

## **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

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# **Appendix: State Profiles**

#### Vermont

#### I. Overview

Although wetlands comprise less than five percent of Vermont's land area, the state has recognized the important functions these resources provide. With approximately 35 percent of historical wetland resources lost to draining, dredging, filling, pollution, and other activities, the state passed legislation in 1986 that protects "Vermont's most productive ecosystem." Loss of wetland acreage continues as the state works to achieve its goal of no net loss of wetlands and their functions.<sup>2</sup>

#### **II. Regulatory Programs**

#### Wetland definitions and delineation

Vermont defines "waters" as "any and all rivers, streams, brooks, creeks, lakes, ponds or stored water, and groundwaters, excluding municipal and farm water supplies."<sup>3</sup> State regulations define "wetlands" as:

those areas of the state that are inundated by surface or ground water with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction. Such areas include but are not limited to marshes, swamps, sloughs, potholes, fens, river and lake overflows, mud flats, bogs, and ponds, but excluding such areas as grow food crops in connection with farming activities.<sup>4</sup>

Regulations also provide definitions for "alpine peatland," "bog," "deep marsh," "fen," "shallow marsh," and "wooded swamps." 10,111

The state delineates wetlands consistently with the criteria outlined in the U.S. Army Corps of Engineers' 1987 Wetlands Delineation Manual. 12 In addition, Vermont regulations instruct the

<sup>&</sup>lt;sup>1</sup> Vt. Resources Board, Vt. Wetland Rules [hereinafter Vt. Wetlands Rules] § 1 (Jan. 1, 2002).

<sup>&</sup>lt;sup>3</sup> VT. STAT. ANN., tit. 10, § 902.

<sup>&</sup>lt;sup>4</sup> Vt. Wetland Rules §2.29; VT. STAT. ANN., tit. 24, § 4303(19).

<sup>&</sup>lt;sup>5</sup> An "alpine peatland" is defined as "a wetland which is over 2,500 feet in elevation, which has organic soils and is situated at or near the alpine zone in mountains."

<sup>&</sup>lt;sup>6</sup> A "bog" refers to "a peat-accumulating wetland with hydric, organic soils, a complete, or nearly complete, sphagnum cover, and a pH value ranging from 3.5 to 5.6 that receives water primarily from precipitation."

7 "Deep marsh" refers to "those wetlands with an average water depth between six inches and three feet during the

growing season which have hydric soils and which are dominated by greater than 50 percent areal cover of herbaceous vegetation."

<sup>&</sup>lt;sup>8</sup> A "fen" is "a peat-accumulating wetland with hydric organic soils and a pH value ranging from 4.0 to 8.0. Sphagnum moss may be present, however, not as a complete cover. It generally receives water and minerals from runoff flowing through it."

<sup>&</sup>lt;sup>9</sup> "Shallow marsh" refers to "those wetlands with an average water depth of less than six inches during the growing season having hydric soils and dominated by greater than 50 percent areal cover of herbaceous vegetation."

<sup>&</sup>lt;sup>10</sup> "Wooded swamps" are "those wetlands with greater than 50 percent areal cover over perennial woody vegetation greater than 20 feet tall with hydric soils." *See* Vt. Wetland Rules § 2.

use of the 1988 *Wetland Plant List of the State of Vermont*, published by the U.S. Fish and Wildlife Service (FWS) to "determine the frequency of vegetation occurrence in wetlands" for delineation purposes.<sup>13</sup>

#### Wetland-related law and regulation

The State of Vermont identifies and protects wetlands under the Vermont Wetland Rules<sup>14</sup> and the Land Use and Development Law.<sup>15</sup> Until 2004, the state also participated in review of local development plans and regulations under the Municipal and Regional Planning and Development Act.<sup>16</sup> However, the state legislature eliminated the Vermont Department of Environmental Conservation's oversight role in order to increase efficiency of efforts.<sup>17</sup> The state also conducts Clean Water Act (CWA) §401 certification in association with the federal §404 permit program.

