

3.0 GENERAL GUIDANCE

The federal government does not mandate prescriptive requirements for TMDL implementation; nevertheless, states are expected to ensure that water quality standards are protected, and in cases of impairment, restored and maintained (EPA, July 1998). The lack of prescriptive guidance allows for flexibility, but this flexibility places a responsibility on states and local governments to craft a framework for implementing TMDLs.

This Guidance represents an evolving framework jointly developed by State and local government staff to assist in flexibly achieving water quality goals mandated by the Clean Water Act. The State invites local governments to engage in the process of enhancing the Guidance over the coming years, with a focus on self-education and building technical and administrative capacity.

Section 3.1 “Guidance for Local Policymakers” was written to ensure that the importance of this issue is communicated to people with decision-making authority. The crucial points regarding the current priorities for TMDL implementation are expressed therein.

Section 3.2 “Legal Landscape” identifies the federal law, regulation and guidance regarding TMDL implementation, which are limited. Several other guidance documents are also cited.

Section 3.3 “Objectives and Responsibilities” lays out the big picture on TMDL implementation, and begins to delineate responsibilities.

Section 3.4 “Adopting a Local TMDL Implementation Framework” recommends that local governments identify a committee to coordinate across local agencies. The coordinating committee is encouraged to begin establishing written policies and procedures on how to approach TMDL implementation. This coordinating body is invited to engage the State in a continuing dialogue on a variety of evolving implementation topics.

Section 3.5 “Public Involvement” provides a synopsis of stakeholders to include in the TMDL implementation process.

3.1 Guidance for Local Policymakers

This 2006 Guidance addresses the federal requirement “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (Clean Water Act §101). Although TMDL implementation focuses on the restoration and maintenance of waters that fail to meet standards (impaired waters), the Guidance also addresses the protection of waters that currently meet standards. This initiative is a State and local partnership; much of the Guidance also applies to State government, which is committed to leading by example.

Reducing excessive pollutants and preventing the future increase of pollutants according to quantified goals is the essence of TMDL implementation. It is in the interest of local governments to attain the technical and administrative capacity to participate in this process with appropriate State leadership and support. Enhancing capacity at the local level will help to

ensure future flexibility, maintain local control, seize on opportunities, and maximize fiscal and administrative efficiency.

The importance of TMDL implementation was highlighted in a November 2003 letter from the Executive Committee of the Governor's Chesapeake Bay Cabinet to local elected officials. The Bay Cabinet includes the State secretaries of the departments of Environment, Planning, Agriculture and Natural Resources. They communicated the following:

[W]e are writing to inform you about recent developments in efforts to restore the Chesapeake Bay and implement the Clean Water Act. These changes may affect your thinking about where and how to target development based on its effect on pollution loads and water quality.

We recommend that all counties examine their land use policies and programs to assess their ability to minimize future growth impacts on water quality. In particular, we encourage you to ensure that the principles and practices of watershed planning and resource protection are incorporated in your land use planning process.

As it relates to future land use changes, TMDL implementation guidance can be stated very simply: In areas that meet water quality standards, new development should strive to ensure that post-development water quality is as good as pre-development quality. For development where standards are not attained, post-development water quality should be improved over pre-development levels. This latter statement holds true for impaired waters whether or not a TMDL has been developed, and applies to physical, chemical and biological aspects of water quality. Where this is not possible on-site, it might be necessary to consider off-site mitigation.

The brief guidance statements above are not new. Local jurisdictions have been advised to follow these general practices since at least 1993. These statements are included in State guidance for setting development standards under a sensitive areas element for comprehensive planning (MDP 1993). What is new is that they are now being tied to quantitative water quality targets, which implies the need to manage cause-and-effect relationships between activities on the land and their effect on water quality.

The guidance highlighted in the preceding box implies two tangible needs. First, technical and administrative procedures for offsetting future increases in pollutants need to be established. Procedures are currently being considered by MDE, which will be coordinated with local government.

Second, the enhanced technical and administrative procedures for ensuring consistency with TMDLs will place greater demands on State and local government. Anticipating these greater demands, local policies and procedures for financing water quality planning and implementation

should be enhanced. The transition will be smoother if these financial enhancements are instituted proactively.

During the coming year, the State will be working with interested local parties to enhance this Guidance. Local policymakers are encouraged to help steer the evolving development of TMDL implementation policies and procedures. The following are some subject areas that will be priorities for the near-term:

