR 130.5(b), Maryland is responsible for managing its water quality program to implement the following processes:

- Develops effluent limits & schedules of compliance
- Incorporates the relevant strategies discussed in area-wide "waste treatment plans" and "basin

---

<sup>1</sup> The Science Services Administration was called the Technical and Regulatory Services Administration prior to 2007.

plans”

- Develops Total Maximum Daily Loads (TMDLs)
- Updates and maintains Water Quality Management (WQM) plans
- Seeks intergovernmental cooperation
- Establishes and implements new or revised water quality standards, including schedules of compliance
- Assures adequate controls over the residual waste from any water treatment processing
- Explains the construction needs for wastewater treatment
- Determines the priority of permit issuance

The above-mentioned issues are described in Chapter 3.0 of this document. Maryland’s CPP also includes several examples of Maryland’s proactive approach to managing water quality that go beyond the minimum elements of the CPP.

In accordance with 40 CFR §130.7 (a) and 40 CFR §130.7 (c), Maryland’s CPP document must describe how the state involves the general public in its program. Public involvement process is discussed in Chapter 4.0 of this document.

#### **1.4 REPORT DISTRIBUTION**

The MDE will make Maryland's CPP document widely available to State, regional, and local agencies, elected officials, special interest groups, and to the general public through the MDE website. As required by 40 CFR §130.5, Maryland’s CPP document will be submitted to the Regional Administrator of the U.S. Environmental Protection Agency, Region III for review.

#### **1.5 PARTICIPATING AGENCIES**

In addition to the MDE, there are several state and local government agencies involved in the CPP process. These include, Maryland Department of Natural Resources (DNR), Maryland Department of Agriculture, Maryland Department of Planning, Maryland Department of Health & Mental Hygiene, and various relevant local government agencies (e.g., public works). Section 3.5 of this document provides information on intergovernmental cooperation.

Internet links to these agencies, with contact information, organizational charts, budget information, and more, are provided below:

##### **Maryland Department of the Environment (Lead Agency):**

1800 Washington Blvd.

Baltimore, MD 21230

Main Switchboard (410) 537-3000.

<http://www.msa.md.gov/msa/mdmanual/14doe/html/doe.html>

**Maryland Department of Agriculture :**

50 Harry S. Truman Parkway

Annapolis, MD 21401

<http://www.msa.md.gov/msa/mdmanual/10dag/html/dag.html>

**Maryland Department of Natural Resources:**

Tawes State Office Building

580 Taylor Avenue

Annapolis, MD 21401

<http://www.msa.md.gov/msa/mdmanual/21dnr/html/dnr.html>

**Maryland Department of Mental Health and Hygiene :**

201 West Preston Street

Baltimore, MD 21201 - 2399

<http://www.msa.md.gov/msa/mdmanual/16dhmh/html/dhmh.html>

**Maryland Department of Planning:**

Maryland Department of Planning

301 West Preston Street

Baltimore, MD 21201 - 2365

<http://www.msa.md.gov/msa/mdmanual/21dop/html/dop.html>

**Maryland Counties:**

<http://www.msa.md.gov/msa/mdmanual/01glance/html/county.html>

**Maryland Municipalities:**

<http://www.msa.md.gov/msa/mdmanual/01glance/html/locgov.html>

## **CHAPTER 2.0 MAJOR GOALS OF THE CONTINUING PLANNING PROCESS**

---

### **2.1 FEDERAL AND STATE MANDATES (PLANNING AND MANAGEMENT)**

Water quality planning and management in Maryland are guided by a set of major goals that are embodied in federal and State laws. For more than 35 years, the federal Clean Water Act (enacted 1972, amended in 1977, 1981, and 1987) has provided the foundation for our Nation's water pollution control programs. Pre-existing State and federal programs were completely overhauled after its passage, and major new programs for water pollution control and water quality planning were established.

The federal Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the US (42 USC 300f-300j-26). This law focuses on all waters actually or potentially designated for drinking use, whether from above ground or underground sources. This act authorized EPA to establish safe standards of purity and required all owners or operators of public water systems to comply with primary (health-related) standards. State governments, which assume this authority from EPA, also encourage attainment of secondary standards (nuisance-related).

In addition to the national agenda for restoring and maintaining water quality, the federal government has given special recognition to the Chesapeake Bay as a natural resource of major significance (Section 117 of the CWA). An intensive period of Chesapeake Bay research conducted by the U.S. Environmental Protection Agency (EPA) ended in 1983 and the landmark effort to correct environmental problems identified by the EPA studies began. With the signing of the 1983 Chesapeake Bay Agreement by Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission, and the EPA, a commitment was made to implement coordinated plans to improve and protect the water quality and living resources of the Bay.

In 1984, the Maryland General Assembly enacted a unique environmental program with major financial commitment to carry out the Chesapeake Bay Agreement. The general goal of this program is to restore the Bay to the condition that existed in the 1950s. To accomplish this goal, the program is designed to improve the quality of the Bay and the management of its resources by controlling pollution, restoring aquatic and land resources, and protecting shorelines from erosion and sediment runoff.

In terms of State law that existed prior to 1984, the following major statements of policy related to protection of the State's waters still apply today (as taken from the Annotated Code of Maryland):



- “...it is State policy to improve, conserve, and manage the quality of the waters of the State and protect, maintain, and improve the quality of waters for public supplies, propagation of wildlife, and domestic, agricultural, industrial, recreational, and other legitimate beneficial uses. Also, it is State public policy to provide that no waste is discharged into the any waters of this State without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of this State's waters, and provide for prevention, abatement, and control of new or existing water pollution.
- Many of the rivers of Maryland or portions of them and related adjacent land areas possess outstanding scenic, fish, wildlife, and other recreation values of present and potential benefit to the citizens of the State. The policy of the State is to protect the water quality of these rivers and fulfill vital conservation purposes by wise use of resources within the scenic river system.
- The General Assembly finds that the management of stormwater runoff is necessary to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding, all of which have adverse impacts on the water and land resources of Maryland.”

In addition, Maryland’s Governors have issued executive orders that declare goals and policies for environmental management, including water quality protection. An example of this is the order that contains policies to guide State actions for physical and economic development. With respect to water quality, the order states:

*...it is State policy to protect the quality and productivity of the Chesapeake Bay, its tributaries, and other water bodies of the State, and groundwater resources.*

The 1997 General Assembly adopted several specific programs, which form the **Smart Growth Initiatives**. Collectively, these initiatives aim to direct State financial and program resources to revitalize older developed areas, preserve Maryland’s valuable resource and open space lands, and discourage the continuation of sprawl development into rural areas. The *Smart Growth* legislation allows the State to direct its programs and funding to support locally designated growth areas and protect rural areas. This landmark legislation’s passage is a significant accomplishment that will play a major role in Maryland’s efforts to better manage land use and growth.

The Maryland General Assembly passed the Water Quality Improvement Act (WQIA) of 1998 during the closing hours of the session. The WQIA of 1998 offers many challenges for agricultural and environmental interests in Maryland. It represents a major change in Maryland's approach to controlling agricultural nutrient pollution. The most far-reaching requirement of the WQIA is that all agricultural operations with annual incomes greater than \$2,500 or more than eight animal units (one animal unit equals 1,000 pounds live weight) must have and implement a nitrogen- and phosphorus-based nutrient management plan by a prescribed date. The Act requires that anyone “who in operating a farm, uses chemical fertilizer” must have a nitrogen- and phosphorus-based plan by December 31, 2001, which must be implemented by December 31, 2002. With regard to persons using sludge or animal manure,

they have until July 1, 2004, to submit a nitrogen- and phosphorus-based nutrient management plan, which must be implemented by July 1, 2005.

Lastly, State agencies can adopt policy statements and develop strategies that, although lacking the legal strength of State law or regulation, can have a major influence over the actual implementation of State programs affecting water management.

## 2.2 PROGRAM GOALS OF THE STATE'S CONTINUING PLANNING PROCESS

In response to federal directives and existing State laws and policies, Maryland has framed current program goals as part of the Continuing Planning Process for water quality planning and management. These goals, listed below, address major water quality issues that underlie the State's central water quality program:

- Goal 1**      **Water Quality Standards:** Maintain a set of water quality standards that provide for the protection of public health and aquatic life and support the goals established by federal and State law.
  
- Goal 2**      **Comprehensive Watershed Management:** Develop water quality plans and implementation goals for each of the major river basins in the State.
  
- Goal 3**      **Chesapeake Bay Program:** Direct and enhance State water quality program efforts in support of the Chesapeake Bay Agreement. Maximize the use of federal resources available for Bay cleanup efforts.
  
- Goal 4**      **Point Source Pollution:** Ensure levels of wastewater treatment that will allow compliance with established water quality standards and will permit attainment of recognized beneficial uses for the State's waters. Ensure adequate conveyance facilities for sewage, allowing for present and future needs (see the discussion at the end of this Section on Point Source Pollution).
  
- Goal 5**      **Nonpoint Source Pollution:** Support the continued enhancement of an integrated strategy to adequately address nonpoint sources of pollution with stronger emphasis on the mitigation of nutrient enrichment of the State's waters (see the discussion at the end of this Section on Nonpoint Source Pollution).
  
- Goal 6**      **Water Supply:** Ensure the provision of adequate supplies of high quality drinking water for the citizens of the State. Ensure adequate treatment and distribution facilities, allowing for present and future needs.
  
- Goal 7**      **Groundwater:** Ensure adequate protection of the quality and quantity of the State's groundwater resources.

- Goal 8**      **Aquatic Resources:** Support the restoration or creation of viable communities of diverse aquatic plant and animal species through the application of appropriate water quality standards and subsequent control of recognized pollutants.
- Goal 9**      **Research:** Further develop a research program that addresses both short-range and long-range water quality issues for which State policies, programs, and regulatory actions are needed.
- Goal 10**     **Monitoring and Database Management:** Maintain a compliance and water quality monitoring program, and a database management program, to be used to store and analyze data that will allow the State to effectively: (1) protect public health; (2) characterize the general quality of the State's waters; (3) develop wasteload allocations for discharges to specific waterbodies and ensure compliance with State water quality management strategies and policies; and (4) evaluate effectiveness of management programs.
- Goal 11**     **Special Water Quality Problems:** Investigate special water quality problems and, when necessary, develop management programs to address those problems. An example of “Special Water Quality Problems” is constituents in the environment that have not historically been considered as contaminants. These "emerging contaminants" include endocrine disrupters, pharmaceutical products and Pharmaceuticals and personal care products, known in the water management field as PPCPs.
- Goal 12**     **Local Government and Public Involvement:** Encourage meaningful public involvement in water quality management issues and in local cleanup efforts. Provide for cooperation with and support of local environmental programs impacting water quality. Local government and public involvement issues are further discussed in Sections 3.9 and Chapter 4.0 respectively.

*Discussion on Point and Nonpoint Source Pollutions*

Point Sources: Point sources are managed by MDE through the issuance of a written permit, which describes the characteristics of what may be discharged by the point source. There are a variety of different categories of permits, briefly described below. Most of these point source permits are more formally known as federal National Pollutant Discharge Elimination System (NPDES) discharge permits.

Point sources of certain well-defined types, such as the specific industry categories of mining, seafood processing, and others may receive a “general permit.” A general permit specifies uniform rules by which all point sources of a certain type are to manage their discharge.

Other point sources, for which it has been determined that a discharge will not adversely affect

water quality, may receive technology-based<sup>2</sup> permit requirements. These permits include limits that require appropriate technology-based controls for various industrial processes or municipal wastes, required by Sections 301(b), 306, 307, or other Sections of the Clean Water Act. For significant municipal treatment plants discharging 500,000 gallons per day (gpd) or more, loading limits are based on the design flow of the plant in April 2003, and concentrations of 4.0 mg/l TN, and 0.3 mg/l TP using ENR technology. To achieve these limits, Maryland has established the Bay Restoration Fund (BRF).

If technology-based control limits are insufficient to assure that water quality standards will be met in the receiving water body, water quality-based effluent limits are also necessary. These limits are tailored with respect to the receiving water body to which the point source will discharge and are set to meet water quality standards.

The subject of point source management is elaborated on elsewhere in this CPP, including Chapter 3.2, Chapter 4.4 and Chapter 4.5.

Nonpoint Sources: In part, due to their diffuse nature, nonpoint sources are managed through a wide array of regulatory and non-regulatory means. Maryland enacted the nation's first statewide law for sediment control in 1970 and today has in place one of the most comprehensive NPS pollution control programs in the country. The State has formed innovative partnerships with the federal government, neighboring states, local governments, private businesses and the public to improve watershed health. Major watershed initiatives include: the Chesapeake Bay Program, the Anacostia Watershed Restoration Committee, the Coastal Bays Program, the Susquehanna River Basin Commission, the Interstate Commission on the Potomac River Basin and the Chesapeake Bay Critical Area Program.

In 2004 the State's nonpoint sources pollution control planning and funding processes under CWA §319 was transferred to MDE from DNR. The intent of the transfer was to better link the State's §319 nonpoint source program with TMDL implementation.