*Vermont Wetland Rules.* In 1986, the Vermont legislature passed a law requiring the adoption of wetland protection rules for the state. <sup>18</sup> In 1990, the Vermont Water Resources Board adopted the Vermont Wetland Rules. <sup>19</sup> The purpose of the regulations, implemented by the Vermont Department of Environmental Conservation's (VTDEC) Wetland Section, is "to identify and protect significant wetlands and the values and functions which they serve in such a manner that the goal of no net loss of such wetlands and their functions is achieved." <sup>20</sup>

The rules classify wetlands into three categories based on an evaluation of functions: <sup>21</sup> Class One wetlands are those wetlands that are "exceptional or irreplaceable in their contribution to Vermont's natural heritage and are therefore so significant that they merit the highest level of protection;" Class Two wetlands are "so significant, either taken alone or in conjunction with other wetlands, that they merit protection;" and Class Three wetlands are those wetlands that "have not been determined by the [Water Resources] Board to be so significant that they merit protection under the rules," either because they have not been evaluated or because when last evaluated, did not merit Class One or Class Two classification. Wetlands that are not mapped on the Vermont State Wetlands Inventory (VSWI) are Class Three wetlands. The rules establish a regulatory program for Class One and Class Two wetlands and adjacent buffer zones. <sup>23</sup>

<sup>&</sup>lt;sup>12</sup> U.S. ARMY CORPS OF ENGINEERS, *Corps of Engineers Wetlands Delineation Manual (1987)*, WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1 (1987), *available at* http://www.saj.usace.army.mil/permit/documents/87manual.pdf.

<sup>&</sup>lt;sup>13</sup> Vt. Wetland Rules § 3.2.

<sup>&</sup>lt;sup>14</sup> See generally Vt. Wetland Rules.

<sup>&</sup>lt;sup>15</sup> VT. STAT. ANN., tit. 10, §§ 6001-6092.

<sup>&</sup>lt;sup>16</sup> Vt. Stat. Ann., tit. 24, §§ 4301-4494.

<sup>&</sup>lt;sup>17</sup> Personal Communication with Carl Pagel, Vermont Department of Environmental Conservation (Feb. 9, 2005).

<sup>&</sup>lt;sup>18</sup> VT. STAT. ANN., tit. 10, § 905 (7-9) (repealed 2005).

<sup>&</sup>lt;sup>19</sup> The Vermont Wetland Rules were amended in 2002. *See* Vermont Department of Environmental Conservation, Wetlands Section, *Topic: Conditional Use Determinations (Wetlands Fact Sheet #5)* (July 2003), *available at* http://www.anr.state.vt.us/dec/waterq/wetlands/docs/wl\_factsheet5.pdf.

<sup>&</sup>lt;sup>20</sup> Vt. Wetland Rules § 1.1.

<sup>&</sup>lt;sup>21</sup> Functional evaluation for classification purposes is based on the functions and values of the wetlands as defined in the Vermont Wetland Rules. The Department of Environmental Conservation relies on a checklist that requires professional expertise and judgment. Personal communication with Alan Quackenbush, Department of Environmental Conservation (Apr. 17, 2007).

<sup>&</sup>lt;sup>22</sup> Vt. Wetland Rules § 4.1.

<sup>&</sup>lt;sup>23</sup> Buffer zones include a 100 foot area contiguous to the boundaries of a Class One or Class Two wetland (unless designated otherwise by the Water Resources or Natural Resources Boards). *See* Vt. Wetland Rules § 4.3.

