



ENVIRONMENTAL
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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

New Hampshire

I. Overview

New Hampshire has lost approximately 20,000 acres, or 9 percent, of its original 220,000 acres of historic wetlands.¹ The state's diverse wetlands include tidal marshes, mud flats, freshwater swamps, rivers, lakes, bogs, and wet meadows.² New Hampshire began regulating tidal wetlands under the Fill and Dredge in Wetlands Act in 1967.³ The New Hampshire Department of Environmental Services (NHDES), Water Division, Wetlands Bureau administers the state's wetland regulatory program.

II. Regulatory Programs

Wetland definitions and delineation

New Hampshire's Water Pollution and Waste Disposal Act defines "surface waters of the state" as "perennial and seasonal streams, lakes, ponds, and tidal waters within the jurisdiction of the state, including all streams, lakes, or ponds bordering on the state, marshes, water courses, and other bodies of water, natural or artificial."⁴ Regulations further state that "the term includes wetlands and 'waters of the United States'" as defined under the Clean Water Act.⁵ Wetlands are defined in the state's Fill and Dredge in Wetlands Act.⁶

New Hampshire regulations prescribe wetland delineation based on hydrophytic vegetation, hydric soils, and wetlands hydrology, in accordance with the U.S. Army Corps of Engineers' 1987 *Wetland Delineation Manual*.⁷

Wetland-related laws and regulations

New Hampshire regulates impacts to wetlands primarily under the Fill and Dredge in Wetlands Act.⁸ In addition, the Comprehensive Shoreland Protection Act regulates indirect impacts to certain uplands adjacent to fourth-order streams and public waters.⁹

Under the New Hampshire Endangered Species Act, the Fish and Game Department (NHFGD) may comment on wetland permits to ensure that impacts to endangered and threatened species

¹ See Association of State Wetland Managers, *State Wetland Programs: New Hampshire*, at <http://aswm.org/swp/newhampshire9.htm> (last visited Sept. 20, 2007).

² New Hampshire Department of Environmental Services, *The Wetlands Resource*, at <http://www.des.state.nh.us/factsheets/wetlands/wb-7.htm> (last visited Sept. 20, 2007).

³ *Id.*

⁴ N.H. REV. STAT. ANN. § 485A:2.

⁵ The term does not include nontidal drainage ditches which were designed, built and used to convey wastewater or stormwater. The term also does not include constructed wetlands, cooling ponds, lagoons, and other treatment systems designed and built solely as wastewater or stormwater treatment systems, provided such facilities were not initially constructed in surface waters of the state or were not constructed to serve other mitigation purposes. N.H. CODE ADMIN. R. ANN. [Env-ws] 401.03(t).

⁶ N. H. REV. STAT. ANN. §482-A:2.

⁷ N.H. CODE ADMIN. R. ANN. [Env-ws] 301.01.

⁸ N.H. REV. STAT. ANN. § 482.

⁹ *Id.* § 483-B:6.

have been considered.¹⁰ The Native Plant Protection Act provides a similar opportunity to the New Hampshire Department of Resources and Economic Development (NHDRED), Natural Heritage Bureau.¹¹

Fill and Dredge in Wetlands Act. Under the Fill and Dredge in Wetlands Act, NHDES requires a permit for dredge, fill, or construction in wetlands or other waters of the state.¹² The law also protects sand dunes and upland tidal buffer zones (100 feet above the highest observable tideline).¹³ Although the law was adopted in 1967 to protect tidal wetlands and waters, it was extended in 1969 to regulate activities in freshwater bodies. There is no minimum threshold of size for wetlands or wetland impacts under the Act; NHDES has jurisdiction over tidal wetlands, nontidal wetlands, and tidal buffer zones.¹⁴

In addition, municipalities may designate wetlands as “prime wetlands,”¹⁵ which receive higher level protection under the Act. NHDES also has jurisdiction over areas within 100-feet of prime wetlands.^{16,17}

Comprehensive Shoreland Protection Act. Under the Comprehensive Shoreland Protection Act, also administered by NHDES, projects and activities located within regulated shoreland areas are subject to Minimum Shoreland Protection Standards. Protected shorelands include all land within 250-feet of waters listed in the state’s *Official List of Public Waters*, as well as fourth-order and higher streams (except the Saco and Pemigewasset Rivers).¹⁸ In 2007, the state legislature authorized the development of a permitting program for construction, excavation, and filling within protected shorelands.¹⁹