Maryland's framework for managing nonpoint sources of pollution is documented in "Maryland's Nonpoint Source Management Plan (MNPSMP)." The document was developed to integrate NPS programs the under Section 319 of the CWA and Section 6217 of the federal Coastal Zone Act Reauthorization Amendments of 1990. It describes what is being done in Maryland to control or prevent nonpoint source pollution.

The entire text version of this document can be found at the following website:

---

2 The Clean Water Act requires all municipal and industrial surface water discharges to treat their effluent using the best technology that is economically achievable, regardless of the condition of the receiving water. Permits that require such technology are called "technology-based" permits. If technology-based limits are insufficient to meet water quality standards, then water quality-based permit limits may be required. Water quality-based effluent limits are set to meet water quality standards. This includes the option of no allowable discharge, on the basis that a discharge to navigable waters is not a right.

## **2.3 COORDINATION OF MARYLAND’S WATERSHED RESTORATION AND PROTECTION INITIATIVES**

This Section of Maryland’s CPP defines the key water quality management programs and how they are related to each other for purposes of coordination. The Clean Water Act provides the primary framework for coordinating the management of Maryland’s water resources. This framework includes setting standards, monitoring, assessing and documenting water quality conditions, establishing Total Maximum Daily Loads (TMDLs) for impaired waters, and following through with implementation, tracking and evaluation. This logical framework steers the overall coordination of Maryland’s watershed restoration and protection initiatives.

Due to the dominance of the Chesapeake Bay in Maryland, the Chesapeake Bay Program also has a significant coordinating role. This is described in Section 2.3.2.

### **2.3.1 Clean Water Act and Total Maximum Daily Loads (TMDLs)**

The Clean Water Act (CWA) is a federal law that was passed in 1972 and is national in scope. It is designed to ensure the nation’s waters are maintained in a “fishable and swimmable” condition that is protective of public health and living resources. Among other requirements, the CWA provides a systematic framework for managing water resources. The following outline summarizes the key functions in sequential order:

- Water Quality Standards
  - Designated Uses
  - Criteria for Meeting the Uses
  - Antidegradation Policy
- Water Quality Monitoring Strategy for State-wide Water Quality Assessment
- Data Management and Analysis
- Water Quality Reporting (Integrated 305b Report and 303d List of Impaired Waters)
- Intensive Monitoring and Information Collection to Support TMDL Development
- TMDL Development
- TMDL Implementation Planning and Execution
- Evaluation of implementation measures and the water quality response to those measures
- Documenting the management procedures in the Continuous Planning Process (CPP)

Nearly every function in this water quality management framework provides opportunity for coordination via formal public review. In addition, each function provides an established point of

coordination among State agencies and with local governments. These functions are described in greater detail in [\*Maryland's 2006 TMDL Implementation Guidance for Local Governments\*](#) available on MDE's web page.

EPA may authorize states to implement other aspects of the CWA, such as the National Pollutant Discharge Elimination System (NPDES) permit program. Maryland is authorized to implement the NPDES permit program within the State, which is central to TMDL implementation.

Section 303(d) of the CWA requires states to identify waters which do not meet applicable water quality standards or are not expected to meet applicable water quality standards even after the application of technology-based effluent limitations required by Sections 301(b) and 306 of the CWA, and to establish TMDLs for those waters. TMDLs are developed to address specific water quality impairments in specific water bodies. In order to assure that its TMDLs are technically and legally defensible, MDE seeks information from federal, state, local and private sources when preparing TMDLs through a routine data solicitation process. Prior to TMDL development, local government contacts, and others who have expressed interest, are provided advanced written notice. As TMDLs are developed these stakeholders are invited to engage in the development process. Before TMDLs are provided for public review, local government contacts are notified. This extensive coordination at each step of the process helps to ensure TMDLs are developed with the best available information before submittal to EPA for approval.

TMDLs establish a water quality management framework that creates quantified legal obligations to restore and protect water quality standards. This mandatory water quality planning process is coordinated with many existing programs. One of the most significant programs in Maryland that help implement nutrient and sediment TMDLs is the Chesapeake Bay Agreement Tributary Strategies. Because the TMDL and Tributary Strategy water quality goals are complimentary, Maryland is using the Tributary Strategy planning framework to support TMDL implementation planning. The Comprehensive Conservation Management Plan (CCMP) developed in Maryland's Coastal Bays serves a similar implementation role.

Maryland is also coordinating with other programs that support TMDL implementation and is striving to make them as consistent as possible. Appendix G of *Maryland's 2006 TMDL Implementation Guidance for Local Governments* elaborates on these opportunities for coordinating among existing programs (available at [www.md.state.md.us](http://www.md.state.md.us)).

The federal Clean Water Act Section also provides for protecting water quality. This "antidegradation policy" is articulated in Maryland's Code of Regulations COMAR 26.08.02.04-1, which states, "Where water quality is better than the minimum requirements specified by the water quality standards, that water quality shall be maintained. These waters are listed by the Department as Tier II waters. An antidegradation review of new or proposed amendments to water and sewer plans (county plans) and discharge permits is required to assure consistency with antidegradation requirements." The MDE Science Services Administration established the antidegradation policy as part of the State water quality standards. The MDE Water Management Administration administers the water and sewer plan review program and discharge permit programs.

### **2.3.2 Chesapeake Bay Agreement**

Chesapeake Bay Agreement is a regional compact of Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission, and the U.S. Environmental Protection Agency, initially signed in 1983. The original agreement was further strengthened by amendment in 1987 and in 1992. It focuses on the entire Chesapeake Bay Watershed, with the objective of achieving both chemical and biological water quality goals. The Chesapeake Bay Agreement is regional in scope, and is implemented in a multi-state cooperative manner. The Bay Agreement is supplemented by “directives” authorized by the governors of the Bay States. The commitments associated with water resources are classified under four overarching categories: living resources protection and restoration; vital habitat protection and restoration; water quality resource protection and restoration; and sound land use. The U.S. Environmental Protection Agency staffs the Chesapeake Bay Program (CBP) office in Annapolis, Maryland, which manages the governance structure described below.

The Chesapeake Bay Agreement provides a complimentary framework to the Clean Water Act and supports coordination both within the State and between neighboring states. Within Maryland, interagency coordination is conducted through Maryland’s Chesapeake Bay Workgroup composed of senior civil service staff. The Maryland Department of Natural Resources (DNR) staffs this workgroup and serves as the State’s primary liaison with the Chesapeake Bay Program. Issues of significant policy implications are elevated to Governor’s Chesapeake Bay Cabinet composed of the secretaries of the Natural Resources, Planning, Environment, Agriculture, Transportation agencies and the University of Maryland.

For most matters pertaining to the Chesapeake Bay, interstate coordination is facilitated by the U.S. EPA Chesapeake Bay Program committee and governance structure. At the apex is the Chesapeake Executive Council, composed of the governors of Maryland, Virginia, Pennsylvania, the mayor of the District of Columbia, the Chair of the Chesapeake Bay Commission, and the Administrator of the U.S. Environmental Protection Agency.

The Principals’ Staff Committee (PSC) acts as the policy advisors to the Executive Council, accepting items for Council consideration and approval, and setting agendas for Council meetings. Individual members of the PSC, who in Maryland are agency secretaries, arrange and provide briefings to their principals, the governor in Maryland’s case. The PSC also provides policy and program direction to the Implementation Committee. The Implementation Committee (IC) establishes and coordinates numerous committees and subcommittees. The Department of Natural Resources is the Maryland lead for the Bay Program coordination and staffs a “Bay Workgroup” and “Bay Cabinet” to assure that the agencies are well coordinated. Additional information about the Chesapeake Bay Program governance structure is available at <http://www.chesapeakebay.net/committee.htm>

On June 28, 2000, Maryland signed the new Chesapeake 2000 Agreement. Nicknamed “C2K”, the new Bay Agreement continues the cooperative approach from 1983 and the goals and due dates from 1987 as a foundation for new commitments. Those new commitments go further than those

of the previous Agreements, setting new goals. In addition, the Chesapeake 2000 Agreement has as a theme the concept of personal responsibility – the idea that individuals are responsible and can make a difference. The new Chesapeake Bay Agreement clearly puts the responsibility for a clean Bay and healthy tributaries on all citizens of the watershed. The specific goals, and the progress on each of them, is tracked and made available to the public by the Chesapeake Bay Program:

<http://www.chesapeakebay.net/c2k.htm>

Major efforts have resulted in an entirely new set of water quality standards for the Chesapeake Bay, which provide new uses for migratory and spawning fish and for submerged aquatic vegetation (SAV). Water clarity is explicitly addressed by a combination of numeric criteria and direct measurement of SAV acreage thresholds expected in each Chesapeake Bay segment. In addition to enhanced protections for migratory and spawning areas, the revised water quality standards account for vertical attributes of open water (surface), deep water (pycnocline) and deep channel (below the pycnocline) that reflect the physical and hydrologic natural conditions of the Bay, such as the effects of stratification on dissolved oxygen that occurs during the water months.

These refined water quality standards for the Chesapeake Bay have been adopted into Maryland's regulations through the triennial review process required by federal Clean Water Act and implementing regulations. (See Section 3.6 for further discussion of water quality standards. Appropriate revisions have been reflected in Maryland's 303(d) list of impaired waters to ensure consistency between Maryland and Virginia, enable a smooth transition from previous delineations of impairments, and provide appropriate documentation for any changes in the status of meeting water quality standards.

These efforts demonstrate close coordination between Maryland and the Chesapeake Bay Program to address regulatory aspects of water quality, which were previously managed under the voluntary Chesapeake Bay Agreement. This coordination extends to wastewater discharge permitting, as reflected in the adoption of permitting procedures to ensure consistency with the new Chesapeake Bay water quality standards, and development of tools and procedures for establishing a "Bay TMDL" scheduled for completion in 2010-2011, such as MDE providing funding, technical staffing, and significant technical review during the model development process. The Bay Program provides a multi-jurisdictional coordinating framework essential to meeting State water quality goals.

*Tributary Strategies:* A long-standing goal of the Chesapeake Bay Agreement is to reduce nutrients and sediments. The C2K Agreement formalized that goal in terms of meeting water quality standards under the federal Clean Water Act. Maryland's Tributary Strategies document a broad scale approach to reducing nutrient pollution to a level predicted to achieve water quality standards. Maryland's Tributary Strategies divided the Chesapeake Bay watershed into ten major tributary basins, which drain to the Chesapeake Bay (Figure 1). These are:

- Choptank River
- Lower Eastern Shore



- Lower Potomac River
- Lower Western Shore
- Middle Potomac River
- Patapsco Back River
- Patuxent River
- Upper Eastern Shore
- Upper Potomac River
- Upper Western Shore

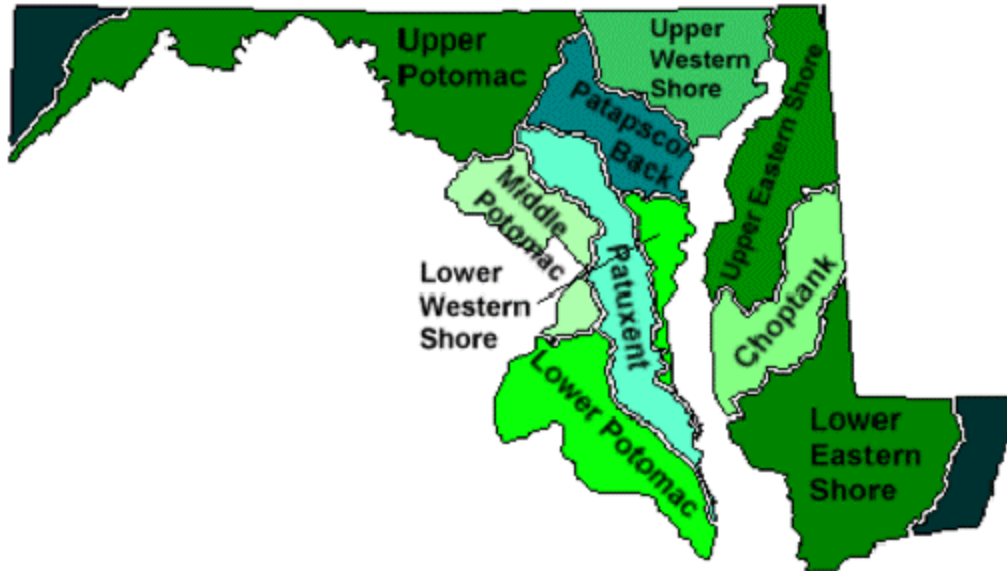
The Tributary Strategies are a combination of existing regulatory programs and voluntary programs. They are composed of, but not limited to, the following types of control activities:

- Retrofit Urban Land Developed Before 1985 State Stormwater Regulation
- Stream Restoration and Forested Buffers
- Upgrade Septic Systems
- Upgrade Wastewater Treatment Plants
- Agricultural Controls

The Tributary Strategies are complimented by *Maryland's Chesapeake Bay Tributary Strategy Statewide Implementation Plan*. This Statewide Implementation Plan is intended to provide accountability through an implementation schedule. It helps define program coordination, and as it is updated will serve to report progress.