Conditional and allowed activities, <sup>24</sup> exemptions, <sup>25</sup> permitting procedures, and mitigation requirements are described in the rules, as well as enforcement provisions and wetland classification. Rule-making procedures are required for re-classification of wetlands. <sup>26</sup>

State wetland permits are called Conditional Use Determinations (CUDs). The CUD process includes §401 water quality certification for those projects that require federal review and approval under CWA §404. Less than 100 CUDs are issued in a typical year.<sup>27</sup> The majority of project applications are approved, with an estimated two percent denied annually.<sup>28</sup> In making permit determinations, VTDEC staff rely on the regulatory framework provided by the Vermont Wetland Rules and best professional judgment.<sup>29</sup> The rules list and describe ten functional criteria for evaluating a wetland's significance, both for purposes of classification and determination of level of protection merited.<sup>30</sup>

*Vermont's Land Use and Development Law.* The Land Use and Development Law, also known as Act 250, requires a land use permit prior to certain kinds of development. To obtain a permit, applicants must demonstrate that they are in compliance with the Vermont Wetland Rules, as well as other wetland-related criteria relating to soil erosion and water pollution. Issuance of a CUD serves as a presumption of compliance with the wetland rules.

In January 2005, the law was revised, authorizing the state's Water Panel to adopt rules "regarding the identification of wetlands which are so significant that they merit protection" and "rules protecting wetlands that have been determined under subdivision (5) or (6) of this subsection to be significant." The Water Panel is currently working on a major rewrite of the wetland rules. 33

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<sup>&</sup>lt;sup>24</sup> Allowed uses include certain types of silvicultural activities, road maintenance, farming activities, recreation, scientific research, wildlife or fisheries management activities, hunting activities, invasive species control, pesticide use, as well as various activities associated with the operation and maintenance of utilities. All uses which are not allowed are considered conditional uses and require a permit. Vt. Wetland Rules §§ 6.2-6.3.

<sup>&</sup>lt;sup>25</sup> Exemptions relate to activities conducted prior to adoption of the rules in 1990. *See* Vt. Wetland Rules § 1.1. <sup>26</sup> The Rules are proposed by the Water Panel of the Natural Resources Board. They are put out to public comment, and also must go through a legislative committee before being finalized. Before moving forward with rule making, the wetland statute must be amended. *See* Quackenbush, *supra* note 21.

<sup>&</sup>lt;sup>27</sup> For example, 86 CUDs were issued in 2004.

<sup>&</sup>lt;sup>28</sup> The majority of CUD applications involve residential or commercial development projects. Public projects, ponds, roads, agriculture and forestry, and utility projects are also common types of project applications. *See* Vermont Department of Environmental Conservation, Wetlands Section, *Topic: The Vermont Wetlands Office* (Wetlands Fact Sheet #1) (February 1999), available at

 $http://www.anr.state.vt.us/dec/waterq/wetlands/docs/wl\_factsheet1.pdf.$ 

<sup>&</sup>lt;sup>29</sup> Pagel, *supra* note 17.

<sup>&</sup>lt;sup>30</sup> See generally Vt. Wetland Rules.

<sup>&</sup>lt;sup>31</sup> Act 250 lists criteria that must be considered by the District Environmental Commission and Environmental Board in decision-making concerning land use permits. Criteria relate to water pollution, waste disposal, floodways, streams, shorelines, erosion control, rare and irreplaceable natural areas and aesthetics, necessary wildlife habitat, and public investments.

<sup>&</sup>lt;sup>32</sup> VT. STAT. ANN., tit. 10, §§ 6001-6092.

<sup>&</sup>lt;sup>33</sup> Quackenbush, *supra* note 21.

Act 250 is administered by District Environmental Commissions; however, the VTDEC's Wetland Section reviews all Act 250 permit applications and, when appropriate, makes recommendations to the relevant District Environmental Commission and Environmental Court regarding wetlands. Because District Environmental Commissions are separate legal entities, the recommendations of the Wetlands Section are only advisory in nature. VTDEC provides review for Class One and Class Two Wetlands, as designated under the Vermont Wetland Rules. Class Three wetlands are evaluated exclusively under other Act 250 criteria.<sup>34</sup> The Wetlands Section reviews approximately 650 Act 250 permit applications annually, about 30 percent of which involve wetlands.<sup>35</sup>

#### Organization of state agencies

Vermont's Agency of Natural Resources (ANR) holds the Department Fish and Wildlife, Department of Forests, Parks, and Recreation, and Department of Environmental Conservation. VTDEC's Division of Water Quality holds the Wetlands Section.