Organization of state agencies

New Hampshire Department of Environmental Services. The New Hampshire Department of Environmental Services, Water Division, Wetlands Bureau administers the state’s wetland regulatory program. The Bureau employs approximately 33 full time equivalents (FTEs) that work on permitting, compliance and enforcement, and outreach related to wetlands. Funding for the program, approximately \$1.8 million annually, primarily comes from state general appropriations, permit fees, and enforcement fines. The Bureau also receives a small amount of

¹⁰ *Id.* § 212-A.

¹¹ *Id.* § 217-A:9-X.

¹² *Id.* § 482-A:3.

¹³ *Id.* § 482-A:3-VI, § 482-A:4, I. Specifically, the act protects: “waters and adjacent areas ... wherever the tide ebbs and flows, ...all lands submerged or flowed by mean high tide as locally determined, any sand dune or vegetation thereon in the state of New Hampshire, and, ... those areas within 100 feet of the highest observable tide line which border on tidal waters, such as, but not limited to, banks, upland areas, bogs, salt marsh, swamps, meadows, flats or other lowlands subject to tidal action.” *Id.*

¹⁴ Personal Communication with Sandy Crystall, N.H. Dep’t of Env’tl. Services (Feb. 5, 2007).

¹⁵ N.H. CODE ADMIN. R. ANN. [env-wt] 701.02.

¹⁶ N.H. REV. STAT. ANN. § 482-A:11-VI.

¹⁷ As a result of changes made to the wetlands law in New Hampshire’s 2007 legislative session, the 100-foot area adjacent to municipally designated prime wetlands, which has been considered jurisdictional by the agency since 1979, now has been legislatively defined (effective August 24, 2007). H.B. 252-FN, 2007 Sess. (N.H.).

¹⁸ N.H. REV. STAT. ANN. § 483-B:4.

¹⁹ H.B. 663-FN-A, 2007 Sess (N.H.), 0857.

funding from federal grants (e.g., one staff member's position is fully funded by the U.S. Environmental Protection Agency). The Bureau maintains a main office in Concord and a regional office in Portsmouth.²⁰

New Hampshire Department of Fish and Game. NHFGD participates in the regulatory review process and implements the state wildlife action plan,²¹ which includes measures to conserve and protect wetland habitat. A number of staff members work on wetland-related activities (approximately two to three FTEs combined), including: commenting on wetland permits, implementing the state wildlife action plan, and wetland restoration on state, municipal, and private lands. These activities are funded by state wildlife grants provided by the federal government, proceeds from the sale of wildlife licenses, and matching funds provided by partner agencies. NHFGD is headquartered in Concord and maintains regional offices in Durham, Keene, Lancaster, and New Hampton.²²

Wetland permits and §401 certification

The Fill and Dredge in Wetlands Act²³ and the Comprehensive Shoreland Protection Act²⁴ are New Hampshire's primary forms of state level wetland regulation. However, NHDES also occasionally relies on §401 certification to protect wetlands by approving, conditioning, or denying federal §404 permits.²⁵

Wetland permits. The state's wetland permit program, authorized under the Fill and Dredge in Wetlands Act,²⁶ receives approximately 2,600 applications per year. Program staff members closely review applications to ensure that projects meet the current rules. During the review process, which is subject to statutory timeframes, the scope of projects may be reduced or changed in order to meet approval standards. As a result, very few applications are denied outright, although many may be modified. Approximately 95 percent are approved, and 5 percent are denied. Denials include: withdrawn applications after NHDES has prescribed major modifications; applications that do not incorporate modifications recommended by NHDES after review; and proposed development that is unsuitable or exceeds specific standards.²⁷

The greatest consideration for NHDES staff that are reviewing permit applications is avoidance and minimization of impacts (requirements are codified in state regulations).²⁸ Applicants are required to have a delineation conducted by a state-certified wetland scientist. Project applicants

²⁰ Crystall, *supra* note 14. Personal Communication with Sandy Crystall, N.H. Dep't of Env'tl. Services (Mar. 16, 2007).

