



ENVIRONMENTAL  
LAW • INSTITUTE®

# **State Wetland Protection**

## ***Status, Trends, & Model Approaches***

*A 50-state study by the  
Environmental Law Institute*

*With support from the  
U.S. Environmental Protection Agency*

2008

# **Appendix: State Profiles**

# Maryland

## I. Overview

The State of Maryland has operated a tidal wetland regulatory program since 1970 and nontidal wetland regulatory program since 1991.<sup>1</sup> Through these programs, Maryland has achieved a “no net loss” of wetlands. The state now seeks to increase wetland acreage through restoration and preservation and operates a variety of non-regulatory programs that include planning, preservation, restoration, and enhancement to help meet these goals.<sup>2</sup>

## II. Regulatory Programs

### *Wetland definitions and delineation*

Maryland defines “waters of the state” under its Water Pollution Act:<sup>3</sup>

‘Waters of this State’ includes: (a) Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including that part of the Atlantic Ocean within the boundaries of this State, the Chesapeake Bay and its tributaries, and all ponds, lake, rivers, streams, tidal and nontidal wetlands, public ditches, tax ditches, and public drainage systems within this State, other those designed and used to collect, convey, or dispose of sanitary sewage; (b) The flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency.<sup>4</sup>

Maryland state code defines tidal and nontidal wetlands. A “nontidal wetland” is “an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.”<sup>5</sup> “Tidal wetlands” include “any land under the navigable waters of the State below the mean high tide, affected by the regular rise and fall of the tide.”<sup>6</sup> Maryland’s rules further define “state tidal wetlands” as “all State and private tidal wetlands, marshes, submerged aquatic vegetation, lands, and open water affected by the daily and periodic rise and fall of the tide within the Chesapeake Bay and its tributaries, the coastal bays adjacent to Maryland’s coastal barrier islands, and the Atlantic Ocean to a distance of 3 miles offshore of the low water mark.”<sup>7</sup> “Private tidal wetlands” are defined separately and include “any land not considered ‘State wetland’ bordering on or lying beneath tidal waters, which is subject to regular or periodic tidal action and supports aquatic growth.”<sup>8</sup>

---

<sup>1</sup> MD. DEP’T OF THE ENV’T, MARYLAND STATE WETLAND CONSERVATION PLAN (2003), *available at* [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/wetland\\_conservation/index.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/wetland_conservation/index.asp).

<sup>2</sup> MD. DEP’T OF THE ENV’T, PRIORITIZING SITES FOR WETLAND RESTORATION, MITIGATION, AND PRESERVATION IN MARYLAND (2006), *available at* <http://www.mde.state.md.us/assets/document/wetlandswaterways/ES.pdf>.

<sup>3</sup> MD. CODE ANN., ENVIR. § 9-101; MD. CODE REGS. 26.08.01(B)(103).

<sup>4</sup> MD. CODE REGS. 26.08.01(B)(103).

<sup>5</sup> MD. CODE ANN., ENVIR. § 5-901(h)(1).

<sup>6</sup> MD. CODE ANN., ENVIR. § 16-101(n).

<sup>7</sup> MD. CODE REGS. 26.24.01.02(B)(52).

<sup>8</sup> MD. CODE ANN., ENVIR. § 16-101(j).

Maryland's nontidal delineation criteria are made "in accordance with the publication known as the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, published in 1989 and as may be amended."<sup>9</sup> Tidal delineation criteria are based on the state's 1971/1972 tidal wetland boundary maps and tidal vegetation.<sup>10</sup>

### ***Wetland-related law and regulation***

*Nontidal Wetlands Protection Act.* The Nontidal Wetlands Protection Act regulates and restricts all activities that could impact nontidal wetlands or waters of the state. The act also helps to ensure "no net loss" of wetlands by requiring mitigation or compensation for any wetland losses. This law differs from federal regulation on issues of "isolated" wetlands, the alteration of vegetation and hydrology, and regulation of a 25-foot buffer. In Maryland, buffer requirements are expanded to 100-feet for "nontidal wetlands of special State concern," which have been designated by regulation as having exceptional ecological or educational value.<sup>11,12</sup>

*Tidal Wetlands Act.* Under this act, permits are required for filling or dredging in private tidal wetlands from the Maryland Department of the Environment (MDE) Tidal Wetlands Division, and licenses are required for filling or dredging state-owned wetlands from the State Board of Public Works.<sup>13</sup>

*Water Pollution Act.* This act contains water quality standards and §401 certification provisions. MDE issues water quality certifications for proposed discharges to waters of the state pursuant to §401 of the Clean Water Act. Certifications are integrated into MDE reviews of activities under tidal and nontidal wetland permit applications.<sup>14</sup>

*Chesapeake and Coastal Bays Critical Area Act.* This act requires that local jurisdictions adopt zoning regulations for lands within 1,000-feet of the Chesapeake Bay or Coastal Bays in order to improve the water quality and habitat in the Bay. Local jurisdictions must minimize alterations to the drainage area, surface and subsurface flow of water, and water quality to protect the hydrology and water quality of wetlands. Additionally, the act places restrictions on grading, filling, excavating, draining, flooding, and removing vegetation in nontidal wetlands.<sup>15,16</sup>

### ***Organization of state agencies***

The MDE Wetlands and Waterways Program, located within the agency's Water Management Administration, is primarily responsible for state wetlands protection and comprehensive wetland management under the Nontidal Wetlands Protection Act and Tidal Wetlands Act. In

---

<sup>9</sup> MD. CODE ANN., ENVIR. § 5-901(h)(2).