The state also has a Natural Resources Board, a nine-member board that is divided into two panels: the Land Use Panel and the Water Resources Panel (WRP).<sup>36</sup> The WRP is responsible for adoption of the Vermont Wetland Rules, state water quality standards and rules regulating uses of public water, surface water levels, designation of outstanding resource waters, and classification of wetlands and outstanding resource waters.<sup>37</sup> WRP does not hear appeals of ANR water-related permits or other decisions, but it may intervene in appeals of those permits or decisions in Environmental Court.<sup>38</sup>

The VTDEC Wetland Section central office is located in Waterbury, with regional offices located in Barre, Essex Junction, and Rutland. Six full-time equivalent staff conduct various wetland-related activities, including permitting, enforcement and compliance, monitoring and assessment, outreach and technical assistance, and restoration. The program's annual budget is over \$500,000 and is derived from federal grants, such as the U.S. Environmental Protection Agency's (EPA) Performance Partnership Grant, and state matching funds. <sup>40</sup>

<sup>&</sup>lt;sup>34</sup> See Vermont Department of Environmental Conservation, Wetlands Section, *Topic: Act 250 Review Guidelines* (Wetlands Fact Sheet #9) (April 2003), available at

http://www.anr.state.vt.us/dec/waterg/wetlands/docs/wl factsheet9.pdf.

<sup>&</sup>lt;sup>35</sup> Vermont Department of Environmental Conservation, Wetlands Section, *supra* note 28.

<sup>&</sup>lt;sup>36</sup> The Natural Resources Board was created on February 1, 2005 to replace the state's Environmental and Water Resources Boards. The Water Resources Board, composed of five citizens appointed by the governor, oversaw rule-making, as well as some quasi-judicial functions, related to water quality standards, wetlands, use of public waters, and manipulation of the surface level of lakes and ponds. The Water Resources Board was officially dissolved once all cases pending prior to February 1, 2005 were completed. *See* Natural Resources Board, *Summary of Act 115 Changes*, http://www.nrb.state.vt.us/act115.htm (last visited July 31, 2007).

<sup>&</sup>lt;sup>37</sup> Quakenbush, *supra* note 21.

<sup>&</sup>lt;sup>38</sup> CUD appeals go directly to the Environmental Court (pursuant to VT. STAT. ANN., tit. 10, §§ 8501-8505, any appeal must be filed with the clerk of the Environmental Court within 30 days of the date of the decision). *See* Natural Resources Board, *Water Resources Panel*, http://www.nrb.state.vt.us/wrp/index.htm (last visited July 31, 2007).

<sup>&</sup>lt;sup>39</sup> In addition to Wetlands Section staff, each office contains watershed planners, water quality engineers, Department of Fish and Wildlife staff, Department of Forests, Parks, and Recreation staff, and other VTDEC staff. <sup>40</sup> Pagel, *supra* note 17.

#### Statewide programmatic general permit

Section 404 authorization for activities with minimal environmental impact is granted under the Vermont General Permit (VTGP). The VTGP lists general requirements related to lands of national concern, the minimization of environmental impacts, procedural requirements, grandfathering, and other general conditions. Qualifying activities are classified as either Category A (eligible without screening, non-reporting to the U.S. Army Corps of Engineers) or Category B (determination of eligibility made through interagency screening by the Corps and other federal resource agencies). VTDEC has granted §401 water quality certification for Category A VTGP-authorized activities and has conditionally granted certification for Category B activities. VTDEC has the authority to request that a Category A or B project be reviewed as an individual permit. Non-qualifying activities impacting navigable and inland waters and wetlands in the state require an individual §404 permit the Corps. Obtainment of federal authorization under §404 does not preclude state permit requirements.