- **Tracking Credit for Current Programs:** Many existing local programs and activities already deserve credit for contributing to the goals of TMDL implementation. Local governments are encouraged to think about integrating the tracking of these program activities in order to begin accounting for quantified credits toward TMDL implementation (See Section 5.1 on “Tracking and Assessing Progress”).
- **Local Interagency Coordination:** Local governments are encouraged to identify a committee to coordinate TMDL implementation issues among agencies (e.g., Planning, Health, Permitting and Licensing and Public Works). The State plans to engage these coordinating committees over the coming year in a continuing dialogue on a variety of evolving TMDL implementation topics (See Section 3.4.1).
- **Local TMDL Implementation Framework:** It is important for local governments to demonstrate a good faith effort to begin implementing TMDLs. Success will be measured in terms of demonstrating consistent progress in the long-term effort to restore and maintain water quality. Local governments are encouraged to begin establishing written policies and procedures on how they plan to approach TMDL implementation. To assist, this Guidance is supplemented by a model framework document that can be tailored to evolving local needs (See Section 3.4.2).
- **Self-Education:** Key local government officials are encouraged to devote time to self-education regarding TMDL implementation over the coming years. This can begin with reading Maryland’s 2006 TMDL Implementation Guidance, and the other guidance documents cited herein. State officials are being encouraged to make the same investment in order to support an informed dialogue with local officials over the coming year. (See the following section, “Legal Landscape”, and Section 5.2 “Tools and Resources.”)
- **Assess Enhanced Funding Options:** The challenges of TMDL implementation represent a paradigm shift in the sophistication of water quality management. The transition to this new paradigm will create additional workload for many local government agencies. Serious thought should be given to revenue enhancement options to support budget increases for key local agencies and to leverage resources from the private sector. Ideally, these enhanced financing mechanisms will create environmental incentives and will be integrated with a comprehensive framework for offsetting future loads. (See Section 4.3.1.9 on “Financial Planning”).

Restoring water quality to meet standards is a long-range objective that will take many years to realize. However, enhancing existing technical tools and administrative procedures is a nearer term goal. A key intent of this Guidance is to alert local governments to this nearer term goal, which needs to be addressed expeditiously. We strongly encourage local government policy makers and local staff members work with the State on this initiative. Several specific examples of policies, tools and operational procedures that are under development are summarized in Table 3-1 below.

Table 3-1

Policies, Tools and Operational Procedures that are Under Development

Topic	Synopsis
Phase 5 Chesapeake Bay Watershed Model	This model is being refined, which will enable more geographically refined TMDL implementation plans that are consistent with Bay Agreement goals.
GISHydro NPS Tool	This tool is being developed to allow local watershed planning in a manner that is consistent with estimates from the complex Phase 5 watershed model. It is hoped that this tool will enable NPS offset computations to be computed more easily and consistently.
Nutrient offset policies and procedures	The State has adopted a policy of managing point sources under a cap established by the Chesapeake Bay Agreement. Routine technical and administrative procedures remain under development. NPS offset procedures are under consideration.
TMDL Implementation Planning Procedures	The State is committed to implementing TMDLs. Specific guidance for developing “TMDL implementation plans” remains to be developed in coordination with local governments.
Land Use Planning Policies and Procedures	Although this Guidance provides general direction on addressing TMDLs in the local land use planning process, specific technical guidance has not been included. Implementation of House Bill 1141 could provide a framework for doing this.

3.2 Legal Landscape

Section 303(d) of the 1972 Clean Water Act is the federal law that requires states to identify impaired waters and to develop TMDLs in a manner consistent with water quality standards (33 U.S.C. § 1313(d)). Part 40, Section 130.7 of the Code of Federal Regulations was issued in 1985 and amended in 1992 to implement Section 303(d). The law and regulation are available at www.epa.gov/owow/tmdl/policy.html

The basic logic of the legal landscape rests on assuring that decisions and actions are consistent with the maintenance of water quality standards. The primary nexus for this assurance is the National Pollutant Discharge Elimination System (NPDES) permitting framework. Although the federal regulations do not include prescriptive requirements for TMDL implementation, they do

specify that NPDES permits be issued in a manner consistent with TMDLs and that TMDLs achieve water quality standards. In addition, NPDES permits must be issued in a manner consistent with water quality standards prior to the development and approval of TMDLs.

A common question regarding TMDL implementation is, “How is the State going to ensure that pollution from non-regulated activities is controlled, particularly nonpoint sources?” Because TMDLs create a holistic framework of accounting for pollutants, decisions regarding NPDES permits also consider the unregulated sectors. The consideration of unregulated nonpoint sources during the permitting process is essential to restoring water quality and offsetting future increases in loads. The nonpoint sources are considered through an overall accounting of pollutant loads. If a regulated activity is predicted to increase pollutants, then a means of offsetting that increase must be identified before the regulated activity may proceed. That offsetting reduction must typically be achieved by reducing loads in the unregulated sector. In this way, the regulated activities are linked to making reductions in the unregulated sector. The specific policies and operational procedures for doing this are beginning to take shape, and will be a significant focus of attention during the coming years.

The federal EPA provides some guidance on interpreting the TMDL regulations, which gives insights into TMDL implementation. Some of the key guidance documents are cited below.

“Guidance for Water-Quality-based Decisions: The TMDL Process”, EPA-441-D-99-001, US EPA, 1999. www.epa.gov/OWOW/tmdl/decisions/ (1991 version)

“New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs),” Memorandum from Bob Perciasepe, August 8, 1997. www.epa.gov/OWOW/tmdl/ratepace.html

“Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,” Memorandum from Robert H. Wayland, III and James A. Hanlon, November 22, 2002. <http://www.epa.gov/npdes/pubs/final-wwtmdl.pdf>

Several other documents that are not directly tied to TMDL regulations provide additional insights. The Clean Water Act Section 319 provides the framework for managing non-regulated nonpoint sources (NPS) of pollution. EPA places conditions on Section 319 grant funding by tying it to TMDL implementation.