<sup>10</sup> Every county planning and zoning office whose jurisdiction includes tidal wetlands has a set of these tidal wetland boundary maps. The original mylars are at the Maryland Geological Survey office in Baltimore; Personal Communication with Robert Tabisz, Md. Dep't of the Env't (Oct. 27, 2006).

<sup>11</sup> MD. CODE ANN., ENVIR. §§ 5-901 to 911.

<sup>12</sup> MD. DEP'T OF THE ENV'T, WETLAND REGULATIONS, available at <http://www.mde.state.md.us/assets/document/wetlandswaterways/regulation.doc> (last visited July 25, 2007).

<sup>13</sup> MD. CODE ANN., ENVIR. §§ 16-101 to 503.

<sup>14</sup> MD. CODE ANN., ENVIR. §§ 9-313 to 316, 9-319, 9-320, 9-325.

<sup>15</sup> MD. CODE ANN., NAT. RES. § 8-1808.

<sup>16</sup> MD. DEP'T OF THE ENV'T, *supra* note 12.

addition to its regulatory responsibilities for wetlands, MDE also sponsors voluntary wetland restoration efforts and is the state lead for tracking wetland restoration and protection gains. MDE provides guidance and technical assistance for activities such as watershed planning, identification of wetland restoration and preservation areas, and shoreline stabilization. The agency produces technical tools such as sample plans to assist in wetland management and is also involved in an interagency effort to develop a strategy to monitor wetlands for regulatory and non-regulatory uses. The Wetlands and Waterways Program houses both a Tidal Division and a Nontidal Division.

Although MDE is primarily responsible for wetland protection in the state, the Maryland Board of Public Works is responsible for issuing licenses required for filling or dredging state-owned tidal wetlands. In addition, the Maryland Department of Natural Resources (MDNR) acquires land for conservation and recreation and accepts easement donations, which may contain wetlands, and conducts wetland restoration projects. MDNR also monitors ambient condition and quality of the state's aquatic resources and is helping develop the state's wetland assessment program.

*Maryland Department of Environment.* MDE has offices in Salisbury, Cambridge, Centerville, and Frostburg. Tidal and nontidal wetlands are regulated separately under their respective state laws.

The Wetlands and Waterways Tidal Division, which employs seven full-time equivalent staff (FTEs), handles review, evaluation, and authorization for all construction projects in tidal wetlands. While the division reviews and authorizes projects that impacts private tidal wetlands, it only reviews and makes recommendations for action for major projects in state tidal wetlands. The Maryland Board of Public Works uses this information to make authorization decisions these projects. The division is based in Baltimore and maintains a field office in Cambridge for one staff member.<sup>17</sup> Staff members are assigned by regions to Southern Maryland, Central Maryland, the Upper Western Shore, the Upper Eastern Shore, and the Lower Eastern Shore. The division operates on state general funds.<sup>18</sup>

The Wetlands and Waterways Nontidal Division, which employs approximately 25 FTEs, handles review and evaluation of nontidal wetlands, associated buffers, waterways, floodplains, and mitigation. The division employs natural resource planners that examine wetland issues on a watershed basis and track figures on impacted, restored, and created wetlands. Division staff review permit applications and categorize them according to the Maryland State Programmatic General Permit. If the impacted area is greater in size than 5,000 square feet, the application is often jointly reviewed with the Corps.<sup>19</sup> The Nontidal Division is based in Baltimore and maintains one staff member at the Cambridge field office, five in the Salisbury field office, and four in the Frostburg field office.<sup>20</sup> The division's budget is provided by state general funds and various federal grants.<sup>21</sup>

---

<sup>17</sup> Personal Communication with Robert Tabisz, Md. Dep't of the Env't (Apr. 27, 2007).

<sup>18</sup> Personal Communication with Robert Tabisz, Md. Dep't of the Env't (Oct. 12, 2006).

<sup>19</sup> Personal Communication with Amanda Sigillito, Md. Dep't of the Env't (July 25, 2006).

<sup>20</sup> Personal Communication with Amanda Sigillito, Md. Dep't of the Env't (Oct. 26, 2006).

<sup>21</sup> Sigillito, *supra* note 19.