The State is also developing ten basin-specific Tributary Strategy Implementation Plans during 2007 and 2008. These Basin Plans will reflect more refined local information, programs and implementation goals for the next two-to-five years. Local Tributary Strategy Implementation Teams provide a role in coordinating and motivating progress on development and implementation of the Tributary Strategies. The ten basin implementation plans are an initial phase in the process of documenting nutrient TMDL implementation plans, which address a more refined geographic scale. More information on Tributary Strategies can be found at the DNR website:

<http://www.dnr.state.md.us/bay/tribstrat/>



**Figure 1 Maryland's Ten Tributary Strategy Basins**

### **2.3.3 Maryland Coastal Bay Program (MCBP)**

The Maryland Coastal Bays Program (MCBP) is one of 28 National Estuary Programs authorized by Congress in 1987 by amendments to the Clean Water Act. Maryland's Coastal Bays Program is:

*... a partnership among the towns of Ocean City and Berlin, National Park Service, Worcester County, U.S. Environmental Protection Agency, and the Maryland Departments of Natural Resources, Agriculture, Environment, and Planning, who have come together to produce the first ever management plan for the coastal bays.*

The Program was originally set up under the Department of Natural Resources, Coastal Zone Management Division in 1996, and gained independent 501(c) non-profit status in 1999.

The Coastal Bays Program has a governance structure that supports coordination. The Policy Committee is made up of officials who ensure resources and funding necessary to support the program. Representatives include EPA Region 3 Administrator, State agency secretaries and local officials. The Implementation Committee is made up of representatives from key state, local, and federal agencies as well as the chairs of the Citizens Advisory Committee and the Scientific and Technical Advisory Committee. Members are mid-level resource managers capable of making significant resource decisions for their respective organizations.

On October 13, 1999, the EPA approved the Coastal Bays Comprehensive Conservation and Management Plan (CCMP). The Plan included four broad goals that the Maryland Coastal Bays Program used when developing action plans. These four broad goals are:

- Improve overall water quality by reducing the causes of eutrophication, and maintain water quality in relatively unimpacted areas such as Chincoteague Bay.
- Protect existing habitat, restore degraded habitat and create new habitat to improve the reproduction and maintenance of healthy living resource populations.
- Assess the impact of pathogens and toxic chemicals on living resources and control and/or mitigate those impacts.
- Promote ecologically sound, sustainable development in order to protect the desired uses and economic vitality of the coastal bays region.

The CCMP and more information on MCBP can be found at <http://www.mdcoastalbays.org/>

#### **2.3.4 Maryland's Source Water Assessment Program**

The 1996 Safe Drinking Water Act Amendments require states to develop and implement source water assessment programs to evaluate the safety of all public drinking water systems. The Maryland Department of the Environment embarked an ambitious program to assess the safety of all public drinking water sources in Maryland. In anticipation of developing the State's Source Water Assessment Plan, the Department solicited advice from interested professionals and citizens concerning the program's direction. The Source Water Assessment Plan was submitted to EPA, and approved early in November 1999.

Source Water Assessment is a process for evaluating the vulnerability to contamination of a public drinking water supply. The assessment does not address treatment processes or the storage and distribution aspects of the water system, which are covered under separate provisions of the Safe Drinking Water Act. There are three main steps in the assessment process: delineating the drainage area that is likely to contribute to the drinking water supply, identifying potential contaminants within that area and assessing the vulnerability of the system to those contaminants. Maryland will look at many factors when determining the vulnerability of a water supply to contamination, including the size and type of water system, the characteristics of the potential contaminants and the capacity of the natural environment to attenuate any risk. More information on Maryland's Source Water Assessment Program can be found on MDE's website at [www.mde.state.md.us/health/sourcewater.html](http://www.mde.state.md.us/health/sourcewater.html)

#### **2.3.5 Protection and Restoration of Watersheds in Western Maryland**

Many streams in Western Maryland are classified as coldwater fisheries. These waters are designated the use of supporting salmonid fish species, like various types of trout. A portion of the State in Garrett County drains to the Ohio River valley, and thus is not managed within the Chesapeake Bay Program framework.

Abandoned coalmines cause acidic that have detrimental effects on aquatic life. Toxic effects of low hydrogen ion concentration (pH), high metal concentrations, and the smothering of aquatic habitats with precipitates are the chief concerns. This is compounded by atmospheric deposition of acid rain in headwater streams. The legacy of surface coal mining also impacts water quality in Western Maryland.

MDE's Bureau of Mines Program is consulted on the listing of impaired waters for low pH in Western Maryland to help determine the degree to which acid mine drainage is a cause of the impairments. They also consulted during the development and review of TMDLs associated with low pH and the development of sediment TMDLs due to their role in surface coal mining and aggregate mining (sand and gravel).

Restoration activities are also coordinated with the Bureau of Mines. In 1967 and 1969, major changes in the Maryland Strip Mining Law were enacted. Further amendments were enacted in 1972, and annually since 1974, as reclamation requirements began to resemble current regulatory program standards. MDE is presently devoting a portion of the Clean Water Act Section 319 Nonpoint Source grant funding to restore waters impacted by abandoned mines, both for the effects of acid drainage and surface mining.

The Bureau of Mines is part of MDE's Frostburg Regional Office, which also houses a unit of the Wetlands and Waterways Program. Water resources monitoring and management are also coordinated with Frostburg State and the Department of Natural Resources Western Regional Office.

### **2.3.6 Other Coordination**

As noted above, the federal Clean Water Act and Chesapeake Bay Agreement provide key frameworks for coordinating water quality management in Maryland. In addition, the Coastal Bays Program and the field offices in Western Maryland provide coordination for areas that are outside of the Chesapeake Bay watershed. Additional points of coordination are described below.

Given the importance of land use on water quality, in 2006, the Maryland General Assembly enacted House Bill 1141, "Land Use – Local Government Planning" and House Bill 2, "The Agricultural Stewardship Act of 2006." These laws establish new and modified local comprehensive land use plan elements under Article 66B of the Annotated Code of Maryland, the local planning and zoning enabling statute.

House Bill 1141, calls for a Water Resources Element (WRE) in local comprehensive plans. The WRE will improve local planning efforts by assuring that water resources will be adequate for both water supply and wastewater disposal. House Bill 1141 also requires that two additional topics be addressed under the existing Sensitive Areas Element: Agricultural and forestlands intended for resource protection and conservation. The Maryland Department of the Environment (MDE), the Maryland Department of Planning (MDP), the Maryland Department of Agriculture (MDA) and the Maryland Department of Natural Resources (DNR) will coordinate technical assist for local governments in implementing the new requirements.

Other advisory committees (example: State Water Quality Advisory Committee, Coastal and Watershed Resources Advisory Committee) help coordination water quality management by bringing stakeholders into the planning, decision-making and implementation process.

The Maryland Water Monitoring Council (MWMC) was established in 1996 to foster coordination, cooperation and collaboration regarding water-monitoring activities. More discussion about the MWMC is presented in Section 3.3.3 of this document.

## **CHAPTER 3.0            ELEMENTS OF THE CONTINUING PLANNING PROCESS**

---

Chapter 3.0 of this document addresses all the required elements of the CPP (as outlined in 40 CFR 130.5, Subsections 3.1 through 3.9) individually. Each Subsection of Chapter 3.0 of this document corresponds to an individual requirement of 40 CFR 130.5 (b).

### **3.1        DEVELOPMENT OF EFFLUENT LIMITS AND SCHEDULES OF COMPLIANCE**

*40 CFR 130.5 (b)(1): The process for developing effluent limitations and schedules of compliance at least as stringent as those required by Sections 301(b)(1) and (2), 306 and 307, and at least as stringent as any requirements contained in applicable water quality standards in effect under authority of Section 303 of the Act.*

“Development of effluent limits” and “schedules of compliance” are discussed individually in the subsequent paragraphs.

#### **3.1.1    Development of Effluent Limits**

The surface water discharge permit combines the requirements of the State discharge permit program and the National Pollutant Discharge Elimination System (NPDES) into one permit for wastewater treatment facilities that discharge to State surface waters. The overall objective of the State’s *Discharge Permit* program for wastewater discharges (both municipal wastewater and industrial wastewater) is to ensure that the State’s water quality standards are not violated as a result of a single discharge or group of discharges to specific water bodies. Within the Department of the Environment, responsibility for issuing discharge permits resides in the Water Management Administration. This Section describes the policies and procedures followed during the preparation of sewage discharge permits.

#### Municipal Wastewater Discharges

Recognizing that:

- Load limits for nutrients are as important as nutrient concentrations to restore downstream water quality,
- The worst impacts are seen downstream in the Chesapeake Bay rather than in local waters,
- Restoration of Chesapeake Bay will require load caps, and
- The technology to achieve very low nitrogen concentrations will enable reasonable opportunities for growth consistent with water quality restoration

MDE has established a “Point Source Strategy,” funded by the Bay Restoration Fund, that provides

grants for upgrading to Enhanced Nutrient Removal (ENR) for all major wastewater treatment plants.

As a baseline, nutrient limits are being included in permits as they are renewed in response to the Chesapeake Bay Agreement Tributary Strategies. Specifically, each wastewater treatment plant that discharges nutrients to the surface waters of the Chesapeake Bay and its tributaries has been given an annual allocation for total nitrogen (TN) and total phosphorus (TP) under Maryland's Point Source Cap Management Strategy (PSCMS). These discharges represent about 90% of the treatment plants in the State.

For significant municipal treatment plants discharging 500,000 gallons per day (gpd) or more, the PSCMS allocations are based on the design flow of the plant in April 2003<sup>3</sup>, and concentrations of 4.0 mg/l TN, and 0.3 mg/l TP using ENR technology. A summary of the scheduled plant upgrades is provided in [the Point Source Strategy](#) [PDF] element of Maryland's Tributary Strategy Statewide implementation plan.

For smaller plants, the PSCMS allocations are based on the design flow or projected 2020 flow, whichever is less, and concentrations of 18 mg/l TN, and 3.0 mg/l TP. These allocations for significant dischargers will be included in the discharge permits as annual pound loadings limits for TN and TP. The smaller plants will have permit limits only if they expand beyond the flow used to determine their current allocation.

Stricter limits, and alternative discharge measures, may still be applied if they are necessary to protect for local water quality conditions, or required by State statute, such as Environment Article 4-302(1). In addition, permitting requirements may include relocating a discharge point, land application of treated effluent, and reuse of treated effluent. The general process of setting permit limits is described as follows.

In order to set permit limitations for discharge of treated municipal wastewater into a water body, the State first determines the ability of a receiving body of water to assimilate certain pollutants and still attain water quality standards. For a body of water that is impaired, a TMDL analysis is conducted to determine this assimilative capacity, including a waste load allocation (WLA) for point sources requiring permits. The WLA reflects the loading limitations necessary to ensure that the total assimilative capacity of the waterbody will not be exceeded.

The State applies a WLA process to each sewage discharge requiring an NPDES permit, accounting for information available in approved TMDLs. The Wastewater Permits Program is responsible for conducting the WLA process for individual point sources. The Program applies a

---

<sup>3</sup> The policy for establishing nutrient caps for wastewater treatment plants was based on a combination of plant design flow capacity and treatment level (effluent concentration of 4 mg/l nitrogen and 0.3 mg/l phosphorus). The treatment plant flow was set to be either the capacity in the MDE-approved County Water and Sewer Plan as of April 30, 2003, or the flow capacity shown in the locally-adopted Water and Sewer Plan Update or Amendment to the County Water and Sewer Plan, which were under review by MDE as of April 30, 2003.

variety of techniques to carry out this process. Mathematical models take into account ambient water quality conditions, existing upstream and downstream discharges, and nonpoint source contributions where appropriate. When allowing for nonpoint source contributions, a reasonable assurance should exist that the controls can be implemented to achieve and maintain the nonpoint source allocation (load allocation). The State maintains a monitoring program to assess water quality every five years.

The results of bioassays, statistical testing and benefit-cost analysis may also be considered. Discharge permit limitations must allow water quality standards to be achieved or maintained under “worst” case conditions. A common example of these conditions are defined as those occurring during a consecutive seven-day period of low water flow that occur statistically only once every ten years (7Q10). TMDL analyses also consider these “critical conditions” and “seasonality.”

For smaller plants, WLA analyses are conducted to determine whether treatment beyond secondary treatment removal of pollutants is necessary to achieve or maintain water quality standards (see foot note  $\alpha$ ). If this is not necessary, then the discharge permit limitations are those associated with the application of secondary treatment technology. In cases where standards cannot be met with secondary treatment, limitations that are more restrictive must be determined. These more restrictive limitations are based on WLA that are generally applied to pollutants which readily decay and have the potential to affect DO concentrations, including total Kjeldahl nitrogen (TKN) and BOD. In each case above, approved TMDLs are consulted.

The determination of WLA for freely flowing streams is technically well established. However, the physical and chemical behavior of estuarine waters is considerably more complex and not nearly as well understood. Therefore, determining WLAs for discharges to estuarine waters is still evolving. The WLA procedure for discharges to any waters of the State is always subject to refinement as more knowledge of water quality impacts is gained. (The Division of Permits maintains a “Procedures Manual for the Determination of Effluent Limits” as a technical reference document).