²¹ For more information on the state's wildlife action plan, *see* New Hampshire Fish and Game Department, *New Hampshire Wildlife Action Plan*, at http://www.wildlife.state.nh.us/Wildlife/wildlife_plan.htm (last visited Sept. 21, 2007).

²² Personal Communication with Michael Marchand, N.H. Dep't of Fish and Game (Mar. 19, 2007); Personal Communication with Ed Robinson, N.H. Dep't of Fish and Game (Apr. 17, 2007).

²³ N.H. REV. STAT. ANN. § 482.

²⁴ *Id.* § 483-B:6.

²⁵ N.H. CODE ADMIN. R. ANN. [env-ws] 451-455; Personal Communication with Paul Piszczek, N.H. Dep't of Env'tl. Services (Feb. 13, 2007).

²⁶ N.H. REV. STAT. ANN. § 482.

²⁷ Personal Communication with Craig Rennie, N.H. Dep't of Env'tl. Services (Mar. 22, 2007).

²⁸ N.H. CODE ADMIN. R. ANN. [Env-wt] 302.03(a).

may also submit a wetland function and value assessment with their applications.²⁹ Permit reviewers may also require a site inspection.³⁰

NHFGD also comments during the permitting process. As authorized by New Hampshire's Endangered Species Act, NHFGD staff review all wetland permits that include areas with rare species.³¹ NHFGD then suggests how applicants might reduce or avoid impacts to threatened or endangered species.³²

NHDES Wetlands Bureau, NHFGD Non-Game Program, and NHDRED Natural Heritage Bureau have worked collaboratively to develop a web-based tool through which permit applicants can enter information about a proposed project (e.g., type of project and geographic boundaries) and then, by comparing rare species data from the Natural Heritage Bureau, receive information about potential impacts of the project to rare species and habitat and options for potential mitigation. Permit applicants are required to use the online tool or request the information in hard copy before an application may be submitted. Revealing concerns about impacts to threatened species and habitat at the front end of the permit application process allows applicants to design projects accordingly.³³

Alteration of Terrain Permit. In addition to the wetland permit, an Alteration of Terrain Permit ("site-specific permit") is required for projects that disturb over 100,000 square feet of land or over 50,000 square feet of land within shorelands protected under the Comprehensive Shoreland Protection Act.³⁴ This process ensures that, for larger projects, applicants have designed storm water management controls and erosion controls appropriate for the scale of the impact. The state receives an estimated 380 site-specific permit applications per year.³⁵

§401 certification. NHDES's Watershed Management Bureau issues §401 certifications, which are required for all wetland impacts. The Corps determines whether a proposed project qualifies for certification under the statewide programmatic general permit (SPGP) or if it requires individual certification from NHDES. If a project qualifies under the SPGP, the Watershed Management Bureau determines whether additional conditions are required (e.g., hydrological modifications, large subdivisions, or impacts to impaired water bodies).³⁶

Every project that requires a wetland permit from the Wetlands Bureau must also obtain §401 certification from the Watershed Management Bureau. Because wetland permits often indirectly address water quality concerns, §401 certification for wetland impacts is somewhat streamlined. Applicants for §401 certification typically have already obtained a wetland permit; however, in

²⁹ *Id.* 302.04(a).

³⁰ Rennie, *supra* note 27; Personal Communication with Sandy Crystall, N.H. Dep't of Env'tl. Services (Aug. 17, 2007).

³¹ N.H. REV. STAT. ANN. § 212-A.

³² Marchand, *supra* note 22.

³³ Personal Communication with Lori Sommer, N.H. Dep't of Env'tl. Services (Feb. 16, 2007); Personal Communication with Mary Ann Tilton, N.H. Dep't of Env'tl. Services (Apr. 17, 2007); Crystall, *supra* note 30.

³⁴ N.H. REV. STAT. ANN. § 483-B:6.

³⁵ Rennie, *supra* note 27.