*Maryland Department of Natural Resources.* MDNR is responsible for a host of wildlife management areas and parks. Approximately 25 staff members work on wetland-related issues, including wildlife biologists, land managers, and managers of programs such as Program Open Space, which purchases wetland areas among other lands. The agency conducts restoration projects in a variety of habitats, including wetlands, under its own programs and in coordination with private landowners, federal agencies, private corporations, and citizen groups. MDNR maintains offices in Cambridge and Wye Mills.<sup>22</sup>

MDNR staff also monitor and track the condition of the state's aquatic and natural resources. Data are analyzed and used in 305(b) reports and 303(d) lists. The report will be expanded in the near future to include assessments of wetland condition.<sup>23</sup> The agency's budget fluctuates annually depending upon federal, state, and private grants.<sup>24</sup> Staff are funded under state appropriations and special funds.<sup>25</sup>

#### ***§401 Certification***

Parties that intend to impact tidal or nontidal wetlands must obtain state authorization, which includes §401 water quality certification, from MDE under the Tidal and Nontidal Wetlands Acts.<sup>26</sup> Applicants must demonstrate that the proposed impacts are necessary and unavoidable. MDE's application review process is designed to reduce impacts through avoidance and minimization and may require mitigation and associated monitoring.<sup>27</sup>

*Tidal Wetlands.* Under the Tidal Wetlands Act, parties must obtain authorization from MDE to make impacts to a tidal wetland.<sup>28</sup> Under the Act, MDE must consider the ecological, economic, developmental, recreational, and aesthetic values of the proposed project to determine if the project qualifies for a general wetlands license or permit, and if it requires mitigation.<sup>29</sup> Water quality certification (WQC) is incorporated into the authorization process via the State Programmatic General Permit, except for projects involving hydraulic dredging. In these cases, MDE issues an individual WQC.<sup>30</sup> The Tidal Division receives between 2,200 and 2,500 tidal wetland applications per year. The Division approves roughly 95 percent of applications and denies approximately 5 percent.<sup>31</sup> In fiscal year 2006, 1,985 applications were received for activities in tidal wetlands and waters. 1864 authorizations were made during the fiscal year.<sup>32</sup>

---

<sup>22</sup> Personal Communication with Christine Conn, Md. Dep't of Natural Res. (Nov. 20, 2006).

<sup>23</sup> Personal Communication with Christine Conn, Md. Dep't of Natural Res. (Nov. 21, 2006).

<sup>24</sup> Personal Communication with Kevin Smith, Md. Dep't of Natural Res. (Aug. 15, 2006).

<sup>25</sup> Personal Communication with Kevin Smith, Md. Dep't of Natural Res (Oct. 26, 2006).

<sup>26</sup> MD. CODE ANN., ENVIR. §§ 5-901 to 911, 16; MD. CODE REGS. 26.23 to .24

<sup>27</sup> Maryland Department of the Environment, *Water Management Permits*, at <http://www.mde.state.md.us/Permits/WaterManagementPermits/water2.asp#3.17> (last visited July 25, 2007).

<sup>28</sup> Maryland Department of the Environment, *Applications for Water Permits, Approvals and Certifications* (undated), at

[http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/permits\\_applications/index.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/permits_applications/index.asp) (last visited July 25, 2007).

<sup>29</sup> MD. CODE REGS. 26.24.02.04 to .05.

<sup>30</sup> Tabisz, *supra* note 18.

<sup>31</sup> Tabisz, *supra* note 17.

<sup>32</sup> Personal Communication with Denise Clearwater, Md. Dep't of the Env't (May 8, 2007).

Decisions are based on quantitative and qualitative assessments, best professional judgment, and provisions in the state laws and regulations.<sup>33</sup>

*Nontidal Wetlands.* Under the Nontidal Wetlands Act, authorization is required for any activity that alters a nontidal wetland or its 25-foot buffer.<sup>34</sup> When evaluating a permit application, MDE must find that:

- The project is water-dependent and requires access to a nontidal wetland, or is not water-dependent and has no practicable alternative;
- The activity will avoid and minimize impacts by considering topography, vegetation, fish and wildlife, and hydrological conditions;
- The activity will not degrade ground or surface waters; and
- The activity is consistent with any applicable comprehensive watershed management plan.<sup>35</sup>

The Nontidal Division receives approximately 1,200 applications per year. The review period for a minor project typically takes eight to ten months, while reviews for major projects take ten to twelve months.<sup>36</sup> In fiscal year 2006, the division received 1,125 applications for activities in nontidal wetlands, waterways, and floodplains, granted 874 authorizations, and made 150 modifications to existing authorizations.<sup>37</sup>

### *General permits*

The majority of nationwide permits (NWP) were suspended in Maryland when the Corps issued the Maryland State Programmatic General Permit (MDSPGP-3).<sup>38</sup> If the Corps wishes to authorize a project under one of the few remaining NWPs and the project falls under state jurisdiction, MDE would also review the project application to issue a state permit.<sup>39</sup> The state does not regularly review applicable NWPs, although the Corps will occasionally ask for state comments.<sup>40</sup> MDE's action in response the 2007 NWPs could not be reviewed within in the reporting period for this publication.