In addition to these standard constituents, if a publicly owned treatment work (POTW) receives industrial waste that contains certain toxic compounds, permit limitations for these toxic compounds may be required. Approved TMDLs are consulted in this regard. As of 2001, permits must consider limits to meet water-quality-based toxics criteria for ammonia. Each discharge is analyzed to determine whether an ammonia limit is required, and, if so, whether the treatment plant can be expected to meet it. If it cannot, then the permittee is given a maximum of 3 years to meet the limit.

With respect to toxics, the State has a biomonitoring (Whole Effluent Toxicity or WET testing) procedure designed to determine the degree of toxicity of selected sewage effluents that contain industrial waste components. (See also the explanation of Maryland’s Industrial Pretreatment Program).

---

$\alpha$  Secondary treatment is the federally mandated minimum level of treatment for sewage discharges.



## NPDES Industrial Wastewater Discharges

Within the Department of the Environment, the responsibility of issuing industrial discharge permits, with the exception of oil terminals and oil remediation discharges, resides in the Water Management Administration (WMA). (The Waste Management Administration is responsible for discharges from oil terminals and related groundwater remediation.) This section describes the policies and methodologies followed during preparation of industrial discharge permits.

The process for developing discharge permits for industrial wastewater depends on the quality of the receiving waters and findings of applicable TMDLs. Where the receiving water body meets or exceeds water quality standards, permit limitations based on the limits of technology are developed. There are two general approaches for developing technology-based limits for industrial permits: national effluent limitations guidelines (ELGs) and best professional judgment (BPJ)<sup>4</sup>. National ELGs are developed by EPA based on the demonstrated performance of a reasonable level of treatment that is within the economic means of specific categories of industrial facilities. Where national ELGs have not been developed, the same performance-based approach is applied to a specific industrial facility based on the permit writer's BPJ. In either case, the intent of a technology-based limit is to require treatment for industrial point sources based on an appropriate treatment technology while allowing the discharger to use any available control technique to meet the limitations.

This paragraph explains the BPJ process (in the event EPA has not established an ELG). If the permit being prepared is a renewal of an existing permit, then discharge monitoring report data are available to characterize the effluent. In instances where the receiving water is effluent-limited as opposed to water quality - limited, statistical analysis may be performed to establish a long-term average of the effluent concentration and a measure of the variability. From this information, the 95th percentile of the effluent concentration may be used as the average permit limitation. Twice this value is used as the daily maximum permit limitation. Another approach employed is to examine ELG information that is either not promulgated or remanded, or evaluate ELGs from a similar industry. If the data indicate that the waste streams are similar, and appropriate technology is applicable to the industry under consideration, then the proposed ELG may be used to develop effluent limits. An example of the latter category is the use of coal mining ELGs (40 CFR Part 434) to establish limits on total suspended solids and iron at sediment pond discharges resulting from fly ash storage sites. In other words, if EPA has established an ELG, then it is typically applied in a permit.

If imposition of a technology or performance-based limit discussed above will cause impairment of water quality, then a more stringent water quality-based limit is applied using applicable water quality standards. Limits are chosen so that the discharge will not impair water quality or so that in-stream concentrations outside of the mixing zone do not exceed applicable EPA water quality criteria or State water quality standards. This is determined by evaluating steam flow, effluent flow, upstream or

---

<sup>4</sup> The ELGs are employed whenever applicable. However, many of the discharges, which are permitted, do not fit into any of the categories for which ELGs are available. In these instances, a variety of other approaches are applied to develop effluent limits for inclusion in the permit. Collectively, this approach is known as *best professional judgment* (*bpj*).

background levels for the pollutant of concern, and levels of the pollutant in the discharge.

Where an industry discharges to a receiving water body that is not meeting water quality standards, the state develops effluent limitations designed to achieve them. Like the effluent limitations for municipal discharges previously described, these water quality-based limitations are derived from the total assimilative capacity of the water body for the pollutant at issue.

Several different levels of treatment are specified in the Clean Water Act. Best available technology (BAT) is required for all non-conventional pollutants and best conventional technology (BCT) is required for conventional pollutants. For new sources, new source performance standards (NSPS) provide limits. If the wastewater is discharged to a publicly owned treatment work, then either pretreatment standards for new sources (PSNS) or existing sources (PSES) provide the appropriate requirements. In some industrial categories, BCT is not available. In these cases, best practicable technology (BPT) is used to establish limits for conventional pollutants.

Both municipal and industrial dischargers are required under COMAR 26.08.03.07 to conduct whole effluent toxicity (WET) tests and report the results to MDE's Water Management Administration Compliance Program. When effluent toxicity problems are encountered, MDE requires toxicity reduction evaluations to identify and correct the toxicity. The procedures are described in MDE's *"Effluent Biototoxicity Testing Protocol for Industrial and Municipal Effluents."*

### **3.1.2 Schedule of Compliance**

Compliance schedules are required in circumstances where a discharge is not currently achieving permitted effluent limits. Because design, procurement, and installation of an improved treatment system requires time, an interim period is often allowed during which the treatment system is put into place. The compliance schedule establishes enforceable milestones throughout the process to achieve final limitations. Interim effluent limitations, which are less restrictive than the final limitations, may be established based on the State's determination on the highest capability of an existing treatment system. The NPDES permit for a given facility in this case would include: 1) the final effluent limitations, 2) the interim effluent limitations, and 3) the compliance schedule for achieving the final limitations. NPDES permits are issued for a maximum five-year period. If the final limitations cannot be met during the five year life of the permit, then a Consent Agreement or Enforcement Order may also be required in addition to any schedule of compliance in the discharge permit.

In addition to the development of permit limitations and schedules of compliance for both public and private sewage facilities, the State performs several other tasks related to both short and long-range pollution control activities. The Water Management Administration is responsible for providing effluent limitations for twenty-year planning efforts associated with the sewage construction grants program. This same unit also conducts advanced waste treatment reviews in accordance with the State's facility planning delegation agreement.

For industrial discharges, where ELGs are used to establish permit limits at the BAT level,

compliance schedules cannot be made part of the discharge permit. If a compliance period is necessary, the compliance schedule must be contained in an enforcement agreement that is issued concurrently with the discharge permit.

### **3.2 INCORPORATING SECTIONS 208 AND 209 of CWA**

*40 CFR 130.5 (b)(2): The process for incorporating elements of any applicable areawide waste treatment plans under Section 208, and applicable basin plans under Section 209 of the Act.*

The Maryland Department of Environmental (MDE) is designated by Environment Article § 9-253 as the State water pollution control agency for the purposes of the Federal Water Pollution Control Act (Clean Water Act). As such MDE is responsible for Area-wide Water Quality Management Planning in Maryland pursuant to Sections 208 and 209 of the CWA.

After the approval of a TMDL by the US EPA, the results are summarized in the State WQM Plan by the Science Services Administration of MDE. As TMDL implementation plans are documented, they are incorporated by reference in the State WQM Plan. NPDES Permit limits for point sources, established by the Water Management Administration of MDE, must be consistent with the waste load allocations established as part of the TMDLs.

As the State water pollution control agency, MDE reviews and where applicable certifies, approves, and submits Water Quality Management Plans and updates prepared by other area wide planning agencies to EPA for approval. Schedules for updating Water Quality Management Plans are discussed further in Section 3.4 of this document.

### **3.3 DEVELOPING TOTAL MAXIMUM DAILY LOADS (TMDLs)**

*40 CFR 130.5 (b)(3): The process for developing total maximum daily loads (TMDLs) and individual water quality based effluent limitations for pollutants in accordance with Section 303(d) of the Act and § 130.7(a) of this regulation.*

#### **3.3.1 Purpose**

The purpose of this Section is to describe the procedures associated with Maryland's Total Maximum Daily Load (TMDL) program, including background context, monitoring to assess the waters of the State and support TMDL analyses, integrated water quality assessments and reporting under Clean Water Act Sections 305(b) and 303(d), and the process for developing TMDLs. Public participation is discussed separately in Chapter 4.0 of this document.

#### **3.3.2 Background**

The federal CWA requires all states to establish water quality standards that define whether or not a waterbody is impaired. Waters of the State must be assessed every five years. The State must maintain an inventory of the quality of their waters, including a list of impaired waters that is updated every even year.

For waters that remain impaired, even after all required technologies have been implemented, states are required to calculate a TMDL. A TMDL is the water's maximum assimilative capacity for specific pollutants that will still allow the water to meet water quality standards. The TMDL analysis must allocate the total load among all sources, including natural sources and include a margin of safety to account for uncertainty.

### **3.3.3 State Water Quality Monitoring Programs for Assessing the Waters of the State and for Establishing TMDLs**

The State's water quality monitoring strategy is designed to integrate information from many sources of water quality data, including local governments, academic institutions and others. See: *Maryland's Water Quality Monitoring Strategy*, [http://www.mde.state.md.us/assets/document/water/WQPlanning\\_MonitoringStrategy\\_Sep04.pdf](http://www.mde.state.md.us/assets/document/water/WQPlanning_MonitoringStrategy_Sep04.pdf)

DNR and MDE share the responsibility of monitoring the waters of the State, with regulatory responsibilities generally under MDE. The monitoring falls into three broad categories, Statewide assessments of water resources, intensive monitoring studies to support TMDL development, and monitoring to evaluate and target implementation. MDE supplements this with fish tissue monitoring to identify toxic substances, and bacteria monitoring of shellfish waters.

DNR is generally responsible for the statewide assessment monitoring to determine current water quality status and trends over time. Principal water quality monitoring efforts include the State's Basic Water Monitoring Program in nontidal waters, water quality and resource monitoring in the Chesapeake and Coastal Bays and their tidal tributaries, and the Maryland Biological Stream Survey (MBSS), a probabilistic survey of water quality and aquatic life in the shallow, non-tidal streams of the State. The biological data provides a direct measurement of aquatic life support. See DNR MBSS website: [www.dnr.state.md.us/streams/mbss/](http://www.dnr.state.md.us/streams/mbss/)

These monitoring efforts generate sufficient data to support the State's Water Quality Assessment, described in Section 3.3.4.

MDE is responsible for intensive water quality monitoring to enable the development of technically defensible TMDLs<sup>5</sup>. This includes physical, chemical and biological water quality data; flow

---

<sup>5</sup> MDE also conducts intensive surveys for the drinking water supply program and other regulatory programs that make special requests. Other State and local agencies conduct a wide variety of information that is considered in the context of the three broad monitoring categories described above.

and tidal mixing information; bottom sediment properties; waterbody geometry information as well as pollution source and land use information. Because this intensive monitoring is very resource intensive, it is generally done on a short-term basis in limited geographic areas. A significant portion of this monitoring is performed as part of a watershed cycling strategy initiated in 1998. This strategy rotates MDE monitoring resources throughout the State in a five-year cycle. Where necessary, however, monitoring is conducted outside of this cycling strategy. For example, two-years of monitoring was conducted on the Potomac River to support the revised CBP Chesapeake Bay water quality and watershed models. Another exception to the cycling strategy was the collection of stream flow, sediment and bacteria data to support TMDL development.

MDE's watershed cycling strategy continues to guide the TMDL implementation targeting and evaluation monitoring. In addition to the statewide monitoring by DNR, MDE SSA conducts targeted monitoring in tidal and nontidal waters to evaluate TMDL implementation. Nontidal monitoring supports the development of biological TMDLs, targeting water quality restoration activities, and evaluation of implementation. The relationship of this watershed cycling strategy to NPDES permits is discussed in Section 3.9 on determining the priority of issuing permits.

### **3.3.4 Section 305(b) and 303(d) Integrated Reporting**

This subsection briefly describes the process for developing the State's Integrated Water Quality Assessment (305(b) Report and Listing of Impaired Surface Waters (303(d) List). This Integrated Report represents Maryland's inventory of water quality conditions, which this fulfills reporting requirements under the federal Clean Water Act.

Beginning in 2004, following EPA guidance, Maryland began the process of combining separate 305(b) Report and 303(d) List Report into a single "Integrated Report". The Integrated Report's Management Lists define 6 categories where waterbodies, designated uses and/or water quality criteria can be identified in terms of use support:

- Category 1 – waters in which all uses are attained
- Category 2 – waters in which some uses are attained
- Category 3 – waters in which use support is not known
- Category 4 – waters that are impaired, but don't need a TMDL
- Category 5 – waters that are impaired and need a TMDL
- Category 6 – temporary tracking category for waters moved between categories

The Integrated Report also includes the methodologies used to determine whether a waterbody is meeting water quality standards. EPA guidance on the Integrated Report is periodically updated; the most recent version is available online at: [www.epa.gov/owow/tmdl/2006irg/](http://www.epa.gov/owow/tmdl/2006irg/)

DNR's Resource Assessment Service is responsible for developing the 305(b) Report, which is updated every two years. MDE's Science Services Administration is responsible for developing the 303(d) list every two years, compiling the Integrated Report, and conducting a public review. DNR and

MDE work collaboratively, sharing data and assessment methods and participating in EPA water quality workgroups to submit the Integrated Report to EPA Region 3 for approval. With DNR and MDE oversight, EPA's Chesapeake Bay Program assesses oxygen, clarity, submerged grasses and benthic community support for the Bay and its tidal tributaries for use in the State's Integrated Report. See MDE Web Page for the most recently approved 303(d) List:

<http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/Maryland%20303%20dlist/>

MDE is considering the use of a federal information management system for water quality provided by EPA. This will facilitate and largely automate the integrated report. The system is organized on the basis of a stream segmentation system called the National Hydrological Database (NHD) segmentation. Using the federal system would necessitate adoption of the NHD stream segmentation scheme, which would also motivate adopting the federal watershed system. Converting from the State watershed definitions to the federal segmentation system would entail a gradual transition process.

