



Flowers



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Moving From Adoption to Implementation of Numeric Nutrient Criteria

The overall purpose of the Clean Water Act (CWA) is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s Waters” (33 U.S.C. §1251(a) (1972)). This lofty goal is accomplished, in part, through setting water quality standards designed to protect designated uses for jurisdictional water bodies. The CWA allows states to establish water quality standards as narrative or quantitative thresholds. Because the development of quantitative standards is scientifically complex, particularly in the case of nutrients, most states have used narrative water quality standards. The January 2012 Law & Water column, *Numeric Nutrient Criteria for Surface Waters: Coming to a Neighborhood Near You*, describes the somewhat chaotic experience in Florida associated with the development of numeric nutrient criteria (NNC) for that state’s waters to replace its narrative standard.

LEARNING FROM THE FLORIDA EXPERIENCE

The US Environmental Protection Agency (USEPA) determined that narrative water quality standards for nutrients have not sufficiently protected US waters from impairment. Impairment occurs when water pollution reaches the point that a water body does not meet its designated use (e.g., fishing, swimming). Since 1996, USEPA has encouraged all states to develop NNC for jurisdictional waters because it believes that nutrient pollution is a leading cause of impairment and that

development of NNC is key to identifying, protecting, permitting, and establishing load reduction measures for impaired waters, such as total maximum daily loads (TMDLs).

Although USEPA has encouraged NNC development since 1996, it never required development of general NNC until the Florida experience. In that case, several environmental groups sued USEPA in July 2008 to force the accelerated development of NNC for all Florida waters (*Florida Wildlife Federations v. Jackson*, N.D. Fla. Case No. 04:08-cv-324-RH-WCS (2011)). Before filing the lawsuit, Florida committed to developing NNC for all surface waters; however, the plaintiffs contended that the development was taking too long. As a result of the lawsuit, USEPA informed the state of Florida that its narrative standards for nutrients did not sufficiently protect water quality and that NNC must be developed for nitrogen and phosphorus. USEPA later settled the lawsuit by agreeing to mandate adoption of NNC within Florida.

After a chaotic rule development process, USEPA promulgated NNC for lakes, springs, and flowing waters, excluding South Florida, Nov. 14, 2010. The settlement agreement still requires USEPA to have NNC developed for marine waters and South Florida waters. Despite being promulgated almost two years ago, USEPA’s NNC have not yet been implemented because of lawsuits that followed publication of the rule and the state of Florida’s determination to develop its own NNC.

In June 2012, Florida's rule was upheld by an administrative law judge, and the state has formally requested that USEPA approve Florida's rule and rescind its own.

Because USEPA settled its lawsuit by compelling NNC adoption in Florida, US environmental groups have petitioned USEPA to establish NNC in other states. Notable among the current lawsuits is one seeking to force USEPA to establish NNC for the entire Mississippi River Basin (*Gulf Restoration Network v. Jackson*, E.D. La. Case No. 2:12-cv-00677 (2012)). NNC will likely become an issue for every state. With this in mind, the key concerns for local governments are how to manage nutrient loading, how to prepare for NNC, and how to implement NNC to avoid some of the pitfalls experienced in Florida.

MANAGING NUTRIENT LOADING AND PREPARING FOR NNC

For local governments in states not yet under pressure to establish NNC, particularly given current economic conditions, the easy choice would be to put off addressing the issue. However, prudent local governments will start assessing nutrient pollution and water quality protection programs now rather than waiting until that pressure arrives. Getting ahead of the curve would put local governments in a better position to avoid the need for NNC or at least to be able to manage nutrient pollution in a manner that prevents adverse effects on governmental operations.

As a first step, local governments should assess baseline conditions of the surface waters within their jurisdiction—especially surface waters that receive discharges from government facilities. This requires assessing the local government's facilities, discharges, and all potential loading sources entering a water body. Knowledge concerning baseline nutrient conditions is critical because it allows local governments to gauge how much room exists for growth before reaching water body impairment or the size of the loading reduction required if the water body has already reached impairment. Local governments can then frame existing or potential problems and develop response strategies. For example, if nonpoint sources are the primary source for nutrients in a receiving water that a local government also discharges into, it would be prudent to manage nonpoint sources (such as agriculture) to give the local government more flexibility with regard to its operations affecting the water body. This could potentially be accomplished through implementing best management practices that do not limit the nonpoint source's productivity but appropriately manage discharges from those sources.

It is also important for local governments to assess their National Pollution Discharge Elimination System (NPDES) permits; these permits are required under the CWA for point sources such as municipal separate

storm sewer systems and water treatment plants. The NPDES program requires compliance with water quality standards, which results in discharge limitations as a permit condition and is the principal mechanism for regulating point sources under the CWA. In connection with these permits, local governments should assess anticipated expansions of existing facilities and construction of new facilities against the loading capacity of the receiving water bodies. NNC not only sets quantitative limits on a given pollutant but can also represent a limit on community growth. Assessing current permitted discharge limitations against prospective discharge needs gives localities the necessary information to plan accordingly and facilitate the necessary growth of their operations with minimum obstacles.