In particular, the “Supplemental Guidelines for the Award of Section 319 Nonpoint Source Grants to States and Territories in FY 2003” identifies key elements of watershed management planning (Part II.3.a-i). Elements “a through i” provide insight into what EPA considers to be the main logical elements of TMDL implementation planning for nonpoint sources. This is discussed further in Section 4.3.1 “Planning for Pollutant Reductions.”

Another document that provides insight into TMDL development and implementation is the 1998 TMDL FACA report. Although this advice to EPA is somewhat dated, it provides a wide range of perspectives, which could help local governments assess the legal landscape. “EPA National Advisory Council for Environmental Policy and Technology”, Report of the Federal

Advisory Committee on the Total Maximum Daily Load (TMDL) Program, EPA-100-R-98-006, July, 1998. www.epa.gov/OWOW/tmdl/advisory.html

The federal government has twice attempted to revise the TMDL regulations, with a focus on TMDL implementation. The initial attempt, during the Clinton Administration, was terminated by the U.S. Congress, which called for a review of the TMDL program by the National Academy of Sciences (NAS). That NAS review resulted in a report entitled, "Assessing the TMDL Approach to Water Quality Management," National Academy Press, 2001. Part 5 of the report, "Adaptive Implementation for Impaired Waters," is of particular relevance to TMDL implementation. <http://books.nap.edu/html/tmdl/>

In the absence of prescriptive federal requirements for TMDL implementation, the remainder of this Guidance provides a structure within which State and local government can work jointly toward establishing technical and administrative procedures. The following section describes the objectives of TMDL implementation. The presentation suggests near-term and longer-term priorities that anticipate an evolution of shared responsibilities in this State and local partnership.

3.3 Objectives and Responsibilities

State and local water quality management capacities are evolving. Investments toward the future enhancement of these capacities must occur at the same time current capacities are used to manage water quality. These parallel efforts strive for the ultimate objectives of restoring and maintaining water quality standards.

The responsibilities are distributed among federal, State and local governments, who in turn place some responsibilities on the private sector. Although the federal government has ultimate responsibility, the effects are experienced more directly at the State and local level. This naturally motivates the acceptance of responsibilities by State and local governments to ensure more local control of local outcomes.

3.3.1 Objectives

TMDL implementation involves environmental objectives and management objectives. These are outlined below.

Environmental Objectives: The ultimate environmental objective of TMDL implementation is to meet water quality standards. There are three key functional elements of this ultimate environmental objective:

1. Protection: Prevent the degradation of healthy waters.
2. Restoration: Develop and execute plans to reduce excessive pollutants.
3. Maintenance of Reductions: Institutionalize technical and administrative procedures to offset the introduction of new pollutants.

In addition to addressing impaired waters, this Guidance also promotes the State's antidegradation policy designed to protect existing high quality waters. Section 2.1.1 introduces

the antidegradation policy in the context of State water quality standards. Section 4.2 provides more details on the policy.

Restoration of water quality is addressed in Section 4.3, and maintenance of water quality is addressed in Section 4.4. Appendix A provides two flow charts that give a conceptual overview for restoration and maintenance.

Management Objectives: TMDL implementation procedures are evolving. In view of this transition, State and local government should recognize two broad management objectives:

1. Current Operations: Conduct water quality operations with current capacities.
2. Capacity Enhancements: Enhance technical, administrative and financial capacities.

Meeting regulatory requirements with current operating capacities, while also investing in new capacities, is a challenge. Fortunately, many existing State and local programs and activities are already contributing to TMDL implementation. Local governments are encouraged to begin taking credit for existing programs with an understanding that TMDL implementation will build upon such programs. This is discussed further in Section 4.3.2.2 (restoration) and Section 4.4.2.2 (long-term protection).

Taking credit for existing programs can be done both qualitatively and quantitatively. Local governments are encouraged to begin developing a qualitative inventory of activities for which credit should be acknowledged. Section 5.1 “Tracking and Assessing Progress” addresses this subject.

This Guidance also stresses a recognition that the efficient protection of water quality begins with a well-conceived comprehensive land use plan. This is particularly important for local jurisdictions that are presently engaged in the process of updating their comprehensive plans. Section 5.3 “Land Use Planning” addresses this subject.

The establishment of appropriate incentives and removal of disincentives is vitally important. These can take the form of economic and regulatory considerations related to the land use planning process via zoning, subdivision and adequate public facilities ordinances, and site design requirements (e.g., requirements for more open section roads or requirements for increased pervious surfaces), or building permit requirements. The structure of incentives should be tied into considerations of financing the cost of environmental restoration and protection. Section 5.5 “Economic and Regulatory Incentives” addresses this subject.

The various capacity-building needs outlined above motivate enhanced inter-agency coordination and the integration of current operations and related information. As an initial step, this 2006 Guidance strongly encourages the explicit identification of a local government interagency coordination body. This is discussed in Section 3.4.1 below.