### **3.3.5 State Process for Establishing TMDLs**

In 1998, the State of Maryland (MDE) and the US EPA set forth a plan of action, as an interagency Memorandum of Understanding (MOU), describing how obligations set forth under Section 303(d) and (e) of the federal Clean Water Act (CWA) will be addressed. The MOU, administered by MDE's Science Services Administration, serves as a framework for implementing portions of Maryland's water quality management programs. Specifically, the MOU sets forth the respective duties of MDE and EPA for (1) developing the lists of Water Quality Limited Segments (WQLS) required by CWA Section 303(d), and (2) developing, where necessary, TMDLs for those waters identified on Maryland's Section 303(d) list. It also calls for annual work plans and status reports describing the TMDL development process.

The MOU was subsequently revised in 2004. A copy of the *Memorandum of Understanding between the State of Maryland and the United States Environmental Protection Agency, Region III, regarding Sections 303(d) and 303(e) of the Clean Water Act* is available from MDE upon request.

The TMDL development process is based upon the State's 303(d) list. Once a waterbody has been placed on the 303(d) list, the first step in the TMDL development process is to verify the impairment. Where necessary, additional monitoring may be conducted to fill in data gaps necessary to support the TMDL development. An appropriate analytical tool or technique, such as computer modeling, is then used to estimate pollutant loadings to the waterbody, and to assess the water quality impacts of the pollutant loadings under varying conditions, such as low stream flows. The modeling is used to estimate the maximum load of the pollutant that will not violate water standards. Once this maximum pollutant load is determined, it must be allocated between point sources ("waste load allocation") and nonpoint sources ("load allocation"), accounting for a margin of safety and any future allocation as follows:

$$TMDL = \text{Waste Load Allocation} + \text{Load Allocation} + \text{Margin of Safety} + \text{Future Allocation}$$

The allocation will balance equity and cost considerations. TMDL reports are developed to meet certain other regulatory requirements, including: implementation of applicable water quality standards; consideration of impacts from background pollutant contributions; consideration of critical environmental conditions and seasonal variations; and reasonable assurance that proposed allocations can be achieved. The public, affected dischargers, regional agencies, and local governments<sup>6</sup> are provided an opportunity to be involved in the TMDL development process. Public participation is further discussed in Section 4.0 of this document.

The 303(d) list must identify the priority ranking of water quality problems relative to their importance. In addition, the 303(d) list must identify the TMDL analyses that are scheduled to be completed within the next two-years.

EPA regulations require that the priority rankings account for the severity of the pollution and the designated uses of the waters. Maryland's priority ranking approach establishes **high, medium or low** priority designations. Impairments that affect human health or have an extreme effect on natural resources are ranked **high**. Impairments that indicate a continuing downward trend in the loss of a significant resource, create a serious nuisance, or constitute a significant loss of a natural resource are ranked **medium**. The remaining cases are ranked **low**.

A common point of confusion is that the "priority ranking" and "two-year schedule for completing TMDL analyses" are not necessarily the same. For example, some high priority impairments are also very complex problems. As a result, they necessitate a longer timeframe for completion than some of the lower priority TMDL analyses. Although high priority TMDLs are not necessarily the first to be completed, they are given preference in receiving resources to initiate TMDL analyses, such as data collection, methodological research and development of analytical tools.

Additional information on the TMDL Program is available via MDE's Web Site:  
[http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/index\\_new.asp](http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/index_new.asp)

### **3.4 UPDATING AND MAINTAINING WATER QUALITY MANAGEMENT PLANS**

*40 CFR 130.5 (b)(4): The process for updating and maintaining Water Quality Management (WQM) plans, including schedules for revision.*

As the State water pollution control agency, MDE reviews and where applicable certifies, approves, and submits Water Quality Management (WQM) Plans to the US EPA. The State WQM Plans may incorporate other watershed plans by reference, including reservoir protection plans, Comprehensive Coastal Management Plans, Tributary Strategies. These and other watershed plans may

---

<sup>6</sup> A formal procedure of involvement of the local government has been in place since 2001, which is described in Chapter 4.0.

constitute or incorporate TMDL implementation plans. Examples are provided in Table 1 below.

**Table 1**

**Examples of Watershed Management Plans**

<b>Name of the Document</b>	<b>Agent</b>	<b>Comments</b>
<a href="#">Comprehensive Conservation and Management Plan for Maryland's Coastal Bays</a> [PDF]	Maryland Coastal Bays Program coordinates a multi-agent process.	Supporting subbasin plans are updated as needed.
<a href="#">Maryland's Chesapeake Bay Tributary Strategy Statewide Implementation Plan</a>	Maryland Department of Natural Resources	Updated on an approximate 2-year basis.
Maryland's Chesapeake Bay Tributary Strategy 10 Basin Implementation Plans	Maryland Department of Natural Resources	Updated on an approximate 2-year basis.
<a href="#">Reservoir Action Reports</a>	Baltimore Metropolitan Council coordinates a multi-agent process.	These plans, updated annually, address Liberty, Prettyboy and Loch Raven reservoirs.
<a href="#">Maryland Nonpoint Source Management Plan</a>	Maryland Departments of Natural Resources and Environment	Documents nonpoint source programs under the Clean Water Act and Coastal Zone Management Act.
Watershed Management Plans developed under NPDES stormwater permits	Maryland Department of Environment	Developed by local governments and updated on a 5-year basis.

Summary results of TMDLs, and references to TMDL implementation plans, are incorporated into the State WQM Plan by the Science Services Administration of MDE annually. The State WQM Plans, including plans incorporated by reference or prepared by area wide planning agencies, are updated on an as needed basis.

**3.5 INTERGOVERNMENTAL COOPERATION**

*40 CFR 130.5 (b)(5): The process for assuring adequate authority for intergovernmental cooperation in the implementation of the State WQM program*

The Maryland Department of the Environment is the primary implementation and enforcement agency for water management programs. With MDE as lead agency, other State agencies, and regional organizations and local governments, have roles in water pollution control throughout Maryland.



Table 2 (appended to the end of the CPP) provides a comprehensive inventory of existing activities carried out by the various levels of government in Maryland that relate to water quality planning and management. In this table, activities are organized under the following headings:

1. Water Quality Standards
2. Water Quality Management Planning
3. Discharge Permits: Limitations, Pretreatment and Enforcement
4. Sewerage, Water Supply, Solid Waste Facilities: Planning<sup>7</sup>
5. Sewerage, Water Supply, Solid Waste Facilities: Construction and Operation
6. Non-point Source Control: Regulation
7. Non-point Source Management Practices: Technical and Financial Assistance
8. Groundwater Supply Quality and Quantity Control
9. Solid and Hazardous Waste Management: Regulation
10. Aquatic and Terrestrial Habitat Protection
11. Technical Analysis and Evaluation
12. Public Participation/education

Functionally, the activities incorporated in Table 2 reflect all major aspects of water quality management: short and long-range planning; regulation; implementation; evaluation and public involvement.

**Performance Partnership Agreement (PPA):** MDE has a Performance Partnership Agreement (PPA) with EPA that provides a framework for State-Federal intergovernmental cooperation on environmental issues. This formal agreement between EPA's Regional Administrator and the Secretary of the Maryland Department of Environment (MDE) calls for regular meetings to discuss programmatic progress, resolve problems and improve efficiency.

**River Basin Commissions:** This is another example of Maryland's interaction with other agencies. There are two river basin commissions of greatest interest: the Interstate Commission on the Potomac River Basin (ICPRB) and the Susquehanna River Basin Commission (SRBC). These Commissions provide a venue through which Maryland can educate neighboring states about its water resource needs. The Commissions can also help Maryland deal with interstate or regional water resource issues, such as water appropriations and pollutant loads discharged to shared river segments.

Washington metropolitan area water suppliers, the Corps of Engineers, and the ICPRB work closely together to manage regional water resources in times of drought. The work involves the implementation of operating procedures that have been developed and refined for two decades. More

---

<sup>7</sup> All counties and the City of Baltimore are required to have water and sewer plans. These jurisdictions amend and update their plans on a routine basis. Every three years a report of the review of their existing plans is required by the State law. Water and sewer plans are maintained by the Water Management Administration (WMA) of the MDE. Solid waste from water treatment is discussed under Section 3.7 of this document.

information on this can be found in MDE and DNR websites.

**The Governor’s Council on the Chesapeake Bay:** The Governor’s Council on the Chesapeake Bay was initiated in January of 1985 (Executive Order 01.01.1985.02). The Council, referred to as the Chesapeake Bay Cabinet, advises the Governor on management of the Bay watershed and surrounding areas that comprise the entire State of Maryland. The members of the Council are the Secretaries of the Departments of Environment, Natural Resources, Agriculture, Planning, and Transportation, as well as the University of Maryland’s Director of the Center for Environmental Science and the Dean of the College of Agriculture and Natural Resources. These agencies work together to ensure that Maryland’s environmental programs are well coordinated and integrated into a complete water quality management program. Maryland DNR’s Chesapeake Bay Program, Watershed Services provides administrative support.

**Other Coordination Efforts:** Other advisory committees (State Water Quality Advisory Committee, Coastal and Watershed Resources Advisory Committee, Bay Restoration Fund Advisory Committee, and the Tributary Strategy Teams) – all play a role in the coordination effort, bringing key stakeholders into the planning, decision-making and implementation process. In addition, the Maryland Water Monitoring Council (MWMC) was established in 1996 to foster coordination, cooperation and collaboration regarding water-monitoring activities. More information on the MWMC is available at: <http://mddnr.chesapeakebay.net/MWMC/>

Maryland maintains contact on NPDES permits and TMDLs of concern to adjoining states through inclusion of state agencies on a standard Interested Parties List. This list is maintained by MDE Science Services Administration. The boundary states and EPA (for District of Columbia) reciprocate by providing notices of decisions on permits and solicit comments for discharges, which may affect Maryland waters. When draft TMDLs are developed that are of concern to an adjoining state, a formal public notice and comment period of at least 30-days will be provided before the TMDL is submitted to EPA. Notices are published in local newspapers both in Maryland and the adjoining state, and copies of draft TMDLs are made available through the mail, at local libraries, or from MDE’s website.

The Interstate Commission on the Potomac River Basin (ICPRB) is coordinating a source Water Protection program for the District of Columbia. Maryland has agreed to share information gathered for major intakes on the Potomac. The Susquehanna River Basin Commission will be coordinating Maryland and Pennsylvania data to complete source water assessments for intakes on this boundary river. The ICPRB is also coordinating data gathering efforts of MDE and USGS, along with data collected by Virginia and West Virginia, for Maryland’s TMDL process for the Potomac River.

### **3.6 ESTABLISHING AND IMPLEMENTING WATER QUALITY STANDARDS**

*40 CFR 130.5 (b)(6): The process for establishing and assuring adequate implementation of new or revised water quality standards, including schedule of compliance, under Section 303(c) of the Act*

Maryland's water quality management program is a comprehensive, long-range program aimed at assessment of existing and potential sources of pollution. The program is administered by MDE, Science Services Administration. Integral to this process is the development and implementation of water quality standards that define and protect existing water quality and its designated uses. Another important element is the development and implementation of regulations that specifically address and control various types of water pollution. Water pollution control regulations are viewed as a dynamic process capable of change in response to increased understanding of water pollution problems.

Currently, the State's water quality standards are codified in COMAR 26.08.01 (Water Pollution - General) and COMAR 26.08.02 (Water Quality). The standards establish designated uses of surface water and establish water quality criteria to protect these designated uses. In addition, these regulations define the anti-degradation policy of the State as well as other policies that apply to water quality standards. All waters of the State are currently protected for the basic uses of water contact recreation, fish and other aquatic life, wildlife and water supply. The federal law and regulations governing water quality standards are available at the following Internet sites:

[Clean Water Act standards and enforcement Section \(Title III\):  
http://www.epa.gov/region5/water/pdf/ecwa\\_t3.pdf](http://www.epa.gov/region5/water/pdf/ecwa_t3.pdf)

[Code of Federal Regulations Title 40, Part 131.1-Water quality standards  
http://www.epa.gov/epahome/rules.html#codified](http://www.epa.gov/epahome/rules.html#codified)

Implementation of new or revised water quality standards is of course critical. Upon application for a new discharge subsequent to the development of new or revised standards, if the new standards cannot be met upon issuance, and compliance schedule will be required.

State water quality standards for surface waters are routinely reviewed and updated by MDE on a triennial (three-year) basis, subject to review and approval by the USEPA. For complex issues, an informational public meeting process may precede the formal promulgation process. MDE follows all State and federal administrative requirements for public participation with respect to promulgation of water quality standards. Public participation is further discussed in Chapter 4.0 of this document.