It is important for local governments to evaluate their legal and policy frameworks in relation to nutrient pollution—including evaluating land use planning documents such as comprehensive plans ensuring systematic, long-term controls to address nutrient pollution. Land use planning can be an effective tool to affect future nutrient loading for new development and to work retroactively on redevelopment projects. Local governments should also assess local codes and regulatory programs to ensure sufficient regulation of both point and nonpoint nutrient-loading sources. Many states and localities do not regulate nonpoint sources of nutrient pollution and instead rely on voluntary programs. Developing the necessary framework for local governments to initiate programs that manage nutrient pollution from both point and nonpoint sources can position local governments to have more control over their resources and operations. Legislative action may include codification of best management practices and low-impact development principles in land development regulations and ordinances. Localities may also want to assess the need for special purpose governments as a mechanism for managing nutrient pollution on a basin-by-basin basis. Pollution trading programs can also allow for future growth and entrepreneurial opportunities to control nutrient pollution.

IMPLEMENTING NNC

USEPA has suggested that an important element in requiring NNC is to accelerate the identification of impaired waters by states. If a water body is categorized as impaired, then the state must take action to reduce the loading of the pollutants causing the impairment. The reduction of loading is accomplished by the establishment of TMDLs pursuant to Section 303(d) of the CWA. The TMDL is intended to set a reduction target; how that reduction target is met requires the state to decide who specifically will be required to reduce discharges of the pollutant and in what amount.

A TMDL "is a calculation of the maximum quantity of a given pollutant that may be added to a water

body from all sources (point or nonpoint) without exceeding the applicable water quality standard for that pollutant” (Ryan, 2003). TMDLs are numeric reduction targets intended to bring the impaired water body back into compliance with the respective water quality standards. In many instances, nonpoint sources are the main contributors to nutrient loading. For that reason, the TMDL process is a logical implementation tool because it includes both point and nonpoint sources, whereas the NPDES program addresses point sources only.

The CWA mandates the development of TMDLs for impaired water bodies; however, it does not define a process for implementing TMDLs. Setting a numeric nutrient target is not the end of the process—the target TMDL load allowance must be allocated to each source to ensure that total discharges to the water body will not exceed the TMDL. To effectively deal with nutrient pollution, it is prudent for states to have a defined TMDL implementation process and for local governments to prepare for TMDLs.

TMDL implementation varies by state. Although a few states require or recommend that implementation plans be developed for each TMDL, Florida likely has the most comprehensive program. The Florida process is a three-step approach that ensures participation from interested stakeholders during each step. Florida has promulgated a formal listing process for identifying impaired waters (Chapter 62-303 Fla. Admin. Code (2007)). If a water body is confirmed to be impaired for one or more pollutants, it is placed on the state’s verified list of impaired waters, which is submitted to USEPA for approval on a biannual basis. After impairment is declared, the water body or an appropriate segment is scheduled for TMDL development. TMDLs are developed and adopted through a rulemaking process prescribed by Florida’s Administrative Procedures Act (Fla. Stat. Chapter 120 (2010)).

TMDLs developed by the states are submitted to USEPA for approval after which the state initiates development of a Basin Management Action Plan (BMAP). The BMAP process brings together all stakeholders (i.e., sources of pollutants causing impairment) to assign specific load reductions/allocations to each discharger (i.e., industry, agriculture, and municipal facilities). The BMAP process is intended to facilitate a cooperative planning process for all affected dischargers. It is this step that distinguishes Florida from most other states—the process is intended not only to seek input from stakeholders, but also to conclude with a BMAP in which the stakeholders are vested.

As noted previously, USEPA sees TMDLs as the primary tool for managing nutrient-impaired waters regardless of the existence of NNC. However, USEPA has left implementation of the TMDL process to the states. It is recommended that other states develop or

refine their TMDL process in order to ensure cost-effective and successful implementation of TMDLs. As USEPA noted during the Florida experience, the focus on nutrient pollution will likely result in more TMDLs being required to address nutrient loading; therefore, it is prudent to have a defined TMDL process in place to avoid noncompliance issues and enforcement actions.

Although a defined TMDL implementation process is recommended, such a process should not supersede proactive assessment and response to nutrient pollution issues. Localities that assess baseline conditions, future needs, and legal framework and policies can avoid the need for TMDLs and NNC by proactively planning for these issues. As the Florida experience demonstrates, the TMDL process takes years to complete and requires a significant expenditure of time and resources. The recommendations noted in this article can facilitate avoidance of the TMDL process and afford localities and states more control over their natural resources and operations in a cost-effective manner.

When local governments and the states that host them plan effectively to deal with nutrient pollution, the solutions they select will empower them to be in control of their futures. It also greatly reduces and, it is hoped, eliminates the uncertainty that naturally results when affected parties are forced, especially in the context of litigation, to take action to address nutrient pollution. Further, effective planning promotes economy and efficiency in addressing these issues.

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