#### Mitigation

The Vermont Wetland Rules state that adverse impacts, other than minimal impacts, will not be permitted unless avoidance and minimization sequencing has been conducted. Once sequencing requirements have been met, compensation may be considered if in accordance with the rules. Restoration and creation will be permitted to compensate for necessary impacts to Class One<sup>45</sup> and Class Two wetlands. Mitigation must compensate for the impacted functions specified in the rules through wetland creation at a minimum of a 1:1 ratio.<sup>46</sup> Other general mitigation requirements are described as well.<sup>47,48</sup>

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<sup>&</sup>lt;sup>41</sup> Minimal impacts are specified by the terms and conditions of the VTGP. *See* U.S. Army Corps of Engineers, New England District, Notice of 401 Water Quality Certification for the Vermont General Permit and Amendment the Vermont General Permit (#58) (Dec. 27, 2002), *available at* http://www.nae.usace.army.mil/reg/vtpgp.pdf.

<sup>&</sup>lt;sup>42</sup> Category A activities do require a waiver from the Vermont Agency of Natural Resources.

<sup>&</sup>lt;sup>43</sup> Conditions for Category B certification relate to duration of authorization, applicability of the general permit to single and complete projects (vs. multi-phased projects), and previously authorized activities. U.S. Army Corps of Engineers, New England District, *supra* note 41.

<sup>&</sup>lt;sup>45</sup> Compensation for adverse impacts to Class One wetlands is permitted only if a compelling need to protect public health or safety has been demonstrated. *See* Vermont Department of Environmental Conservation, Wetlands Section, *Topic: Wetland Mitigation (Wetlands Fact Sheet #15)* (February 1999), *available at* http://www.anr.state.vt.us/dec/waterq/wetlands/docs/wl\_factsheet15.pdf.

<sup>&</sup>lt;sup>46</sup> Functional evaluation for classification purposes is based on the functions and values of the wetlands as defined in the Vermont Wetland Rules. The Department of Environmental Conservation relies on a checklist that requires professional expertise and judgment. Criteria for evaluating a wetland's significance include: water storage for flood water and storm runoff; surface and groundwater protection; fisheries habitat; wildlife and migratory bird habitat; hydrophytic vegetation habitat; threatened and endangered species habitat; education and research in natural sciences; recreational value and economic benefits; open space and aesthetics; and erosion control through binding and stabilizing the soil. Quackenbush, *supra* note 21.

<sup>&</sup>lt;sup>47</sup> The rules specify the following provisions: compensation measures must be completed prior to the proposed activity, a preference for on-site mitigation, monitoring requirements for up to five years, long-term sustainability, adequate financial surety, and preservation in perpetuity.

<sup>&</sup>lt;sup>48</sup> Vt. Wetland Rules § 8.5(c).

Most mitigation in the state is conducted in accordance with federal projects, such as transportation. The majority of the time, VTDEC staff work with permittees to develop an appropriate mitigation plan. At present, the state is not active on a Mitigation Banking Review Team. State staff have commented that mitigation banking is not always an appropriate option for Vermont.<sup>49</sup>

#### Compliance and enforcement

Vermont law states:

[i]f any person's action, or an activity, results in the construction, installation, operation, or maintenance of any facility or condition which reasonably can be expected to violate rules relating to significant wetlands, the ANR Secretary may require specific methods and procedures for the control of that activity and the management of substances used in the activity that cause discharges or violations.<sup>50</sup>

State law lists several enforcement measures available for violations to the Vermont Wetland Rules.<sup>51</sup> Violations may be subject to civil suit, injunction, remediation, the assessment of punitive damages, and reimbursement for damages caused by the violation,<sup>52</sup> as well as administrative penalties of up to \$25,000 per violation plus \$10,000 per day the violation continues,<sup>53</sup> and civil penalties of up to \$50,000 per violation plus \$25,000 per day the violation continues.<sup>54</sup>