### **3.7 MANAGEMENT OF RESIDUALS FROM WATER TREATMENT PROCESSING**

*40 CFR 130.5 (b)(7): The process for assuring adequate controls over the disposition of all residual waste from any water treatment processing*

Residuals from drinking water treatment plants include the wastes from two major unit processes: sludge from the sedimentation process and spent backwash water from the filtration process. The MDE Water Management Administration administers this program. These wastes are handled in several different ways by water systems in Maryland, depending on the design and

capabilities of the treatment plant and on the community that the treatment plant serves. Options include:

- *Wastes sent to a wastewater plant through the collection system or by truck hauling*
- *Wastes treated in a separate settling process, which will allow solids to settle out:* Solids are sometimes sent to on-site drying beds. Solids are removed and disposed of through land application or other permitted method. The decant is sent to a wastewater plant or recycled.
- *Treated Wastes recycled to the head of the treatment process:* Although the least desirable of all waste management options, if this is done, it is recommended that no more than 5% of the total raw water flow be recycled over an extended time.
- *Treated Wastes sent to the raw water source, usually downstream of the raw water intake:* This is a permitted discharge.

### **3.8 CONSTRUCTION NEEDS FOR WASTEWATER TREATMENT**

*40 CFR 130.5 (b)(8): The process for developing an inventory and ranking, in order of priority of needs for construction of waste treatment works required to meet the applicable requirements of Sections 301 and 302 of the Act.*

Maryland has recently adopted a State law that funds the vast majority of the State's wastewater treatment plant upgrades. Maryland Senate Bill 320 (Bay Restoration Fund) was signed into law on May 26, 2004. The purpose of the bill is to create a dedicated fund, financed by wastewater treatment plant users, to upgrade Maryland's wastewater treatment plants with enhanced nutrient removal (ENR) technology. In addition, a similar fee paid by septic system users will be utilized to upgrade onsite systems and implement cover crops to reduce nitrogen loading to the Bay.

The Bay Restoration Fund (BRF) is administered by the Maryland Department of Environment, Water Management Administration. The law established an advisory committee to evaluate the cost, funding and effectiveness of the treatment plant upgrades and to advise MDE and local governments on the septic system program and other aspects of the fee system. The advisory committee, staffed by MDE, advises on the priority of upgrades and other matters.

More information on the Bay Restoration Fund is available at:  
<http://www.mde.state.md.us/Water/CBWRF/index.asp>

#### **3.8.1 Needs Survey**

The Needs Survey, a joint effort of the U.S. Environmental Protection Agency and the States, is an assessment of needed publicly owned wastewater treatment facilities, correction of combined sewer

overflows (CSOs) and sanitary sewer overflows (SSOs), and management of stormwater and nonpoint source pollution, in the United States. The survey is administered by the Maryland Department of Environment, Water Management Administration. The State provides data for the survey to EPA for biennial report to Congress as required by Sections 205(a) and 516(b) (1) of the Clean Water Act. For budgetary reasons, the Survey is now conducted every four years.

The Needs Survey assesses the capital investment required to meet wastewater infrastructure needs of current population, as well as the additional amount needed for population growth for the next 20 years and to meet water quality standards.

The Needs Survey includes water quality programs and projects eligible for funding under the Clean Water State Revolving Loan Fund (SRF) program in accordance with Title VI of the CWA. It encompasses the documented capital costs required to meet the needs of wastewater collection and treatment infrastructure in accordance with Section 212 of the CWA including publicly owned treatment works (POTWs), combined sewer overflows (CSOs), sanitary sewer overflows (SSOs) and phase I/II stormwater projects. It also covers the Nonpoint Source (NPS) and National Estuary Programs defined in Section 319 and 320 of the CWA, respectively.

A “need” is a cost estimate for a project eligible for SRF funding under the CWA. The cost estimates for the needs identified in the Needs Survey are either reported by the States or modeled by the EPA. Reported needs include costs for facilities used in the conveyance, storage, treatment, recycling, and reclamation of municipal sewage wastes. Estimates are included for all types of needed changes to wastewater facilities, including constructing entirely new facilities as well as enlarging, upgrading, abandoning, and replacing existing facilities. Existing facilities are considered for replacement when they have reached the end of their design life and are obsolete. Additionally, costs for structural and non-structural measures and costs to develop and implement State and municipal stormwater and NPS programs are included. For the modeled categories (i.e. stormwater and NPS), EPA prepared cost estimates for facilities and program activities eligible for funding under the SRF program. These estimates do not include costs for operation and maintenance. It should also be noted that in accordance with the “Funding Framework” document, non-structural (nonpoint source) measures are not eligible for SRF funding. SRF funds will be used to implement the activities mentioned in the approved *NPS Management Plans (prepared in accordance with Section 319<sup>8</sup> of the CWA)* and they will not be used to develop NPS activities.

Cost Data. Working through state agencies, EPA obtains estimates of the needed future capital investment for each individual municipal wastewater treatment facility. The cost estimates are for those portions of a facility eligible for federal financial assistance under the Clean Water Act. Cost estimates are obtained from detailed planning documents whenever possible. Costs for small systems are

---

<sup>8</sup>The process used to select projects for Section 319 grant funding is published annually with the grant Request for Proposals (RFP). Priority areas for funding are based significantly on Maryland’s Unified Watershed Assessment. Maryland’s 303(d) list was a key factor in prioritizing watersheds through the Unified Watershed Assessment process. Maryland has a Section 319 Grant Steering Committee that reviews and makes recommendations on NPS funding.

modeled based on a review of selected small systems.

Facility Data. In addition to cost data, various types of technical information for each facility are collected. Of interest are the operational status of the facility, the population of the service area, the existing or planned treatment process, anticipated changes or additions to the treatment process, current and projected effluent quality, and required sewer system expansions or improvements. As part of the FY 2000 survey, emphasis is being placed on inputting latitude and longitude information for all facilities.

Hydrologic Data. The cost and facility data are also linked to various hydrologic data for national analysis and basin-wide water quality simulation. Stream system data include hydrologic flow paths, mean and low flows, and stream segment length, slope, and latitude/longitude. Pollution data for point sources include the receiving stream, current and planned municipal effluent characteristics and flows, and standardized industrial effluent data. Also included are the state-designated uses and the ammonia and dissolved oxygen criteria that apply to each stream. The data are grouped by the 21 U.S. Geological Survey regional hydrologic units.

### **3.8.2 Integrated Project Priority System**

[Maryland's Integrated Project Priority System \[PDF\]](#) was developed by MDE, Water Management Administration and approved by the EPA. It outlines criteria for prioritizing wastewater, nonpoint source and estuary management projects into a single list (Priority List) to provide low interest loan funding through the SRF as authorized in title VI of the CWA. The priority listing represents a ranking of sewerage facility needs as well as eligible nonpoint source projects as determined through a comparative analysis as to the degree of severity of water quality and public health problems. Factors determining the relative order of priority include existing conditions, proposed project benefits, anticipated water quality improvement to be derived, and whether the project is located within a "State Priority Watershed." Compliance with federal and State enforcement requirements are considered under "proposed project benefits." With respect to the assessment of water pollution severity, the State draws directly upon the biennial documentation of Maryland's water quality prepared pursuant to Section 305(b) and 303(d) of the federal CWA and information provided by the Chesapeake Bay Program regarding Bay segments in non-attainment of dissolved oxygen standards in the open water.

Water Quality State Revolving Fund (WQSRF) financial assistance can be used to fund construction of publicly owned wastewater treatment works, implementation of non-point source capital improvements consistent with Maryland's Non-Point Source Management Plan (under Section 319 of the Clean Water Act), and implementation of estuary capital improvements consistent with Maryland's Coastal Bays Action Plan (an estuary conservation and management plan under Section 320 of the Clean Water Act). All projects to be financed through WQSRF must have water quality or public health benefits. The priority list contains project information required by the EPA and is subject to the public participation process that includes mass distribution to applicants and interested parties and a public hearing before being submitted to the EPA for final approval.

The scoring system provides a mechanism for linking funding decisions to other ongoing water quality and watershed programs. For example, projects are rated for their consistency with county Water and Sewer Plans, county-designated Priority Funding Areas (PFAs) for Smart Growth, Maryland's Nonpoint Source Management Plan, and Maryland's Estuary Conservation and Management Plan. Projects can also receive a higher rating if they will address Bay segments in non-attainment for dissolved oxygen in open waters, approved Total Maximum Daily Loads of nutrients, sediments, or bacteria or water quality impairments of nutrients, sediments, and bacteria as identified on Maryland's 303(d) list, waters with a mean Index of Biological Integrity of less than 3, or if they will protect groundwater (either a wellhead protection area for public water supply or an unconfined aquifer that serves as an existing drinking water source). The

### **3.8.3 Maryland Water Quality Financing Administration (WQFA)**

The Maryland Water Quality Financing Administration (WQFA) was created during the 1988 session of the Maryland General Assembly as a component unit of the State of Maryland Department of Environment. The Administration's purpose is to encourage capital investment for wastewater and drinking water projects pursuant to the Clean Water Act of 1987, and the Safe Drinking Water Act and Amendments of 1996. The Administration administers two loan funds:

- Water Quality Revolving Loan Fund (WQRLF) created during the 1988 session of the Maryland General Assembly for the purpose of providing below market rate of interest loans for wastewater projects;
- Drinking Water Revolving Loan Fund (DWRLF) created during the 1993 session of the Maryland General Assembly for the purpose of providing below market rate of interest loans for drinking water projects.

Both loan funds receive federal funding from the United States Environmental Protection Agency (EPA) under the Capitalization Grants for State Revolving Funds federal assistance program. The Administration is empowered to issue bonds subject to approval of the State Board of Public Works and Secretary of the Maryland Department of the Environment. Bonds issued by the Administration do not constitute a debt or pledge of the full faith and credit of the State or any political subdivision thereof, other than the Administration. The bonds are paid solely from the revenue, money or property of the Administration pledged therefor under its Indenture of Trust dated March 1, 1990, as amended (Indenture) between the Administration and its trustee bank.

### **3.8.4 General Water Quality State Revolving Fund Eligibility – Point Source Project**

Types of projects involving construction of publicly owned wastewater (sewerage) facilities that reduce and prevent water pollution problems qualifying for funding and thereby qualifying for inclusion on the priority list include:

- New, expanded, or rehabilitated wastewater treatment plants including Biological Nutrient Removal

- Infiltration/inflow correction
- Replacement/rehabilitation of sewers
- Collector, trunk and interceptor sewers, pumping stations
- Combined sewer overflow abatement
- Sanitary sewer overflow abatement
- Septage receiving and handling facilities
- Sludge handling and disposal facilities
- Water treatment plant filter backwash and sludge treatment
- Leachate pretreatment at municipal landfills

### **3.8.5 General Water Quality State Revolving Fund Eligibility – Nonpoint Source Project**

SRF financial assistance can be used to fund implementation of non-point source capital improvements consistent with Maryland’s NPS Management Plan, and implementation of estuary capital improvements consistent with Maryland’s Coastal Bays Action Plan (an estuary conservation and management plan under Section 320 of the CWA). The project to be financed must have water quality benefits. SRF financial assistance can be obtained directly through the Department or through MDE’s Linked Deposit Program, which enables public and private entities to use SRF loans as a source of low interest financing to implement eligible NPS projects.

Both public and private entities may use SRF loans for eligible NPS projects. The types of NPS projects that are eligible for Maryland’s SRF financing include:

- Waterbody restoration that includes water quality improvements (example, stream bank stabilization, drainage erosion, and sediment control)
- Restoration of riparian vegetation, wetlands, and other waterbodies
- Aquatic habitat restoration and protection projects
- Existing stormwater management facility repair and new stormwater requirements. Examples of these include stormwater wet ponds, stormwater wetlands, infiltration practices, filter systems, open channel practices, and non-structural practices.
- Correction of failing septic systems
- Rehabilitation or removal of leaking petroleum/chemical storage tanks for pollution prevention
- Water quality protection components of voluntary cleanup program and state master list sites where controlled hazardous substances remediation is not underway
- Highway deicing materials storage and efficient salt application equipment
- Collection and treatment of runoff from municipal airports that has been contaminated by aircraft deicers or other pollutants
- Land purchase or conservation easements for water quality protection, wellheads, or watersheds
- Agricultural BMPs may include

→ Grade Control Structures



- Sediment Control Ponds
- Manure Storage Facilities
- Stream Protection (Fencing)
- Grazing Land Management System (Fencing)
- Wetlands Creation Enhancement
- Manure Spreaders, Pumps and Appurtenances

### **3.9 DETERMINING THE PRIORITY OF PERMIT ISSUANCE**

40 CFR 130.5 (b)(9): *The process for determining the priority of permit issuance*

EPA uses a major/minor classification system for industrial NPDES wastewater permits to provide an initial framework for setting permit issuance priorities. Within the existing EPA major permit classification system, a point score is used to identify discharges with high environmental impact. These are placed into the “major permits” category. The emphasis is on toxic pollutants, high volumes of environmental pollutants, and thermal pollution. The State may reevaluate a facility’s major/minor classification rating, based on new data indicating a toxic effluent, high flow, or any other significant change. For municipal NPDES wastewater permits, plants of 1 million gallons per day design flow or greater are classified as major plants. Once the distinction between the major and minor permits has been made, the permits of highest priority for issuance are the major permits. Permit issuance is managed by MDE, Water Management Administration.