The MDSPGP-3 covers impacts to tidal and nontidal wetlands and waterways.<sup>41</sup> Projects with minimal impacts are eligible for approval under the MDSPGP if nontidal wetland impacts are less than five acres and tidal wetland impacts are less than three acres.<sup>42</sup>

---

<sup>33</sup> Tabisz, *supra* note 18.

<sup>34</sup> MD. CODE REGS. 26.23.5.901 to .911.

<sup>35</sup> MD. CODE REGS. 26.23.02.04.

<sup>36</sup> Sigillito, *supra* note 19.

<sup>37</sup> Clearwater, *supra* note 32.

<sup>38</sup> The 2002 NWPs that remained in effect in Maryland were NWP#23 (Approved Categorical Exclusions), NWP#27 (Stream and Wetland Restoration Activities), NWP#30 (Moist Soil Management for Wildlife), NWP#31 (Maintenance of Existing Flood Control Facilities), NWP#32 (Completed Enforcement Actions), and NWP#37 (Emergency Watershed Protection and Rehabilitation). Public Notice # 02-07, U.S. Army Corps of Engineers, Baltimore District, Nationwide Permits Regional Conditions and Suspensions (May 7, 2002), *available at* [http://www.nab.usace.army.mil/Regulatory/Permit/nwp\\_regcond\\_pa\\_pn.pdf](http://www.nab.usace.army.mil/Regulatory/Permit/nwp_regcond_pa_pn.pdf) (last visited July 25, 2007).

<sup>39</sup> Sigillito, *supra* note 20.

<sup>40</sup> Sigillito, *supra* note 19.

<sup>41</sup> Sigillito, *supra* note 20.

<sup>42</sup> MD. DEP'T OF THE ENV'T, *supra* note 12.

### ***Mitigation***

Maryland state law and regulations include general standards on mitigation, including banking and in-lieu fee.<sup>43</sup> The state has different regulations for impacts to streams. In most cases, wetland mitigation provisions require projects impacting more than 5,000 square feet to provide mitigation in the form of restoration, enhancement, or creation.<sup>44</sup> When determining the type and amount of mitigation required of the permittee, MDE prefers in-ground, on-site mitigation projects. When that option is not feasible, the department evaluates off-site options, mitigation banks, and, lastly, payment into the State's Nontidal Wetland Compensation Fund, a state in-lieu fee program that conducts mitigation projects statewide.<sup>45</sup>

MDE holds pre-application meetings during which agency staff meet with applicants and discuss how to avoid or minimize wetland impacts, as well as various mitigation and restoration options. Permittees who choose to conduct their own mitigation projects are required to submit regular monitoring reports for five years.<sup>46</sup>

### ***Compliance and enforcement***

The MDE Water Management Administration's Compliance Program handles compliance and enforcement for wetlands. The program inspects impacted sites, advises permittees to address discrepancies between the land and inspection report, issues orders for correction, initiates legal action, and processes administrative penalties. The program refers cases requiring legal action to the Attorney General with recommendations as to whether to pursue the case criminally or civilly.<sup>47</sup>

In fiscal year 2006, the program issued nine corrective action orders and resolved 24 significant violations (some of which were carried over from previous years).<sup>48</sup> The program issued 14 penalties.<sup>49</sup> The statutory penalty amounts for tidal and nontidal wetlands violations are \$10,000 per day,<sup>50,51</sup> although the amount of penalty the program typically seeks depends upon factors such as the willfulness of the violation, environmental harm, and the violator's compliance history. No criminal penalties have been pursued in recent years.<sup>52</sup>

Enforcement cases are typically resolved with compliance assistance using inspection reports. When an inspector notices a problem he or she will address it with the permittee, and the

---

<sup>43</sup> MD. CODE REGS. 26.23.04, .24.05. The state also has compensatory mitigation guidance for wetlands. See Maryland Department of the Environment, *Maryland Nontidal Wetland Mitigation Guidance (being revised)*, at [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/documents\\_information/technicaldocuments.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/documents_information/technicaldocuments.asp). See also Maryland Department of the Environment, *Maryland Compensatory Mitigation Guidance*, order information at [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/documents\\_information/technicaldocuments.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/documents_information/technicaldocuments.asp).

<sup>44</sup> Sigillito, *supra* note 19.

<sup>45</sup> Sigillito, *supra* note 20.

<sup>46</sup> Sigillito, *supra* note 19.

<sup>47</sup> Personal Communication with Tom Boone, Md. Dep't of the Env't (Aug. 2, 2006).

<sup>48</sup> Clearwater, *supra* note 32.

<sup>49</sup> *Id.*.

<sup>50</sup> MD. CODE ANN., ENVIR. § 16-502.