After a complaint is received, Wetlands Section staff are assigned to investigate. If evidence of a violation is discovered, a Notice of Alleged Violation may be issued to the responsible party. <sup>55</sup> Compliance issues are usually resolved through after-the-fact permitting or voluntary restoration. A small number of cases involving substantial wetland impact or willful violation are resolved through formal enforcement proceedings. <sup>56</sup> These cases usually conclude with a civil fine and some sort of remediation. A recent mandate by the ANR Secretary orders the state resource agencies to place more emphasis on compliance and the prevention of enforcement actions. <sup>57</sup>

#### Tracking systems

VTDEC's Wetland Section maintains a basic tracking system for all wetland projects that have come under staff review. The database includes information collected from project review sheets, enforcement proceedings, field inspections, and CUDs, including responses to registered complaints. <sup>58</sup>

http://www.anr.state.vt.us/dec/waterq/wetlands/docs/wl\_factsheet7.pdf.

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<sup>&</sup>lt;sup>49</sup> Pagel, *supra* note 17.

<sup>&</sup>lt;sup>50</sup> VT. STAT. ANN., tit. 10, § 1272.

<sup>&</sup>lt;sup>51</sup> Vermont Wetland Rules § 1.2.

<sup>&</sup>lt;sup>52</sup> VT. STAT. ANN., tit. 10, § 1274.

<sup>&</sup>lt;sup>53</sup> VT. STAT. ANN., tit. 10, § 8010(c).

<sup>&</sup>lt;sup>54</sup> VT. STAT. ANN., tit. 10, chp. 211, § 8221(b)(6).

<sup>&</sup>lt;sup>55</sup> See Vermont Department of Environmental Conservation, Wetlands Section, Topic: Policy of Enforcement of Wetland Rules (Wetlands Fact Sheet #7) (February 1999), available at

<sup>&</sup>lt;sup>56</sup> See Vermont Department of Environmental Conservation, Wetlands Section, supra note 28.

<sup>&</sup>lt;sup>57</sup> Pagel, *supra* note 17.

<sup>&</sup>lt;sup>58</sup> *Id*.

#### **III. Water Quality Standards**

Vermont has not developed water quality standards specific to wetlands, but standards do apply to all "waters of the state," which include wetlands. State water quality regulations list a water quality anti-degradation policy, a water conservation policy, and a riparian area conservation policy, and designated uses. However, any area involving a Class One or Two wetland ultimately requires a separate CUD evaluation and permit (which includes §401 water quality certification only in cases where a §404 permit is needed as well). Surface water quality standards are narrative, chemical, and biological in nature.

#### IV. Monitoring and Assessment

#### Monitoring and assessment for wetlands

Functional evaluation for wetland classification is based on the wetland functions and values defined in the Vermont Wetland Rules. <sup>61</sup> The Rules list ten criteria: water storage for flood water and storm runoff; surface and groundwater protection; fisheries habitat; wildlife and migratory bird habitat; hydrophytic vegetation habitat; threatened and endangered species habitat; education and research in natural sciences; recreational value and economic benefits; open space and aesthetics; and erosion control through binding and stabilizing the soil. <sup>62</sup> VTDEC conducts assessments according to a checklist of criteria that are evaluated through professional expertise and judgment. <sup>63</sup>

Class Two wetlands were originally designated using the U.S. Fish and Wildlife Service's National Wetland Inventory maps for the state, which were revised to conform to the Vermont Wetland Rules. The resulting Vermont Significant Wetland Inventory maps were adopted in 1990 along with adoption of the Rules. The Rules specify that the maps should be updated and re-distributed annually. However, maps only are revised to reflect actions of the state Board/Panel. If there are no actions, the maps are not revised. Consequently, the maps have been updated only on a periodic basis. 65

#### Monitoring and assessment for streams

The VTDEC Division of Water Quality also houses the Biomonitoring and Aquatic Studies Section (BASS). BASS conducts monitoring of aquatic resources, including streams, with an

<sup>&</sup>lt;sup>59</sup> The VTDEC has described the following water quality certification evaluation process: (1) determine if a federal permit or license is required; (2) determine if the area qualifies as waters of the United States; (3) determine if a permit or license involves a discharge into waters of the United States; (4) determine the existing uses of the wetland; (5) determine whether there is a significant impact on those uses. *See* Vermont Department of Environmental Conservation, Wetlands Section, *Topic: Water Quality Certification (Wetlands Fact Sheet #19)* (February 1999), *available at* http://www.anr.state.vt.us/dec/waterq/wetlands/docs/wl\_factsheet19.pdf.