Many programs and procedures will be involved in TMDL implementation. Documenting appropriate policies and procedures is an important way to ensure coherence. It will also provide tangible evidence that local governments are making good faith efforts toward TMDL

implementation. To this end, a specific objective of this 2006 Guidance is to encourage local governments to consider adopting a “TMDL Implementation Framework” document. This is discussed in Section 3.4.2 below.

In summary, protecting and maintaining water quality standards is the primary objective of TMDL implementation. Although current programs and tools are being used toward this end, another objective is to begin enhancing the capacity of these programs to address the quantitative nature of TMDL implementation. This can start with a simple inventory of current activities for which credit for TMDL implementation is warranted. Devoting thought to tracking such information will be important at this stage. Another near-term objective for some counties is to begin contemplating enhancing the comprehensive planning process with respect to water quality impacts. Overlapping this is the need to consider refining economic and regulatory incentive mechanisms, which should be integrated with the financing of restoration and protection needs. The 2006 TMDL Implementation Guidance encourages explicit coordination among local agencies. The 2006 Guidance also encourages the documentation of evolving local policies and practices in the form of a “TMDL Implementation Framework.”

3.3.2 Responsibilities

Meeting water quality is the cooperative responsibility of all levels of governments. The foundational authority rests with the Clean Water Act, but each level of government is responsible for assuring that its actions are in, or will lead to, compliance with the Act’s requirements. Local governments, responsible for land use decisions, must assure that those decisions are consistent with meeting water quality standards. The State issues permits that assure individual dischargers don’t violate water quality standards and develops TMDLs to address multiple dischargers and nonpoint sources. The federal government provides guidance, standards, funding and backstops State decisions.

Although local governments do not have legal responsibility for implementing TMDLs *per se*, some local actions and decisions have a direct bearing on water quality standards. In addition, some existing mandatory programs, such as the State stormwater regulations, are an important subcomponent of TMDL implementation. Local governments are encouraged to communicate the linkages between existing programs and TMDL implementation to help the general public recognize the valuable contributions that are already being made.

In some cases, water quality management involves multiple jurisdictions, including jurisdictions outside of the State of Maryland. Ideally, governments can resolve issues cooperatively without the intervention of higher authorities. However, in some cases it might be necessary for the State or federal government to play a facilitating role. Section 5.8 “Multi-jurisdictional Coordination” addresses this subject.

See Section 3.5 “Stakeholder Involvement” for further discussion of roles and responsibilities, which include federal and private sector stakeholders.

3.3.2.1 Federal Responsibilities

The U.S. Environmental Protection Agency (EPA) is responsible for administering the federal Clean Water Act. Although they may delegate some functions to State and Tribal governments, oversight responsibility remains with the EPA.

Operationally, the EPA has approval authority over the State's development of water quality standards, the 303(d) list, TMDLs and NPDES permits. The EPA has a responsibility to seek concurrence from the U.S. Fish and Wildlife Service during their review of State 303(d) lists and TMDLs. If EPA disapproves a 303(d) list or TMDL, regulations require them to perform the duty for the state; however, EPA typically works with the state to overcome shortfalls.

The EPA also delegates enforcement authority to the State, but often becomes operationally involved in significant enforcement actions. Roles of other federal agencies are presented in Section 3.5 "Stakeholder Involvement."

3.3.2.2 State Responsibilities

This section provides an overview of State responsibilities organized by State agencies. Monitoring responsibilities are discussed separately in Section 5.1 "Tracking, Assessing and Reporting Implementation Progress."

The Maryland Department of the Environment is responsible for administering the elements of the federal Clean Water Act that have been delegated to the State of Maryland by the US Environmental Protection Agency (US EPA).

MDE's Water Management Administration (WMA) is responsible for NPDES permitting, State erosion and sediment control (which may be delegated to local governments), stormwater management related to State and federal facilities (local governments are responsible for implementing the State stormwater management program under State program review oversight), drinking water source assessment and protection, coal and surface mine permitting, abandoned mine remediation, wetlands and waterways permitting (401 Certification of federal discharges), federal Coastal Zone Management Act consistency review, and water and sewer plan approvals. WMA also manages a number of capital financing funding sources that play a role in TMDL implementation. The most recent addition to this is the Bay Restoration Fund.

MDE's Science Services Administration (SSA) is responsible for coordinating the elements of the Clean Water Act (CWA) outlined in Section 2.1 of this Guidance. In particular, SSA administers the water quality standards, which are the basis for identifying impaired waters and serve as the water quality targets for TMDL analyses. This includes conducting three-year reviews of the standards (Triennial Reviews), and responsibility for Use Attainability Analyses (See Section 2.1.1 "Water Quality Standards." SSA works closely with the Department of Natural Resources, which produces the CWA Section 305(b) water quality inventory for the State. A subset of the inventory comprises the list of impaired waters needing a TMDL required by CWA Section 303(d). This joint MDE/DNR assessment also supports the identification of watersheds used for other water resource management lists (e.g., for CWA Section 319 Nutrient Management Planning).