<sup>51</sup> MD. CODE ANN., ENVIR. § 5-911.

<sup>52</sup> Boone, *supra* note 47.

problem is usually resolved in a reasonable amount of time. MDE conducted 37 compliance assistances in 2006 on nontidal wetlands. Only 20 sites were found to have significant violations, and 13 were resolved through compliance assistance. MDE conducted 23 compliance assistances on tidal wetlands, and found 43 new significant violations. Cases rarely make it to court.<sup>53</sup>

### ***Tracking systems***

The Corps' Regulatory Analysis Management System (RAMS) tracks all regulatory actions, and information from RAMS is exchanged nightly with databases in Maryland state government and subscribing local governments. Additional databases also track regulatory gains and losses and non-regulatory wetland gains. Reports are generated to track "no net loss" by watershed, losses and gains by region, authorization type, wetland type, and mitigation required. Additionally, MDE tracks aspects of mitigation in a database, including data on amount of land, type of mitigation, and location by county and watershed.<sup>54</sup> Finally, voluntary wetland gains are generally recorded by county. In 2006, MDE began making substantial upgrades to its databases to improve and expand tracking and reporting capabilities.<sup>55</sup>

## **III. Water Quality Standards**

Maryland has not adopted wetland-specific water quality standards, designated uses, or anti-degradation standards. However, tidal and nontidal wetlands are explicitly included in the regulatory definition of "waters of this state" and so are included in the state's general water quality standards and designated uses. Under the water quality standards, discharges (covered by the National Pollutant Discharge Elimination System, or NPDES) are examined on the bases of erosion and sediment. Discharges that receive NPDES permits are certified by MDE under the §401 certification review process.<sup>56</sup>

As of 2006, MDE Wetlands and Waterways Program was operating under a U.S. Environmental Protection Agency (EPA) grant to develop a wetland monitoring strategy. The strategy will outline steps to develop designated wetland-specific use classes and water quality criteria.<sup>57</sup>

## **IV. Monitoring and Assessment**

### ***Monitoring and assessment for wetlands***

While Maryland currently practices several forms of wetland monitoring, an interagency effort is underway to develop a comprehensive monitoring strategy. Ongoing monitoring efforts include rapid assessment monitoring for regulatory purposes that use best professional judgment, a formal assessment based on the New Hampshire Method for state highway projects, and assessment of mitigation sites using performance standards. MDE is currently developing and

---

<sup>53</sup> Clearwater, *supra* note 32.

<sup>54</sup> Sigillito, *supra* note 19.

<sup>55</sup> Personal Communication with Denise Clearwater, Maryland Department of the Environment (Nov. 1, 2006).

<sup>56</sup> MD. CODE REGS. 26.08.02.10(A)(2).

<sup>57</sup> Clearwater, *supra* note 55.



testing new approaches to monitor mitigation sites and better predict likely success of replacement of lost functions. This project will be completed in 2007. MDE is also working with the University of Delaware on the comprehensive, long-term assessment of slope wetlands in the Piedmont region of the state. A validated rapid assessment based on data from the long-term assessment will be developed.<sup>58</sup>

Maryland's interagency effort to develop a wetland monitoring strategy includes MDE, MDNR, Maryland State Highways Administration, and Maryland Department of Agriculture. The workgroup hopes to broaden this coalition to include federal agencies, local governments, academia, consultants, and non-profit organizations. The ultimate goal is to develop a wetland monitoring plan that will allow the state to report, track, monitor and enhance the condition and functions of the state's wetland resources regularly and comprehensively. In addition, the strategy will lay the foundation for all state agencies to use a consistent wetland assessment methodology so they can share data and compare results.<sup>59</sup>

MDNR's Natural Heritage Division has played a particularly active role in developing the wetland monitoring strategy. MDNR is using key wildlife habitat types identified by the Division through the Maryland Wildlife Diversity Conservation Plan as a framework for wetland monitoring activities. A key aspect of the wetland monitoring program is to inform wetland management, protection, and restoration actions in order to support Maryland's biological resources, particularly those species of greatest conservation need.<sup>60</sup>

MDNR has conducted in the past and is currently conducting pilot projects to test wetland assessment methodologies. These pilot projects have employed the EPA-recommended three-level wetland evaluation approach. The first level uses GIS indicators to determine how landscape factors, such as development near a wetland, influence wetland conditions. The second level is a rapid site assessment, and the third consists of an intensive field study, including stem counts, soil samples, and plant community characterization. This third-level analysis allows MDNR to calibrate the assessment methods used in levels one and two.<sup>61</sup>

As of 2006, MDNR had already completed a pilot project focused on the Nanticoke watershed in cooperation with the Delaware Department of Natural Resources and Environmental Control (DNREC), The Nature Conservancy, and the Smithsonian Environmental Research Center to assess wetland conditions and develop functional condition indices and a single score index of wetland condition. MDNR also completed a project in cooperation with DNREC and the Virginia Institute of Marine Sciences (VIMS) to evaluate the condition of tidal wetlands in the Nanticoke watershed. MDNR is also collaborating with VIMS to develop level-one indicators for all nontidal wetlands in Maryland. MDE plays an advisory role on this project.<sup>62</sup>

---

<sup>58</sup> Clearwater, *supra* note 32.