³⁶ Piszczek, *supra* note 25.

some cases, project timelines require the two permitting processes to take place concurrently. In these cases, the Wetlands Bureau and Watershed Management Bureau coordinate closely.³⁷

The Watershed Management Bureau issued six §401 certifications for wetland impacts in 2006. Section 401 certification applications are typically approved, but almost always include conditions. The Watershed Management Bureau relies on NHDES' consolidated assessment and listing methodology (both quantitative and qualitative) to determine whether projects comply with state water quality standards.³⁸

Statewide programmatic general permit

New Hampshire operates under a statewide programmatic general permit (SPGP) (thus, nationwide permits do not apply in the state).³⁹ NHDES works with the Corps when the SPGP is due for re-issue to address any changes that should be made.⁴⁰ The most recent SPGP was issued on June 28, 2007.⁴¹

Mitigation

New Hampshire's wetland permit program requires applicants to demonstrate that potential impacts have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized.^{42,43}

For remaining impacts, state regulations guide compensatory mitigation.⁴⁴ Compensatory mitigation requirements are based on the size of the impact and project classification.⁴⁵ Impacts greater than 10,000 square feet require mitigation.⁴⁶ Mitigation proposals must include a functional assessment using the Corps' methodology and data on the surrounding area (e.g., land use, soils, habitat, and endangered species).⁴⁷ Mitigation options include restoration, preservation, creation, and, if no other option is feasible, payment to the state's newly created in-lieu fee (ILF) program. Preservation is the most commonly selected option.⁴⁸

NHDES uses standard monitoring protocols and performance standards from the Corps to evaluate mitigation construction and performance. The agency relies on monitoring reports, field

³⁷ *Id.*

³⁸ *Id.*

³⁹ U.S. Army Corps of Engineers, New England District, Issuance of the Department of the Army New Hampshire Programmatic General Permit (June 2, 2007), available at <http://www.nae.usace.army.mil/reg/NHPGPpermit.PDF>.

⁴⁰ Crystall, *supra* note 14.

⁴¹ U.S. Army Corps of Engineers, *Issuance of the Department of the Army New Hampshire Programmatic General Permit*, available at <http://www.nae.usace.army.mil/reg/NH%20PGP%20-%20Final%20PN%20&%20PGP%20for%20Website.pdf> (last visited Sept. 21, 2007).

⁴² N.H. CODE ADMIN. R. ANN. [Envt-wt] 302.03(a).

⁴³ See NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, GUIDEBOOK FOR WETLAND PERMITS (2007), available at <http://www.des.state.nh.us/wetlands/Guidebook/>.

⁴⁴ N.H. CODE ADMIN. R. ANN. [Envt-wt] 800, 703.02; Criteria and procedures for required compensatory mitigation plans can be found in Env-wt 801.01; Compensatory mitigation is required by N.H. CODE ADMIN. R. ANN. [Envt-wt] 302.03.

⁴⁵ Crystall, *supra* note 14.

⁴⁶ N.H. CODE ADMIN. R. ANN. [Envt-wt] 302.03.

⁴⁷ *Id.* 803.02.

⁴⁸ Rennie, *supra* note 27.

inspections, vegetative success rates, and an examination of invasive species control efforts to assess mitigation sites.⁴⁹

NHDES was granted authority to create the state's ILF program in 2006.⁵⁰ Interim rules for the program became effective on November 18, 2006; new rules became effective on June 20, 2007.⁵¹ The program addresses both wetland and stream mitigation. NHDES collaborates with state agencies (NHFGD, NHDRED, and the New Hampshire Office of Energy and Planning) and non-governmental organization (The Nature Conservancy, Society for the Protection of New Hampshire Forests, New Hampshire Association of Natural Resource Scientists, and New Hampshire Association of Conservation Commissions) to administer this program. Eligible applicants contribute to the watershed-based Aquatic Resource Mitigation Fund. Third parties (often state agencies, non-governmental organizations, or municipalities) may apply for funds to complete projects that replace or protect wetland resource values (restoration, creation, and protection). All collaborating organizations and agencies review applications and approve fund disbursements.⁵² Proposed project locations are considered in this review, using NHFGD's maps of high quality habitat as published in the state wildlife action plan.⁵³

Although New Hampshire currently has no mitigation banks, NHDES is holding conversations with several wetland permit applicants (large developers with both proposed impacts and potential future impacts), the Corps, and U.S. Environmental Protection Agency (EPA), to set up a unique arrangement whereby the applicants pool mitigation efforts.⁵⁴