<sup>&</sup>lt;sup>60</sup> Vt. Water Resources Board, Vermont Water Quality Standards (2000), *available at* http://www.state.vt.us/wtrboard/rules.htm.

<sup>&</sup>lt;sup>61</sup> Vt. Wetland Rules § 5.

<sup>&</sup>lt;sup>62</sup> *Id*.

<sup>&</sup>lt;sup>63</sup> Quackenbush, *supra* note 21.

<sup>&</sup>lt;sup>64</sup> Vt. Wetland Rules § 4.5.

<sup>&</sup>lt;sup>65</sup> Quackenbush, *supra* note 21.

emphasis on assessment of biological integrity. The section's activities include: biological, physical, and chemical sampling and analysis; data quality assurance; and measures to integrate results into other VTDEC programs. BASS conducts more than 100 comprehensive biological assessments annually, with emphasis on evaluation of fish and aquatic macroinvertebrate communities. Information is used for a variety of purposes, including regulation and permitting. BASS also conducts studies in areas of special concern (e.g., acid rain, malformed frogs, aquatic nuisance control, and seasonal pools). The Wetlands Section, using competitive grant funds from EPA, built off the BASS seasonal pool study to initiate a Wetland Bioassessment project in 2006. The Wetlands Section is currently applying for funds to continue this work.

The state has adopted a standard operating procedure for bioassessment of wadeable streams that emphasizes aquatic life uses and biocriteria. The methodology is also used in developing \$\$303(d)/305(b) reports. Developed independent of other state and federal agencies, the methodology is fairly specific to the State of Vermont. <sup>69</sup>

#### V. Restoration and Partnerships

Although no formal restoration program exists within the VTDEC, restoration initiatives are on the rise throughout the state, and the state has begun participating in these efforts regularly. Wetland Section staff often lend their expertise and technical assistance to restoration efforts on subjects such as monitoring and assessment, as well as identifying priority restoration areas within the state. In addition to participation in U.S. Department of Agriculture and FWS programs, the state also often partners with environmental organizations such as Ducks Unlimited and the Audubon Society. 70

VTDEC staff have also participated in developing the wetlands component of the Vermont Clean and Clear Action Plan. One element of this plan calls for a study to identify impaired wetlands in the Lake Champlain watershed that have the greatest potential to act as a sink for phosphorus. Once these wetlands are identified, restoration plans will be developed and implemented to restore impaired function.<sup>71</sup> An overall plan that identifies potential sites is currently in draft

<sup>&</sup>lt;sup>66</sup> Vermont Department of Environmental Conservation, Biomonitoring and Aquatic Studies Section, *Welcome to the Biomonitoring and Aquatic Studies Section*, http://www.anr.state.vt.us/dec/waterq/bass.htm (last visited July 31, 2007).

<sup>&</sup>lt;sup>67</sup> Quackenbush, *supra* note 21.

<sup>&</sup>lt;sup>68</sup> For waters other than wadeable streams, including wetlands, monitoring and assessment methodologies are developed as appropriate for specific projects. Biological criteria for determining ALUS status are currently available only for wadeable streams; biocriteria are under development for lakes and certain types of wetlands. Personal Communication with Doug Burnham, Vermont Department of Environmental Conservation (Mar. 2, 2005).

<sup>&</sup>lt;sup>69</sup> Personal Communication with Doug Burnham, Vermont Department of Environmental Conservation (Feb. 14, 2005).