<sup>59</sup> Conn, *supra* note 22.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

MDE and MDNR recently received an EPA grant to develop a wetland monitoring strategy to assess wetland health and function.<sup>63</sup> As part of this project, MDNR will be conducting a pilot study to explore methodologies for monitoring wetland conditions. This will be an opportunity for MDNR to test strategies and approaches developed by the interagency workgroup.<sup>64</sup> As of June 2007, MDE and MDNR had developed a strategy to assign wetlands into different classes for monitoring to meet Clean Water Act requirements. The classification system contains elements from hydrogeomorphic (HGM) classes, the National Wetlands Inventory, and Maryland's key wildlife habitats. These latter classification systems will remain in use in Maryland for other management activities. Information collected about specific wetlands can be used to assign the wetland to any of the classification systems.<sup>65</sup>

### ***Monitoring and assessment for streams***

MDNR conducts statewide monitoring for the health of all waterways annually through the Maryland Biological Stream Survey. Monitoring sites are selected randomly and monitored for physical, chemical, and biological conditions.<sup>66</sup> MDE also monitors water quality parameters in numerous waterways.<sup>67</sup>

### ***Coordination with state watershed programs***

The Nontidal Wetlands Protection Act provides for the development of watershed management plans, which may be used to guide regulatory decisions. These plans are developed in cooperation with local governments and protect wetlands by incorporating them into a jurisdiction's land use decision-making process.<sup>68</sup> MDE is also represented in the Chesapeake Bay and Coastal Bays Programs—multi-agency efforts with management goals that include wetland considerations such as no-net-loss and restoration. MDE has completed a number of technical tools and documents to assist watershed-based stakeholders in wetland management protection, and restoration.<sup>69</sup>

## **V. Restoration**

In 1997, Maryland's governor established by executive order a statewide goal of restoring 60,000 acres of wetlands.<sup>70</sup> Additionally, Maryland is party to the 2000 Chesapeake Bay Agreement, which aims to restore 25,000 acres of wetlands by 2010.<sup>71</sup> Under the agreement, Maryland is committed to creating or restoring a total of 15,000 acres and enhancing 35,000 acres.<sup>72</sup> As of 2005, Maryland had created or restored between 7,000 and 8,000 acres.<sup>73</sup> Finally,

---

<sup>63</sup> Clearwater, *supra* note 55.

<sup>64</sup> Conn, *supra* note 22.

<sup>65</sup> Personal Communication with Denise Clearwater, Md. Dep't of the Env't (June 5, 2007).

<sup>66</sup> Smith, *supra* note 24.

<sup>67</sup> Clearwater, *supra* note 32.

<sup>68</sup> MD. DEP'T OF THE ENV'T, *supra* note 12.

<sup>69</sup> Clearwater, *supra* note 55.

<sup>70</sup> Maryland Department of the Environment, *Maryland's Wetland Restoration Initiative*, at [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/about\\_wetlands/restoration.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/about_wetlands/restoration.asp) (last visited July 25, 2007).

<sup>71</sup> Personal Communication with Denise Clearwater, MD. DEP'T OF THE ENV'T (Aug. 2, 2006).

<sup>72</sup> MD. DEP'T OF THE ENV'T, *supra* note 2.

<sup>73</sup> Personal Communication with Denise Clearwater, MD. DEP'T OF THE ENV'T (Sep. 29, 2006).

the *Comprehensive Coastal Bays Management Plan* also establishes a goal of restoring 10,000 acres in the Coastal Bays watershed by 2010.<sup>74,75</sup>

### ***MDE restoration programs***

MDE has conducted several wetland restoration and enhancement projects through partnerships with schools, local governments, and organizations such as The Nature Conservancy. Funds for these projects come from the state compensation fund that supports mitigation projects (*see II. Regulatory Programs, Mitigation*), from state general funds, and through the agency's Water Quality Improvement Program.<sup>76</sup> Funds from the Water Quality Improvement Program are also available for marsh creation projects.<sup>77</sup> MDE also coordinates with the Resource Conservation and Development Council, which conducts conservation projects in various regions of the state. MDE initiates these tidal and non-tidal wetland restoration and creation projects, such as shoreline stabilization restoration, and the Council acts as the contractor.<sup>78</sup>