SSA is responsible for developing TMDLs and has general responsibility for coordinating TMDL implementation, including nonpoint source controls through the CWA §319 grant program. This implementation responsibility includes informing governmental agencies and the general public about the existence of impaired waters and associated TMDLs. SSA coordinates the State's general approach to TMDL implementation, of which development of guidance for local governments is a primary current focus. The general approach to TMDL implementation also recognizes the Tributary Strategies for nutrients under Chesapeake Bay Agreement 2000 (C2K) as a foundation. As necessary, geographic refinements will be made in coordination with other State agencies and local governments that mutually benefit the Bay nutrient goals and local nutrient TMDLs. SSA is coordinating general approaches for TMDL implementation relative to other pollutants, and is responsible for coordinating the tracking of progress.

MDE's Waste Management Administration is responsible for residual sewage sludge permitting, hazardous waste site remediation, and the permitting of landfills.

MDE's Air and Radiation Management Administration is responsible for a number of programs that affect atmospheric deposition of nutrients, sulfur dioxide (acidic deposition), mercury and other substances.

Although federal regulations do not require "TMDL Implementation plans" the Maryland Department of Environment intends to adopt such plans. The exact nature and process for doing so will be determined in consultation with local governments and others. Section 4.3.1, "Planning for Pollutant Reductions," provides the current State thinking on TMDL implementation plans.

Certain responsibilities are shared, in varying degrees, with between MDE, other State agencies and local government. These are noted in the context of the remaining discussion of State and local responsibilities.

The following summary identifies several primary agencies; however, those not mentioned are responsible for being aware of TMDLs to ensure their decisions and actions are consistent with the key objectives of TMDLs. An example is good stewardship of State-owned property, of which the Department of General Services owns significant acreage or manages facilities on behalf of other units of government. The University of Maryland also has constructive roles to play in supporting TMDL implementation and plays an operational role in nutrient management planning through the Cooperative Extension Service, e.g., consolidating the most recent findings of agricultural research characterizing BMPs.

The Maryland Department of Natural Resources is responsible for many programs that interface with TMDL implementation, in addition to key monitoring responsibilities discussed in Section 5.1 "Tracking, Assessing and Reporting Implementation Progress." DNR is responsible for assessing all available water quality data relative to the standards and reporting the status of water quality to the US EPA as required by CWA Section 305(b). DNR works closely with MDE-TARSA, which is responsible for identifying impaired waters needing a TMDL. DNR coordinates the State's commitments to the Chesapeake Bay Agreement 2000 (C2K). In this role

DNR coordinates the State's assessment of new Chesapeake Bay criteria and the development of the Tributary Strategies for nutrient reductions, which represent a broad implementation plan for limiting nitrogen and phosphorus loading to restore the main Bay and its tributaries. DNR manages a wide array of programs that have a bearing on various aspects of TMDL implementation including forest harvesting and administration of the Forest Conservation Act, fisheries and wildlife management, the Critical Areas Program, Coastal Zone Management, Watershed Management, a variety of resource planning and land conservation programs, and management of extensive park and natural resource lands.

The Maryland Department of Agriculture works closely with federal agencies, the Maryland Cooperative Extension Service, and local Soil Conservation Districts to deliver coherent technical and financial services to the farming and rural communities in support of natural resource protection. MDA is responsible for administering the Maryland Agricultural Land Preservation Program and regulations of the 1998 Water Quality Improvement Act that require nutrient management plans. MDA also works closely with landowners and farm operators to address various regulatory compliance issues, such as finding remedies for erosion "hot spots" and bacteria sources. MDA is also responsible for collecting and reporting information that supports the tracking of agricultural best management practices (BMPs), which are used to estimate progress toward achieving pollution reduction goals.

The Maryland Department of Planning has many responsibilities regarding land use planning, including the development of guidance for the Sensitive Areas Element of these plans, and assisting local governments in directing growth to appropriate areas with adequate infrastructure. MDP chairs the Governor's Smart Growth Subcabinet, which assists state agencies in directing funding for growth-related projects to Priority Funding Areas. It is responsible for coordinating the Governor's Priority Places Initiative, and it works with the Department of Natural Resources and the Maryland Department of Agriculture in land preservation efforts including agricultural land preservation and Rural Legacy Programs. The MDP also conducts detailed reviews of water and sewer plans to ensure consistency with comprehensive plans, and recommends actions to MDE. For some counties that do not have sufficient technical capacity, MDP provides staffing services during the comprehensive planning process, and subsequent land use implementation processes.

The Maryland Department of Transportation (MDOT) oversees the development and maintenance of many surface transportation corridors. The State Highway Administration (SHA), the Maryland Transportation Authority (MdTA) and the Maryland Transit Administration (MTA) must receive permits for many activities, and thus have TMDL implementation responsibilities that are similar in many ways to local governments in this regard. MDOT also conducts significant long-term system planning, which it coordinates annually with local governments via its Consolidated Transportation Program (CTP). Surface transportation plans are also coordinated with local land use plans through the Metropolitan Planning Organizations. Over time, the CTP should be integrated with local land use and water quality planning efforts (See Section 5.3 "Land Use Planning.")