Other factors for determining the priority of issuance for industrial surface water discharge permits apply to both minors and majors. The application for a new permit has a higher priority of issuance since the applicant, by law, cannot discharge wastewater before the permit is issued. The holder of a permit with an expired date can discharge under the expired permit condition, provided an application for renewal has been submitted to the State.

Development of general permits technically represents a grouping of minor permits into one, thus eliminating many hours of administrative work. For this reason, the development of a general permit has the same priority as a major permit. Of highest ranking are the general permits replacing the greatest number of individual minor permits.

Discharge permits have been further categorized and grouped according to geographical areas (watersheds). A processing schedule has been established so that permits in the same watershed will be processed during the same time period over a 5-year cycle. A permit with less than half of the effective period remaining when its watershed is being permitted may be processed early for reissuance with all of the permits in the watershed. Other permits may be allowed to expire and then be administratively extended (for no more than 2.5 years) to get on cycle with the other permits in the watershed group. Priorities for processing permit applications will be assigned based on the watershed schedule unless environmental concerns or business operating plans require reissuance of a permit in advance of the watershed permit schedule.

Maryland has established a watershed permitting approach that incorporates the EPA's major/minor classification system for industrial and municipal NPDES permits. The permit priority considerations can be summarized as follows:

- The processing of a major permit has priority over a minor permit.
- Development of a general permit has the same priority as a major permit.
- Processing of a new permit application has a higher priority than processing a renewal application, with the exception that permit modifications to increase flow generally have a similar priority as a new permit.
- Processing of applications for permit renewals that have passed permit expiration dates have higher priority over applications with permit dates still in effect.
- For permits that have expired, the longer a permit is past its expiration date, the higher its priority.

## CHAPTER 4.0 PUBLIC PARTICIPATION

---

The people of Maryland are at the heart of the State's environmental management. Over the past three decades or so, the people have spoken clearly and repeatedly of their desire for protection of natural resources, clean-up of pollution, and a healthy Chesapeake Bay. These desires find expression in a variety of State laws and regulations covering the range of goals and issues reflected in this Section.

### 4.1 RESOURCES

#### State Laws and Regulations:

Laws for MDE (*Environment Article*) are available at:

[http://www.dsd.state.md.us/comar/Annot\\_Code\\_Idx/EnvirIndex.htm](http://www.dsd.state.md.us/comar/Annot_Code_Idx/EnvirIndex.htm)

Regulations for MDE (COMAR Title 26) are available at:

[http://www.dsd.state.md.us/comar/subtitle\\_chapters/26\\_Chapters.htm](http://www.dsd.state.md.us/comar/subtitle_chapters/26_Chapters.htm)

Laws for DNR (Natural Resources Article) are available at:

[http://www.dsd.state.md.us/comar/Annot\\_Code\\_Idx/NaturalResIndex.htm](http://www.dsd.state.md.us/comar/Annot_Code_Idx/NaturalResIndex.htm)

State regulations for DNR (COMAR Title 08) are available at:

[http://www.dsd.state.md.us/comar/subtitle\\_chapters/08\\_Chapters.htm](http://www.dsd.state.md.us/comar/subtitle_chapters/08_Chapters.htm)

For official copies of these laws and regulations, reader should contact:

#### **Division of State Documents,**

16 Francis Street, Jeffrey Building,  
Annapolis MD 21401.

**Phone: 410-974-5521**

**E-Mail: [statedocs@sos.state.md.us](mailto:statedocs@sos.state.md.us)**

**Internet: <http://www.dsd.state.md.us/>**

#### State Water Quality Management Publications:

MDE publications related to water quality are available at:

General:

<http://www.mde.state.md.us/ResearchCenter/Publications/index.asp>

State Monitoring Strategy [PDF]:

[www.mde.state.md.us/assets/document/water/WQPlanning\\_MonitoringStrategy\\_Sep04.pdf](http://www.mde.state.md.us/assets/document/water/WQPlanning_MonitoringStrategy_Sep04.pdf)

DNR publications related to water quality are available at:

Coastal Bays:

[http://dnr.md.gov/coastalbays/res\\_protect/pubs.html](http://dnr.md.gov/coastalbays/res_protect/pubs.html)

Chesapeake Bay Tributary Strategies:

<http://www.dnr.state.md.us/bay/tribstrat/archives.html>

Rivers and Streams:

<http://www.dnr.md.gov/streams/index.html>

Other DNR Publications:

<http://www.dnr.state.md.us/dnrnews/publications.as>

More guidance, policy, publications on state water quality issues can be found on the following web sites:

<b>Web Address</b>	<b>Agency</b>
<a href="http://www.mde.state.md.us">www.mde.state.md.us</a>	➔ Maryland Department of the Environment
<a href="http://www.mda.state.md.us">www.mda.state.md.us</a>	➔ Maryland Department of Agriculture
<a href="http://www.dnr.state.md.us">www.dnr.state.md.us</a>	➔ Maryland Department of Natural Resources
<a href="http://www.mdp.state.md.us">www.mdp.state.md.us</a>	➔ Maryland Department of Planning

A major principal of water quality management in Maryland is that people are part of the environment; all of the people of Maryland are parts of the ecosystem(s) of the State, their health and quality of life affected by environmental conditions and many of their actions affecting other ecosystem components. Part of the job facing environmental managers at all levels of government is to bring together the social context and the science with which most of them have greater experience and comfort. A two-way communication system is called for – making environmental information available to people and hearing from the people their concerns and issues. In the subsequent paragraphs, typical public participation processes are discussed.

#### **4.2 STATE WATER QUALITY ADVISORY COMMITTEE (SWQAC)**

SWQAC is Maryland's federally mandated public participation group. In accordance with federal guidelines, SWQAC is a balanced, multi-disciplinary group comprised of 32 members representing private citizens, public officials, economic interests and public interest organizations from different geographic areas of the State. SWQAC's affirmed role is to regularly advise State agencies, receiving EPA funding, on programs and activities that may have impacts on the improvement and protection of

water quality. The Committee's composition and structure ensures that its activities are representative of the perspectives of the multiple and divergent interests of all the groups represented, and its input and recommendations are generated by consensus.

SWQAC's broad statutory obligations include fostering constructive interchange among the various interests represented on the group, assisting elected or appointed officials with final decision-making responsibility by making recommendations on important issues. This role enhances the prospect of broader community acceptance of State agency action. SWQAC's overarching goal is to maintain an open dialogue with public officials on all matters related to all aspects of water quality. Examples of interest to SWQAC include point and non-point source pollution, NPDES permitting, land use and growth as it affects water quality, preservation and conservation of the State's water resources, regulatory review, and review of proposed planning documents, such as water & sewer plans, continuing planning process and EPA actions.

More information about SWQAC is available at: <http://www.marylandwaterquality.org/>

#### **4.3 PUBLIC PARTICIPATION: DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS**

Interested parties will be provided with introductory TMDL briefings upon request. A second round of more in-depth briefings will be provided to those who require more detail. The public is also invited to become involved in the listing process and a public comment period is provided before the 303(d) list is submitted to EPA.

Once work on a specific TMDL begins, local governments and other stakeholders in that watershed will be consulted during key stages of development. Opportunities for public involvement typically include:

- Data solicitations
- Informational briefings to watershed stakeholders
- Notification of Maryland's Tributary Teams
- Notification of local government TMDL contacts
- Notification of permit holders in a watershed
- Email notification of interested parties
- Informational briefings during the TMDL development process upon request

Once a draft TMDL has been developed, a formal public notice and comment period of at least 30-days will be provided before the TMDL is submitted to EPA. Notices are published in local newspapers and copies of draft TMDLs are made available at no cost through the mail, at local libraries, or from MDE's website. Upon approval of a TMDL by EPA, it will be posted on MDE's website and mailed directly to interested parties who commented on the draft.

<http://www.mde.state.md.us/Programs/WaterPrograms/TMDL/Sumittals/index.asp>

#### **4.4 PUBLIC PARTICIPATION: DEVELOPMENT AND STATE REVIEW OF COUNTY WATER AND SEWERAGE PLANS**

Water and Sewerage Plans: Consistent with State law and regulations, each revision, amendment or triennial update of a county water and sewerage plan by local governing bodies requires that a public hearing be held following public notification in newspapers with local and area wide circulation. Copies of these public notices are submitted by the counties along with their triennial updates to Maryland Department of Planning (MDP).

State Regulations: Adoption of or amendment to State regulations pertaining to county plans is subject to a public hearing process.

State Water Quality Advisory Committee (SWQAC): The SWQAC regularly reviews and comments on the broad range of State laws, policies, and programs that deal with water quality and pollution control. This includes State's water and sewerage plan review and approval process.

#### **4.5 PUBLIC PARTICIPATION: ESTABLISHMENT OF WATER QUALITY STANDARDS**

The CWA requires that all states review their water quality standards every three years (triennial review). While primary responsibility for water quality decision-making is vested by law in public agencies, active public involvement throughout the intergovernmental decision-making process is mandatory. The process is managed by the MDE Science Services Administration.

- MDE's public involvement in the triennial review is a two-part process. MDE first holds a public meeting to discuss the general intent of the triennial review and to outline the regulation revisions being considered. After specific regulatory revisions are proposed, MDE holds a hearing as part of the mandatory public comment process. The public hearing is announced through newspapers, the Internet and through direct communications with local governments and other interested parties. The State Water Quality Advisory Committee regularly reviews and comments on proposed regulations.

These meetings are structured to assure that as many participants as possible have an opportunity to speak. In order to assist the information exchange process, time is allowed for informal questions and formal comments are received and recorded. Written comments are accepted at the meetings and also for 30 days after the last of the meetings. MDE strongly encourages submissions of written statements for documentation.

#### **4.6 PUBLIC PARTICIPATION: EFFLUENT LIMITATIONS, WASTELOAD ALLOCATIONS (TMDLs), AND SCHEDULES OF COMPLIANCE FOR WASTEWATER DISCHARGES**

*Discharge Permits:* Discharge permits set effluent limitations. These must be consistent with waste load allocations where TMDLs exist. Waste load allocations are subject to public review during the TMDL development process. Discharge permits may include schedules of compliance.

MDE publishes a Notice of Opportunity for an Informational Meeting for each permit application received. MDE publishes a Notice of Opportunity for Public Hearing for each draft permit. MDE conducts Informational Meetings and/or Public Hearings upon request. In such cases, notices of the meetings are published in the Maryland Register and in a local newspaper. These notices include effluent limitations and the time, date, and location of the meeting or hearing.

Members of the public may visit the Department's offices and review files during working hours.

A comprehensive list of water-related permits is available at:  
<http://www.mde.state.md.us/Permits/WaterManagementPermits/index.asp>

*Regulations:* Changes to regulations pertaining to the issuance of discharge permits are subject to a public hearing. The State's discharge permit program is reviewed by the State Water Quality Advisory Committee.

Public hearings are required whenever the applicable water quality regulations are revised.

*State Water Quality Advisory Committee (SWQAC):* The State Water Quality Advisory Committee periodically reviews regulation pertaining to the State's discharge permit program.

#### **4.7 PUBLIC PARTICIPATION: PRIORITY PROCEDURE FOR THE ISSUANCE OF SURFACE WATER DISCHARGE PERMITS RELATING TO WASTEWATER TREATMENT**

*Permit Issuance:* MDE publishes a Notice of Opportunity for an Informational Meeting for each permit application received. MDE publishes a Notice of Opportunity for Public Hearing for each draft permit. MDE conducts Informational Meetings and/or Public Hearings upon request.

Priority Procedure: The priority procedure described above is developed in conformance with EPA policies. These federal policies are made public.

Regulations: Changes to regulations pertaining to the issuance of discharge permits are subject to public hearings.

SWQAC: The State Water Quality Advisory Committee periodically reviews the State's discharge permit program.

#### **4.8 PUBLIC PARTICIPATION: MANAGEMENT OF RESIDUALS FROM WASTEWATER TREATMENT PROCESSING**

Each of the separate regulatory programs contains provisions for public participation. These are detailed below:

Sewage Sludge Management. Upon receipt of an application for agronomic use of sewage sludge, the governing body of a county or municipality in which a sludge project is proposed (or an adjoining county within one mile of the proposed site) may request an informational meeting in the affected jurisdiction. Such a meeting is advertised in a local newspaper at least five days before the meeting. Local officials are notified of the date, time, and location of the meeting.

For marginal land reclamation sites, the governing body of a county or municipality (or an adjacent county within one mile of a proposed site) may request a public hearing in the affected jurisdiction. Such a hearing is advertised in a local newspaper at least seven days prior to the hearing. Local officials are notified of the date, time, and location of the hearing.

For permanent facilities such as landfills, sludge composting or other facilities, a public hearing is mandatory.

Industrial Waste Residuals. Facilities requiring a hazardous waste permit are subject to the full public participation requirements of requisite federal and State law.

Facilities requiring a State discharge permit are subject to the full public hearing process as required by law.

Facilities regulated through the 9-217 permit process are not subject to a public hearing. However, applications are forwarded to local officials for review and comment. If requested, an informational meeting is conducted in the affected jurisdiction.

Solid Waste Plans. Each county, as part of their solid waste management plan process, includes provision for public participation. Once the plan is developed and submitted to the Department for review and approval, there is no provision for additional public input.