MDE recently completed a project, funded by EPA, to prioritize wetland areas for restoration, preservation, and mitigation in the state. MDE compiled information from resource inventories and management plans to create a comprehensive background document on wetlands and their surrounding environment. GIS and other data were used to identify desirable and undesirable locations for wetland work. The resulting document, *Prioritizing Sites for Wetland Restoration, Mitigation, and Preservation in Maryland*, also includes management and restoration recommendations based on input from counties, state agencies, and other interested parties. The May 2006 version of the report is available online.<sup>79</sup> MDE is now promoting the use of the project's findings among permit applicants seeking mitigation sites. They are also encouraging local governments to refer to the results when planning TMDLs.<sup>80</sup>

### ***MDNR restoration programs***

MDNR has a Watershed Services Unit that implements restoration projects for a variety of habitat types, including wetlands. Staff members in the Wildlife and Forestry Divisions also work on restoration. Typically, ecological problems are identified and assessed, and if appropriate, a solution is designed and developed. Staff members find or apply for funds, which are allocated to the projects. This occurs mainly on public lands. The Department does some creation work, but most projects involve restoration. MDNR also works on projects proposed by watershed groups, private landowners, and community groups.<sup>81</sup>

---

<sup>74</sup> Maryland Department of the Environment, *What do the Chesapeake Bay Agreement, The Coastal Bays Plan, and an executive order from the State have in common?*, at [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/about\\_wetlands/agreement.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/about_wetlands/agreement.asp) (last visited July 25, 2007).

<sup>75</sup> Maryland Department of the Environment, *supra* note 70.

<sup>76</sup> Sigillito, *supra* note 19; Clearwater, *supra* note 55.

<sup>77</sup> Clearwater, *supra* note 32.

<sup>78</sup> Personal Communication with George Beston, MD. DEP'T OF THE ENV'T (July 27, 2006).

<sup>79</sup> Maryland Department of the Environment, *Prioritizing Areas for Wetland Restoration, Preservation, and Mitigation*, at [http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands\\_Waterways/about\\_wetlands/prioritizingareas.asp](http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/about_wetlands/prioritizingareas.asp) (last visited July 25, 2007).

<sup>80</sup> Clearwater, *supra* note 71.

<sup>81</sup> Smith, *supra* note 24.

MDNR also uses GIS to: identify areas on public land that have been disturbed, determine what type of restoration is needed, and decide where restoration would be most effective. As of 2007, the department was doing much of this work in the Corsica Watershed.<sup>82</sup>

The department also assists individuals or private organizations that request assistance with restoration projects. MDNR can provide technical, design, and implementation assistance, as well as help with grant applications. The primary funds MDNR solicits in these cases come from the Chesapeake Bay Trust, Transportation Enhancement Fund, wetland mitigation funds, and the National Fish and Wildlife Foundation.<sup>83</sup>

MDNR monitors restoration success to ensure the project objectives have been met. Typical objectives include improving water quality or habitat.<sup>84</sup>

### ***Coastal Bays Program***

The Maryland Coastal Bays Program was established in 1996 to assist the Coastal Bays region in developing a comprehensive restoration and protection plan. The program is a joint effort among the Towns of Ocean City and Berlin, Worcester County, MDNR, MDE, Maryland Department of Agriculture, Maryland Office of Planning, National Park Service, and EPA. In 2000, the program adopted *A Comprehensive Conservation and Management Plan for Maryland's Coastal Bays*.<sup>85</sup> The plan charges MDE and MDNR with targeting wetland restoration and creation in areas of historic wetland loss for water quality improvement and wildlife habitat.<sup>86</sup> Additionally, MDE completed a comprehensive plan to target areas for wetland mitigation.<sup>87</sup>

### ***Coordination with USDA on agricultural programs***

MDE has a number of joint projects with the U.S. Department of Agriculture (USDA) on properties not already enrolled in USDA programs. There are approximately 24 conservation districts in Maryland, and MDE works with about half of them. Soil district conservation staff members often approach MDE with private landowner projects, and MDE will assist landowners with project design and implementation. These projects are often intended to create wildlife benefits or to restore agricultural land.<sup>88</sup>

MDNR also coordinates with USDA on programs such as the Wetlands Reserve Program, Wildlife Habitat Incentives Program, and Conservation Reserve Enhancement Program.<sup>89</sup>

## **VI. Public-Private Partnerships**

---

<sup>82</sup> Personal Communication with Kevin Smith, Md. Dep't of Natural Res. (May 2, 2007).

<sup>83</sup> *Id.*

<sup>84</sup> Smith, *supra* note 24.

<sup>85</sup> Maryland Coastal Bays Program, *Maryland Coastal Bays Program*, at <http://www.mdcoastalbays.org/> (last visited Oct. 16, 2006).

<sup>86</sup> Maryland Coastal Bays Program, *A Comprehensive Conservation and Management Plan for Maryland's Coastal Bays*, at <http://mdcoastalbays.org/archive/2003/ccmp.pdf> (last visited July 25, 2007).

<sup>87</sup> *Id.*; Clearwater, *supra* note 55.

<sup>88</sup> Beston, *supra* note 78.

<sup>89</sup> Smith, *supra* note 24.