3.3.2.3 Local Responsibilities

In addition to certain specific responsibilities noted below, local government's current responsibility is to work in partnership with the State to ensure the smooth transition to a more robust framework for restoring and protecting water quality standards. Although the federal government bears the legal responsibility for ensuring protection of water quality standards, many responsibilities are formally delegated to the State of Maryland. The State accepts these responsibilities because it is judged to be in the public's best interest. Similarly, local governments are likely to accept certain TMDL implementation responsibilities that are in their best interest and the interest of local stakeholders.

Local governments, with varying involvement of State and rural agencies (e.g., Soil Conservation Districts), manage numerous programs that have a role in TMDL implementation. This includes comprehensive planning, adoption and implementation of zoning and subdivision regulations, water and sewer planning, coastal zone programs, Critical Areas Law planning, Forest Conservation Act plan reviews, wetlands and floodplain management programs, management of capital programs necessary to support various regulatory programs, grading and building permits, soil and erosion control programs, stormwater management programs, bacteria monitoring and beach closure authority, among others. All play a role in TMDL implementation.

It is also in the interest of both county and municipal governments to work in partnership to address inter-jurisdictional matters, thereby minimizing the need for State intervention. A key principle is the legal responsibility to protect downstream waters. When different jurisdictions are upstream and downstream from one another, the upstream jurisdiction might have responsibilities regarding the protection and restoration of the downstream waters of the neighboring jurisdiction. This is discussed further in Section 5.8 "Multi-jurisdictional Coordination."

As part of the existing regulatory responsibilities under the programs outlined above, local governments can play a valuable role in tracking information that is essential to accounting for the status of pollutant loads relative to TMDLs. The traditional view of tracking is to maintain inventories of pollution control activities, that is, best management practices (BMPs). As discussed in Section 5.1; however, tracking also involves accounting for new pollutant sources, which can be deduced in part from changes in land cover. The concept of tracking can also be expanded to include water quality monitoring. This is also discussed further in Section 5.1.

have tracking responsibilities under existing regulatory programs and grant conditions, full implementation of these programmatic responsibilities will be sufficient for the current purposes of

The guidance statement highlighted above infers two areas of potential refinement of local tracking and monitoring responsibilities in the future. First, current resource constraints limit the ideal level of implementation of existing programs. Public scrutiny of TMDL implementation is likely to motivate more comprehensive implementation of existing programs, which will entail commensurate tracking activities. Second, State and local government understanding of TMDL

implementation issues is evolving rapidly. It is possible that State and local partners will reach agreement on sharing new tracking and monitoring needs, which cannot currently be predicted.

Local responsibilities for implementing nutrient TMDLs are complementary to responsibilities under the Chesapeake Bay Agreement Tributary Strategies. Both strive to achieve and maintain quantitative loading goals on a watershed basis. In general, TMDL implementation will address smaller basins to correct local water quality impairments. Tributary Strategies address larger regions to correct the Chesapeake Bay impairments.

Local governments are encouraged to continue investing in and tracking remediation activities for which quantified load reductions have yet to be estimated. The Chesapeake Bay Program is striving to quantify the benefits of these practices, which could be credited to local jurisdictions in the future. Local governments that have expertise to share are encouraged to convey that information to the Bay Program. Past efforts of this kind by local governments have influenced the Bay Program to modify its estimates of urban nutrient loads, and adopt estimated nutrient reductions associated with stream restoration activities.

Managing land use is perhaps the most important responsibility of local governments that has a bearing on TMDL implementation. Local land use planning, implementing ordinances, regulations and decision processes all have a direct effect on offsetting future increases in pollutant loads and protecting the physical integrity of streams; and land use decisions are controlled by local government. This topic is explored in Section 5.3 “Land Use Planning” and Section 4.4 “A Framework for Offsetting Future Pollutants.”

In summary, the present goal is to continue to integrate existing State and local programs to support quantified water quality management relative to water quality standards and TMDLs. Establishing the technical and administrative procedures to do this effectively and efficiently will be very challenging. The State will lead a joint initiative with local governments to build the capacity to meet this challenge. This TMDL Implementation Guidance document reflects the State’s commitment to reaching that goal. The next section suggests tangible actions that local governments can take to establish a structured process that addresses TMDL implementation.

3.4 Adopting a Local TMDL Implementation Framework

TMDL implementation will build upon existing State and local programs. Ensuring a coherent and comprehensive approach will necessitate the integration of policies and procedures across multiple local government agencies. New policies and procedures will be sufficiently important to warrant documenting them in writing. This section recommends voluntary steps for local governments to consider in support of these needs.

3.4.1 Local Governmental Coordination Committee

Local governments are encouraged to identify an interagency coordinating committee on TMDL implementation. This would be an internal local governmental body constituted for the purpose of establishing local government policies and procedures.

This recommendation builds on the State's existing policy for coordinating with local governments on TMDL development. In 1999, the State solicited the appointment of a "Local TMDL Primary Contact" by the executive branch of each local government (See Appendix H "Local TMDL Primary Contacts"). The local TMDL Primary Contact serves as a liaison between the local government and the Maryland Department of the Environment (MDE) on TMDL development and implementation issues. A local coordinating committee is the logical next step beyond a single local TMDL Primary Contact.