Compliance and enforcement

NHDES Wetlands Bureau administers a compliance and enforcement program with respect to wetlands and other jurisdictional areas protected under the Fill and Dredge of Wetlands Act. The program receives an estimated 450 new complaints each year that are investigated by compliance staff. Minimal violations may be resolved informally through restoration requests, notices of past violation, and letters of deficiency. In cases where the impact is exceptionally large or environmentally damaging, the violator has a prior enforcement history, or the violator is unwilling to work with the program to correct deficiencies, more formal action may be taken, such as Administrative Orders, referral to the Department of Justice, and/or imposition of administrative or civil penalties. Remedial actions, including restoration, frequently require that the violator hire a state-certified wetland scientist or a state-certified erosion control specialist to develop and submit a plan to bring the site into compliance.⁵⁵

In 2006, the program issued 29 administrative orders, 177 letters of deficiency, 89 informal restoration requests, and 14 notices of past violations, as authorized by department

⁴⁹ Sommer, *supra* note 33.

⁵⁰ N.H. REV. STAT. ANN. § 482-A:30, § 482-A:28.

⁵¹ N.H. CODE ADMIN. R. ANN. [Envt-Wt] 801.03, 803.02, 803.07, 803.8.

⁵² Crystall, *supra* note 14; Sommer, *supra* note 33; Rennie, *supra* note 27.

⁵³ Marchand, *supra* note 22.

⁵⁴ Crystall, *supra* note 14; Personal Communication with Lori Sommer, N.H. Dep't of Env'tl. Services (June 29, 2007).

⁵⁵ Personal Communication with Tracey Boisvert, N.H. Dep't of Env'tl. Services (June 6, 2007).

regulations.^{56,57} One-hundred and seventy five cases were concluded (“restored or complied”) in 2006, but most of these cases were initiated in prior years.⁵⁸

State law and rules authorize administrative fines in amounts up to \$2,000 per violation per day.⁵⁹ Administrative fines are pursued and negotiated within the department. NHDES issued nine notices of proposed administrative fines in 2006.⁶⁰ State law also allows the program to seek civil penalties of up to \$10,000 per day of violation.⁶¹

Cases in which civil or criminal penalties may be levied are referred to the Department of Justice. In 2006, six cases were referred to the Department of Justice, which in turn filed injunctions in three of these cases and sought civil penalties in five. The typical amount of penalty assessed varies by case. Five civil enforcement cases were concluded that year, some of which had been initiated in previous years. One case was pursued criminally by the Department of Justice.⁶²

Tracking systems

NHDES maintains a database of permitting, enforcement, and mitigation information. Much of the permit data is accessible to the public online, in the form of a one-stop data query that allows users to look up submitted permit applications and status of reviews by town, file number, assigned staff member, or application type. Additional data is managed and used, but not available online, such as: acreage of mitigation (including creation, restoration, and protection), enforcement information (including identities of violators and complainants), characteristics of a site (including its status in the Natural Heritage Program or designation as a prime wetland, if applicable), and overlapping statutes applicable to the site.⁶³

Mitigation data is compiled by staff members that conduct monitoring and follow-up with mitigation projects, including site inspections to ensure that projects are in compliance (e.g., whether the project meets thresholds and deadlines for success so that NHDES can determine project success rates; legal recognition of preservation parcels; boundary demarcation; terms of the easement; and field monitoring results). Staff members also track monitoring reports.⁶⁴

Finally, NHDRED’s Natural Heritage Bureau maintains the Natural Heritage Inventory, which includes outstanding wetlands.⁶⁵

Coordination with watershed program

NHDES’ Wetlands Bureau coordinates with the Watershed Management Bureau during the permitting process for projects that require both a wetland permit and a §401 certification. In

⁵⁶ Personal Communication with Tracey Boisvert, N.H. Dep’t of Env’tl. Services(Mar. 15, 2007).

⁵⁷ N.H. REV. STAT. ANN. § 482-A.

⁵⁸ These numbers do not reflect enforcement actions under the Comprehensive Shoreland Protection Act.

⁵⁹ N.H. REV. STAT. ANN. § 482-A:13.

⁶⁰ Boisvert, *supra* note 56.

⁶¹ N.H. REV. STAT. ANN. § 482-A:14.

⁶² Boisvert, *supra* note 55.

⁶³ Crystall, *supra* note 14; Crystall, *supra* note 30.

⁶⁴ Sommer, *supra* note 33.