Neither MDE nor MDNR have formal, wetland-related programs for partnering with private landowners. Landowners may call MDE or MDNR staff, such as wildlife managers, to ask for assistance with or collaboration on a specific project. MDNR staff members have worked with private landowners on restoration and conservation projects, as well as a limited number of mitigation projects.<sup>90</sup> MDE helps match landowners with other funding agencies to support the landowner's objectives.<sup>91</sup>

MDE has partnered with groups such as The Nature Conservancy and Ducks Unlimited on restoration projects.<sup>92</sup> The funds that MDE contributes to these projects come from the state's Nontidal Wetland Compensation Fund.<sup>93</sup>

MDNR has coordinated with private companies on restoration projects. In some cases, MDNR identifies an opportunity to do additional restoration on a current corporate mitigation project and obtains funding to complete the additional work. In other cases, companies offer MDNR the opportunity to collaborate on a project. MDNR also partners with the Isaak Walton League of America to conduct monitoring on wetlands for amphibians, reptiles, and vegetation.<sup>94</sup>

## **VII. Education and Outreach**

MDE does not have a wetland-specific outreach and education strategic plan or program, although certain tasks and goals have been outlined in the Maryland Wetland Conservation Plan. When invited to community or citizen organization meetings, the Department does provide information on wetlands. MDE also has a grant from EPA which includes plans for the development of education and outreach materials. Additional guidance is under development to assist people with the permit application process, such as sample drawings for marsh creation for shoreline stabilization.<sup>95</sup>

MDNR occasionally conducts outreach and education activities on wetlands. When they do, they use the Planning of Wetlands (POW) materials developed by the non-profit organization Environmental Concern.<sup>96</sup>

## **VIII. Coordination with State and Federal Agencies**

A State Wetland Conservation Plan was completed in 2003. Certain elements of the plan have been implemented, including the identification of priority areas for restoration and preservation,

---

<sup>90</sup> Sigillito, *supra* note 19; Smith, *supra* note 24.

<sup>91</sup> Clearwater, *supra* note 55.

<sup>92</sup> Sigillito, *supra* note 19.

<sup>93</sup> Sigillito, *supra* note 20.

<sup>94</sup> Smith, *supra* note 24.

<sup>95</sup> Sigillito, *supra* note 19; Clearwater, *supra* note 55.

<sup>96</sup> Personal Communication with Elena Takaki, Md. Dep't of Natural Res. (Aug. 24, 2006).

assessment the effectiveness of the mitigation program, and development of a wetland monitoring strategy. MDE hopes to conduct a progress report in the future.<sup>97</sup>

MDE has also received an EPA implementation grant designed to facilitate improvements to the state regulatory program.<sup>98</sup> The grant will help promote and support better wetland assessment, gain and loss tracking, project analysis, and mitigation.<sup>99</sup>

MDE is party to Memoranda of Understanding (MOUs) with MDNR and the Maryland Department of Agriculture on some mitigation projects and the development of the wetland monitoring program.<sup>100</sup> MDNR also is party to MOUs with the Maryland Department of Agriculture, MDE, and the Natural Resources Conservation Service.<sup>101</sup> The MOUs provide for the exchange of technical services and funding for projects.<sup>102</sup>

MDE participates in monthly Jurisdictional Evaluation meetings with the Corps, National Marine Fisheries, U.S. Fish and Wildlife Service, and EPA, as well as with state agencies (MDNR and the Critical Area Commission) to discuss specific projects for which they have received permit applications. Applicants are invited to these meetings to receive feedback from all of the participating groups.<sup>103</sup>

## **IX. Acronyms and Abbreviations**

Corps – U.S. Army Corps of Engineers

CWA – Clean Water Act

EPA – U.S. Environmental Protection Agency

FTE – Full-time Equivalent

GIS – Geographic Information Systems

MDE – Maryland Department of the Environment

MDNR – Maryland Department of Natural Resources

MOUs – Memoranda of Understanding

MDSPGP – Maryland State Programmatic General Permit

NOAA – National Oceanic and Atmospheric Administration

NPDES – National Pollution Discharge Elimination System

NWPs – Nationwide Permits

POW – Planning of Wetlands

RAMS – Regulatory Analysis Management System

REAP – Iowa Resource Enhancement and Protection

USDA – United States Department of Agriculture

(Project) WET – Water Education for Teachers

WQC – Water Quality Certification

---

<sup>97</sup> Clearwater, *supra* note 71.

<sup>98</sup> *Id.*

<sup>99</sup> Clearwater, *supra* note 55.

<sup>100</sup> Personal Communication with Amanda Sigillito, MD. DEP'T OF THE ENV'T (Oct. 18, 2006).

<sup>101</sup> Smith, *supra* note 82.

<sup>102</sup> Smith, *supra* note 24.

<sup>103</sup> Sigillito, *supra* note 19; Smith, *supra* note 24.

## WQS – Water Quality Standards