In addition to identifying the roles of local government agencies in TMDL implementation, this committed would enhance the communications between the State and the local government. MDE plans to meet with these local committees periodically as TMDL implementation policies and procedures evolve over the coming year. In an attempt to help guide future dialogue within the coordinating committees, an initial list of issues is documented in Appendix B, entitled, "TMDL Implementation Issues for Consideration by Local Governments." In the near-term, the coordinating committees can also begin work on Tributary Strategy implementation plans for the ten-major basins in Maryland, which will ultimately support more refined implementation plans.

3.4.2 Documenting a Local TMDL Implementation Framework

Local governments are urged to adopt a written "2006 TMDL Implementation Framework." The framework is intended to serve as a reference point for the local government coordinating committee as it develops standard operating procedures (SOPs) for addressing TMDL implementation. Although adapting a written "framework" is voluntary, it is one way of demonstrating a good faith effort towards TMDL implementation. The framework is not intended to be an implementation plan for any specific TMDLs, but rather a means of documenting general policies and procedures.

MDE will provide an electronic template for the Local TMDL Implementation Framework document, which can be tailored to fit the particular interests of each local jurisdiction. An example is provided in Appendix B ("TMDL Implementation Issues for Consideration by Local Governments").

The template would include an outline of topics to be addressed, such as the composition of the committee, the workings of the committee, whether the committee has decision-making authority or is an advisory body, and so on.

It would also document new policies as the Coordinating Committee or other decision-making body adopts them. Examples might include how the land use planning process might be used to address consistency with TMDLs, new policies and procedures for offsetting new loads, and so on.

3.5 Stakeholder Involvement

Given the complexity of this subject and the limited federal guidance, many aspects of TMDL implementation remain undefined. Because of this, it is particularly important that many diverse voices be included in the TMDL implementation process to ensure its legitimacy.

Local governments are generally very adept at identifying and including key stakeholders in addressing local issues. Nevertheless, for completeness, this General Guidance section closes with a general synopsis of stakeholders to include in the TMDL implementation process.

Stakeholders are individuals who live or have land management responsibilities in the watershed, including government agencies, businesses, private individuals and special interest groups. Stakeholder participation and support is essential for achieving the goals of this TMDL effort (*i.e.*, improving water quality and removing streams from the impaired waters list). This section identifies key stakeholders and their potential roles.

3.5.1 Federal Government

U.S. Environmental Protection Agency (EPA): EPA has the responsibility of overseeing the various programs necessary for the success of the Clean Water Act. However, administration and enforcement of such programs are often delegated to the states. This is expanded on in Section 3.3.2.1.

U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS): NRCS is the federal agency that works hand-in-hand with the American people to conserve natural resources on private lands. NRCS assists private landowners with conserving their soil, water, and other natural resources. Local, state and federal agencies and policymakers also rely on the expertise of NRCS staff. NRCS is also a major funding stakeholder for impaired waterbodies through the Conservation Reserve Enhancement Program (CREP) and the Environmental Quality Incentive Program (EQIP). For more information on NRCS, visit <http://www.nrcs.usda.gov/>.

US Department of Commerce, National Oceanic Atmospheric Administration (NOAA): In addition to collecting and making vast amounts of environmental information available, NOAA administers several programs to be coordinated with TMDL implementation. NOAA administers the federal Coastal Zone Management Act (CZMA), which created the National Estuarine Research Reserve system. CZMA supports state programs for managing coastal waters and provides grants that support local government elements of Maryland's CZM program administered by the Maryland Department of Natural Resources. For information on the federal program, visit www.coastalmanagement.noaa.gov For information on Maryland's program, visit www.dnr.state.ms.us/bay/czm

US Department of Interior, Geological Survey (USGS): The USGS conducts scientific studies and collects long-term data on stream flows and properties of surface and ground water. In Maryland, the USGS has played an active role in helping to develop watershed models used for TMDL development. For more information visit www.usgs.gov/tmdl/index.html

US Department of Interior, National Park Service (USNPS): In addition to managing parks, the National Park Service conducts studies on the effects of water quality on plants and wildlife. They also conduct watershed assessments and engage in stream restoration. As an example, research staff at the Assateague Island National Seashore are a source of local expertise on Maryland's Coastal Bays. For more information visit www.nps.gov/phos/maryland.htm

US Department of Interior, Fish and Wildlife Service (USFWS): Water quality standards must protect the terrestrial wildlife that depend on water. The US EPA is required to consult the USFWS during the process of approving state lists of impaired waters and TMDL studies. The USFWS comments can provide insights for the TMDL implementation process.

3.5.2 State Government

In Maryland, water quality problems are dealt with through legislation, incentive programs, education, and legal actions. Roles and responsibilities for the key State agencies are described above in Section 3.3.2.1.

3.5.3 Local Government

Local government groups are routinely invited to work closely with the State throughout the TMDL process; these groups possess insights about their community that may help to ensure the success of TMDL implementation. These stakeholders have knowledge about a community's priorities, how decisions are made locally, and how the watershed's residents interact. Roles and responsibilities for local governments are described above in Section 3.3.2.2.