SWQAC. The State Water Quality Advisory Committee periodically reviews the State's residual waste management program as it may effect to water quality.

#### **4.9 PUBLIC PARTICIPATION: INVENTORY AND RANKING OF CAPITAL FUNDS FOR CONSTRUCTION WASTEWATER TREATMENT WORKS**

- a. Maryland's Priority System and Priority List are subjected to several public hearings conducted each year in different geographical areas of the State. Both draft and final lists of facilities are sent to potential grantees, elected officials, consultants and other interested parties.
- b. Staff of the MDE Water Management Administration meet regularly with and receive comments from the State Water Quality Advisory Committee.

#### **4.10 VOLUNTEER MONITORING ACTIVITIES**

The State of Maryland has an active outreach effort directed toward volunteer monitoring organizations. The goal of the outreach effort is to promote environmental stewardship among the volunteer groups through active monitoring activities and to provide information that is useful in documenting water quality conditions throughout the State.

The State recognizes that the quality of data generated by various volunteer groups can be highly variable and works through various environmental groups to build quality assurance and quality control elements into each monitoring program through presentations and training at conferences and meetings. Local governments in Maryland also work closely with volunteer groups to promote the development of useable data for assessment purposes. Some of these programs have documented quality that can match data collected by professionals. Many local and volunteer groups have affiliated themselves, or include members, with substantial credentials in water quality monitoring.

Coordination of volunteer monitoring activities is a complex undertaking and involves participation in a number of organizations. Some of the more notable government and intergovernmental groups that are involved in volunteer monitoring include the Chesapeake Bay Program (including the Alliance for the Chesapeake Bay), the Maryland Water Monitoring Council (MWMC), the Interstate Commission on the Potomac River Basin (ICPRB), the Susquehanna River Basin Commission (SRBC), and the Department of Natural Resource . Some of the larger volunteer groups that are active in Maryland include: the Izaak Walton League, the Audubon Naturalists Society, several river associations, DNR's Stream Waders, Creekwatchers of Talbot County and Nanticoke River Creekwatchers, among others.

Data generated by volunteer groups for water quality assessment purposes is actively solicited

by MDE and DNR as part of the data gathering effort for the preparation of the biennial Integrated Report. Emphasis has been focused on analytical reports that graph and summarize the data in a format that can be readily reviewed and incorporated into the 305(b) report. Tables of data are also solicited to provide documentation to support any conclusions or statements made in the volunteer reports. These data are made available to MDE for review and consideration in documenting and preparing the List of Impaired waters in the Integrated Report.

Data management remains an issue in all discussions relating to volunteer data. Recent efforts by the MWMC have focused on the establishment of minimum data elements for databases that are being assembled by all groups, including volunteers, to allow for the exchange and integration of the respective databases. Continuing efforts of a similar nature are occurring at the State, interstate, and national level to promote consistency in data management.

More information about MDE's programs is available on the Internet at [www.mde.state.md.us](http://www.mde.state.md.us) or by calling (410) 537-3000.

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
<b>Water Quality Standards</b>	State/MDE	Director Science Services Administration MDE
<b>Water Quality Management Planning</b>		
WQM Plan Certification	State/Governor	Director Science Services Administration MDE
WQM Plan Preparation/Revision	State/MDE	Director Science Services Administration MDE
--Designated Metropolitan Areas	Regional/COG	Executive Director Washington Metropolitan Council Governments Baltimore Metropolitan Council
--Statewide Agricultural WQM Plan	State/SSCC	Chairman State Soil conservation Committee MDA
Nonpoint Source Management Plan	State/MDE	Water Quality Restoration and Protection Program, Science Services Admin, MDE
<b>Discharge Permits: Limitations, Pretreatment and Enforcement</b>		
Municipal Discharge Permits	State/MDE	Water/Wastewater Permits Program

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Surface or Groundwater		Water Management Administration MDE
Industrial Discharge Permits Surface or Groundwater	State/MDE	Water/Wastewater Permits Program Water Management Administration MDE
Land Treatment Site Evaluation	State/MDE	Water/Wastewater Permits Program Water Management Administration MDE
Municipal, Industrial & Privately Owned Sewer Facility Inspection and Permit Compliance	State/MDE	Enforcement Program Water Management Administration MDE
Industrial Pretreatment Programs	State/MDE	Water/Wastewater Permits Program Water Management Administration MDE
	Local/Counties, Variable municipalities, sanitary districts	
<b>Planning: Sewerage, Water Supply, Solid Waste Facilities</b>		
Local Water and Sewerage	Local Departments of Facilities Planning Public Works; Sanitary Commissions; Planning Offices	Variable

Table 2

COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES

Activity	Government Level/ Lead Authority	Agent
Approval of County Water and Sewerage Plans and Amendments	State/MDE	Water Quality Infrastructure Program Water Management Administration, MDE
Local Solid Waste Management Planning	Local/Counties	Variable
Approval of County Solid Waste Management Plans	State/MDE	Office of Planning & Outreach Services Waste Management Administration, MDE
Population Projection and Land Use Data Planning	State/Department of Planning	Administrator Data Division, Department of Planning
Hazardous Waste Facilities Sitting	State/MDE	Secretary Hazardous Waste Sitting Board, MDE
<b>Construction and Operation: Sewerage, Water Supply, Solid Waste Facilities</b>		
Maryland Consolidated Capital Bond Loan, WQSRF, DWSRF Link Deposit	State/MDE	Water Quality Infrastructure Water Management Administration, MDE
State-owned or Operated	State/Dept. General Services	Special Projects Team Sewage Facilities, DGS
State-owned or Operated Sewerage Facilities	State/DNR	Director MD Environmental Services (MES)
Local Water and Sewerage Facilities Construction Operation and Maintenance	Local/Departments of Public Works; Sanitary Commissions; Engineering Offices	Variable

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Local Solid Waste Management	Local/County	Variable
<b>Nonpoint Source Control: Regulation</b>		
Violations of State Water Quality Standards and Regulations	State/MDE	Enforcement Program Water Management Administration, MDE
Retrofits and Conversion MCCBLS, WQSRF, Link Deposit	State/MDE	
Sediment and Erosion Control	State/MDE	Sediment, Stormwater and Dam Safety Program Water Management Administration, MDE
--Regulations and Enforcement	State/MDE	Sediment, Stormwater and Dam Safety Program Water Management Administration, MDE
--Local S/EC Ordinances and Enforcement if Delegated by State	Local/Counties	Variable
--Review and Approval of Local Sediment and Erosion Control Plans	Local/SCDs	Variable
Stormwater Management --State Stormwater Control Program Regulations	State/MDE	Sediment, Stormwater and Dam Safety Program Water Management Administration, MDE
--Local Implementation of Stormwater Management: Local Ordinances and Enforcement	Local/County or Municipal Agencies	Variable
Oil Control	State/MDE	Oil Control Program Waste Management Administration, MDE

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Surface Mining (other than coal): Reclamation and Water Quality Control	State/MDE	Mining Program Water Management Administration, MDE
Coal Mining: Reclamation and Water Quality Control	State/MDE	Mining Program Water Management Administration, MDE
--Regulations for on-site sewage disposal	State/MDE	Water/Wastewater Permits Program Water Management Administration, MDE
--Local Implementation: on-site sewage disposal	Local/County Health Departments	Variable
Forest Management	State/DNR	Director, Public Lands & Forestry, Forests & Parks, DNR
Innovative/Alternative On-site Waste Disposal Systems	State/MDE	Water/Wastewater Permits Program Water Management Administration, MDE
<b>Nonpoint Source Control Management Practices: Technical and Financial</b>		
Clean Marinas Program	State/DNR	Clean Marinas Program committee
Section 319 Nonpoint Source	State/MDE	Water Quality Restoration and Protection Program, Science Services Admin, MDE
Maryland Agricultural Cost-Share Program	State/MDA	Administrator MD Ag. Cost-Share Program, MDA

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Local Implementation of Ag Water Quality Management	Local/SCD Board of Supervisors	Variable
Related Federal Agricultural Assistance Programs	Federal/SCS and ASCS  Federal/SCS: Variable Regional Office and Local Soil Conservation District Offices	State Conservationist SCS Maryland State Office
Small Creek & Estuaries	State/MDE	Chief Program Capital Program Planning Water Management Administration, MDE
<b>Groundwater Supply Quality and Quantity Control</b>		
State Groundwater Quality Protection Strategy	State/MDE	Public Drinking Water Program Water Management Administration, MDE
Well Regulations	State/MDE	Water/Wastewater Permits Program Water Management Administration, MDE
Water Appropriation Permits	State/MDE	Water/Wastewater Permits Program Water Management Administration, MDE
Well Drilling Licensing	State/MDE	Executive Director Regulations Board of Well Drillers, MDE



**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Implementation of State Groundwater Quality Programs and Policies	Local	Variable (Local Health departments Dept. of Public Works, etc.)
<b>Solid and Hazardous Waste Management: Regulation</b>		
Federal Resource Conservation and Recovery Act		
--State RCRA Program	State/MDE	Hazardous Waste Program Waste Management Administration, MDE
--Municipal and Industrial Waste Regulations	State/MDE	Solid Waste Program Waste Management Administration, MDE
--Hazardous Waste Regulations	State/MDE	Hazardous Waste Program Waste Management Administration, MDE
Pesticide Control Program	State/MDA	Pesticide Regulation Section Office of Plant Industries & Pest Mgmt. MDA
<b>Aquatic and Terrestrial Habitat Protection</b>		
Wetland Permits	State/MDE	Wetlands & Waterways Program Water Management Administration, MDE
Waterway Construction Permits	State/MDE	Wetlands & Waterways Program Water Management Administration, MDE
Enforcement of State Laws Related to Aquatic Resource Use	State/DNR	Superintendent Natural Resources Police, DNR

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Chesapeake Bay Critical Area Program	State/DNR & Local Governments	Critical Area Commission & Local Governments
--Regulations and Oversight	State/DNR	Chairman Chesapeake Bay Critical Commission
--Local Implementation	Local/Counties and Municipalities	Variable
<b>Technical Analysis and Evaluation</b>		
Water Quality Monitoring, Evaluation, and Research Program Design	State/MDE	Science Services Admin., MDE
-- Field Program for Ambient Quality Monitoring: Chesapeake Bay Program, Maryland Biological Stream Survey, CORE/TREND Water Quality Monitoring	Water State/DNR	Resource Assessment Services, DNR
-- Compliance Monitoring	State/MDE	Field Operations Program Science Services Admin., MDE
--Special Field Studies to support permit decisions	State/MDE	Field Operations Program Science Services Admin., MDE
-- Maryland Water Quality Inventory		
+ Section 305(b) Report	State/DNR	Resource Assessment Service, DNR
+ Section 303(d) List	State/MDE	Science Services Admin., MDE
-- Water Quality Data Management		

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
	State/DNR State/MDE	Resource Assessment Service, DNR Science Services Admin., MDE
-- Agricultural Nonpoint Monitoring Research	State/University	Director Maryland Agricultural Experiment Station University of Maryland
-- Submerged Aquatic Vegetation Studies	State/DNR	Director Resource Assessment Service, DNR
-- Fisheries Management	State/DNR	Director Fisheries Service, DNR
Scenic Rivers Assessment and Planning	State/DNR	Director Land Planning Services Capital Programs Administration, DNR
Hydrologic Characteristics of Maryland Groundwater Resources	State/DNR	Director MD Geological Survey, DNR
Groundwater Supply/Planning, Conservation, and Natural Quality Assessment	State/MDE	Water/Wastewater Permits Program Water Management Administration, MDE
Groundwater Supply/Ambient Contamination Assessment	State/MGS	Director, Maryland Geologic Survey DNR, MDE
Groundwater Contamination	State/MDE	Waste Management Administration, and Water Management Administration, MDE

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
<b>Public Participation/Education</b>		
Public Input to WQM Plans	State/MDE	Variable (Delegated to DNR, COG metropolitan areas and local governments)
Statewide Water Quality Activities: Public Input	State/State Water Quality Advisory Committee (SWQAC)	Chairman SWQAC
Coastal Zone Management Activities	State/Coastal and Watershed Resources Advisory Council (CWRAC)	Chairman CWRAC
Agricultural Nonpoint Source: Public Education	State/University of Maryland	Director Cooperative Extension Service University of Maryland
	State/University of Maryland: Local Extension Agents Local/SCDs	Variable  Variable
Public Information on State Environmental Programs	State/MDE	Director Information & Community Assistance MDE
Public Information on Natural Resources Programs	State/DNR	Director Public Communications, DNR
Interstate Public Participation Activities:  -- Interstate Commission on the	  Interstate/ICPRB	  Executive Director

**Table 2**

**COMPREHENSIVE INVENTORY OF EXISTING ACTIVITIES**

<b>Activity</b>	<b>Government Level/ Lead Authority</b>	<b>Agent</b>
Potomac River Basin ICPRB		
-- Susquehanna River Basin	Interstate/SRBC	Executive Director Commission SRBC
-- TMDL Development and Implementation	State/MDE	Science Services Admin., MDE
-- Monitoring Coordination	Maryland Water Monitoring Council (MWMC)	Mutual Assistance Group efforts lead by DNR