<sup>&</sup>lt;sup>70</sup> Pagel, *supra* note 17.

<sup>&</sup>lt;sup>71</sup> AGENCY OF NATURAL RESOURCES, GOVERNOR'S CLEAN AND CLEAR ACTION PLAN 2006 ANNUAL REPORT (2007), available at http://www.anr.state.vt.us/cleanandclear/wetlands.htm.

form.<sup>72</sup> A wetland position was created in the Lands Division of Forests and Parks to oversee the development and implementation of the restoration plan.<sup>73</sup>

#### VI. Education and Outreach

VTDEC conducts a various education and outreach activities that sometimes include a wetland component. For example, the Lakes and Ponds Management and Protection Section organizes Project WET (Water Education Training) workshops and presents to school groups regularly. The Wetland Section also organizes workshops on wetland conservation and regulation that target the regulated public, realtors, consultants, contractors, other state programs and agencies, and local government representatives. Education and outreach efforts related to Purple Loosestrife are organized annually. Outreach also is often conducted through site visits and project reviews, as well as informal meetings and presentations. The office also distributes wetland-related publications on a regular basis, including Vermont State Wetland Inventory maps, landowner guides for restoration, and various regulatory guidelines. The office also distributes wetland-related publications on a regular basis, including Vermont State Wetland Inventory maps, landowner guides for restoration, and various regulatory guidelines.

#### VII. Coordination with State and Federal Agencies

The Vermont ANR released the state's *Wetland Conservation Strategy* in 1994. The strategy was developed with involvement from the public and identifies protection and conservation goals for the state. The strategy is routinely updated as part of the *Vermont Outdoor Recreation Plan.* 

The VTDEC Wetlands Section regularly works with other state offices on meeting wetland regulatory requirements (e.g., the Agency of Transportation), as well as agencies seeking to foster wetland conservation (e.g., the Agency of Agriculture, Food, and Markets). The Wetlands Section also regularly coordinates with federal agencies, such as the Corps and EPA, on regulatory and non-regulatory issues. Section staff attend bi-monthly meetings to discuss transportation-related permitting issues; the meetings are also attended by the Vermont Agency of Transportation, EPA, Corps, and FWS, and other state and federal agencies. VTDEC also meets with other New England state agencies on occasion through wetland workgroup meetings sponsored by the New England Interstate Pollution Control Commission. In past years, states have coordinated on issues such as mitigation, mapping, and monitoring and assessment.

<sup>&</sup>lt;sup>72</sup> Quackenbush, *supra* note 21.

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<sup>&</sup>lt;sup>74</sup> Vermont Department of Environmental Conservation, Lakes and Ponds Management and Protection Section, *Vermont Project WET*, http://www.anr.state.vt.us/dec/waterq/lakes/htm/lp\_projectwet.htm (last visited July 31, 2007).

<sup>&</sup>lt;sup>75</sup> Pagel, *supra* note 17.

<sup>&</sup>lt;sup>76</sup> See Vermont Department of Environmental Conservation, Wetlands Section, supra note 28.

<sup>&</sup>lt;sup>77</sup> See VERMONT AGENCY OF NATURAL RESOURCES, VERMONT WETLAND CONSERVATION STRATEGY (1994) (on file at the Vermont Department of Environmental Conservation).

<sup>&</sup>lt;sup>78</sup> Quackenbush, *supra* note 21.

<sup>&</sup>lt;sup>79</sup> Id.

<sup>&</sup>lt;sup>80</sup> Pagel, *supra* note 17.

### VIII. Acronyms and Abbreviations

ANR – Agency of Natural Resources

BASS – Biomonitoring and Aquatic Studies Section

CUD – Conditional Use Determination

EPA – U.S. Environmental Protection Agency

FWS – U.S. Fish and Wildlife Service

VTDEC – Vermont Department of Environmental Conservation

VTGP – Vermont General Permit

WET – Wetland Evaluation Technique

WRP - Water Resources Panel