3.5.4 Soil Conservation Districts (SCDs)

The roles of SCDs vary among different local governments. The SCD's common role related to TMDL implementation is to increase voluntary conservation practices among farmers, ranchers and other land users. SCDs also assist in the development of soil conservation and water quality plans, which include best management practices (BMPs) for protecting wetlands, water quality, and preventing soil erosion. SCDs in many local jurisdictions also review soil and erosion control plans for urban development. District staff work closely with watershed residents and have valuable knowledge of local watershed practices. See the Maryland Association of Soil Conservation District web site: <http://www.mascd.net/scds/MDSCD05.htm>

3.5.5 Regional Councils of Government and Planning Commissions

“Regional councils of government are multipurpose, multi-jurisdictional, public organizations. Created by local governments to respond to federal and state programs, regional councils bring together participants at multiple levels of government to foster regional cooperation, planning and service delivery.” – National Association of Regional Councils of Government.

A similar entity, created by State law, is the Maryland National Capital Parks and Planning Commission. This organization has separate but related organizations that provide services to Montgomery County and Prince George's County.

These organizations promote the efficient development of the environment by assisting and encouraging local governmental agencies to plan for the future. They focus much of their efforts on transportation planning, and water quality planning, which is complementary to the TMDL

implementation process. Some of Maryland's TMDL development projects have been contracted or coordinated through councils of government.

For more information on these organizations located in Maryland, please visit the following web sites:

Baltimore Metropolitan Council of Governments:

<http://www.baltometro.org/index.asp>

Maryland National Capital Parks and Planning:

www.mncppc.org

Metropolitan Washington Council of Governments:

<http://www.mwcog.org/>

Tri-County Council of Southern Maryland:

<http://www.tccsmd.org/>

Tri-County Council of Western Maryland:

<http://www.tccwmd.org/>

3.5.6 Businesses, Community Groups, and Citizens

Successful implementation depends on stakeholders taking responsibility for their role in the process. Local groups that are most affected include businesses, community watershed groups, and citizens.

Community Watershed Groups: Local watershed groups offer a forum to share ideas and coordinate preservation efforts. They also provide an avenue for citizen action. Watershed groups serve to institutionalize valuable knowledge of the local watershed and river habitat that is important to the implementation process.

Citizens: The primary role of citizens is to become informed and to voice their views in the TMDL implementation process. This may include participating in public meetings, becoming educated and in turn assisting with public outreach, sharing knowledge about the local watershed history, and serving as an example by implementing best management practices on their property.

Community Civic Groups: Community civic groups generally have a wide range of practical local knowledge that can be vital to getting things done on the ground, and avoiding unnecessary controversy. Once trust is built with community organizations, they can become allies in marshalling local support for taking on a wide range of environmental projects. Such groups include Rotary Clubs, Farm Clubs, Homeowner Associations and youth organizations such as 4-H and Future Farmers of America.

Animal Clubs/Associations: Clubs and associations for various animal groups (e.g., beef, equine, poultry, swine, and canine) provide a resource to assist and promote conservation practices among farmers and other land owners, not only in rural areas, but in urban areas as well, where pet waste has been identified as a source of bacteria in waterbodies.

Businesses: There are a wide variety of businesses, both large and small, many of which have marginal interaction with environmental matters. Thus, businesses have varying roles and responsibilities. Businesses that are involved in land development are likely to play a key advisory role as this TMDL Implementation Guidance matures. Because they operate at the focal point where much of the implementation process occurs, their operations will be directly affected by requirements for consistency with TMDLs.

Informing these businesses about the ultimate goals of TMDLs, and seeking their suggestions for meeting those goals, will be a valuable process to incorporate into the evolving TMDL implementation framework. The development community is very conscious of the value placed on environmental protection, as indicated by the following statement in the Eastern Shore Builders Association *Code of Ethics*:

We will work toward establishing a balance between legitimate environmental concerns and the need to develop and construct new housing. This will include the conservation of land and energy through consideration of natural environment as an intrinsic element in housing design.

In time, as the methodologies for restoring and protecting water quality mature, these businesses will continue to play a direct role.

Agricultural businesses will also have a direct role, not only the farmers, but the businesses that support farming operations. These include consultants that develop nutrient management plans, and businesses that provide inputs such as farm implements, fertilizers, pesticides and herbicides. Rural communities and non-farming businesses depend on the economic viability of the farming industry. Thus, what affects the success of agricultural businesses, indirectly affects other local businesses. Identifying environmental advocates in the rural business community can provide a vital communications bridge between the public sector and other members of the agricultural business sector.

The process of identifying businesses to include their insights on water quality issues can be painstaking. The following directory of Maryland's "Businesses for the Bay" participants might be of help.

http://www.mde.state.md.us/businessinfocenter/pollutionprevention/businesses_forthebay/directory.asp

Staff in MDE's Business Resource Center might also be able to provide information about businesses in a region of interest to you.

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

Maryland Homebuilders Association:

MD's 2006 TMDL Implementation Guidance
for Local Governments

Document version: May 24, 2006

<http://www.homebuilders.org/>

Maryland State Builders, provides links to regional associations:

<http://www.mdstatebuilders.org/>

(Acknowledgement is provided to the Virginia Department of Environmental Quality for sections of their TMDL Implementation Plan Guidance used in Section 3.5).