⁶⁵ N.H. REV. STAT. ANN. § 217-A:1.

addition, review of permit applications for certain projects located near impaired waters has recently been added to the §401 certification review process.⁶⁶

The Wetlands Bureau is also working with EPA on several projects that examine impacts to streams and wetlands on the watershed level. For example, under an EPA grant, NHDES is working with NHFGD to assess permitted project sites in the Ashuelot River Watershed using the EPA protocol on stream crossings to see if projects meet EPA thresholds. The Wetlands Bureau will then use this information to improve its decision-making process on permits for stream crossings. The Wetlands Bureau is also working with EPA and the NHDES Watershed Management Bureau to improve its decision-making process for wetland permitting.⁶⁷

III. Water Quality Standards

New Hampshire has not adopted water quality standards specific to wetlands. NHDES, Watershed Management Bureau relies on surface water quality standards in issuing §401 certifications for impacts to wetlands.⁶⁸ New Hampshire regulations state that “wherever the naturally occurring conditions of the wetlands are different from the criteria listed in [state water quality] rules, the naturally occurring conditions shall be the applicable water quality criteria.”⁶⁹ However, this condition has never been incorporated in to the §401 certification process.⁷⁰

New Hampshire does not specifically reference the designated uses of wetlands in its water quality certifications, defaulting to the open water designated uses.⁷¹ Anti-degradation provisions are applicable to wetlands.⁷²

If a project will result in point source discharges to wetlands, then the project applicant must obtain a National Pollutant Discharge Elimination System (NPDES) permit. Discharges to wetlands are treated in the same way as discharges to other waters of the state. For wetland related permits, Wastewater Engineering Bureau staff strongly encourage applicants to shift their discharge location to a connecting river or stream in order to obtain better dilution of the discharge. If this is not possible, and since the discharge would be to a non-flowing water body, the applicant would be given limits at the end of the pipe that are equal to the water quality standards. Applications for discharges to wetlands are relatively rare.⁷³

IV. Monitoring and Assessment

⁶⁶ New Hampshire Department of Environmental Services, *Impaired Waters Review Information*, at <http://des.nh.gov/WMB/Section401/ImpairedWatersReviewInformation.htm> (last visited Sept. 21, 2007); Crystall, *supra* note 30.

⁶⁷ Tilton, *supra* note 33.

⁶⁸ Personal Communication with Paul Piszczek, N.H. Dep’t of Env’tl. Services (Feb. 15, 2007).

⁶⁹ N.H. CODE ADMIN. R. ANN. [Env’t-Ws] 1703.02(b).

⁷⁰ Piszczek, *supra* note 68.

⁷¹ N.H. REV. STAT. ANN. § 485-A:8.

⁷² Piszczek, *supra* note 25.

⁷³ Personal Communication with Jeff Andrews, N.H. Dep’t of Env’tl. Services (Mar. 21, 2007).

NHDES regulations require compensatory mitigation proposals to include a functional assessment using the Corps methodology and data on the surrounding area, such as land use, soils, habitat, and endangered species.⁷⁴

NHDES regulations also provide a local option to allow municipalities to assess wetlands greater than two acres in size to determine if they qualify for extra regulatory protection as prime wetlands.⁷⁵ For nontidal wetlands, municipalities may use the *Method for Comparative Evaluation of Nontidal Wetlands in New Hampshire* (“New Hampshire Method”)⁷⁶ or some other wetland assessment method (e.g., the Corps of Engineers’ Highway Methodology Workbook Supplement). For tidal wetlands, municipalities may use the *Method for the Evaluation and Inventory of Vegetated Tidal Marshes in New Hampshire* (“Coastal Method”). As of August 2007, 26 municipalities have designated prime wetlands for additional protection.⁷⁷

New Hampshire Method. The New Hampshire Method was developed to help municipalities evaluate the functions and values of their wetland resources for planning, education, and wetland inventory purposes. The method provides a way for municipalities to compare the relative values of multiple wetlands. It was not designed for an impact analysis on individual wetlands. The method provides for the ranking of each wetland on 10 of the following 14 functional values: ecological; wetland wildlife habitat; finfish habitat; educational potential; visual/aesthetic quality; water based recreation; flood control potential; ground water use potential; sediment trapping; nutrient attenuation; shoreline anchoring and dissipation of erosive forces; urban quality of life; historical site potential; and noteworthiness.⁷⁸ The methodology was developed by NHDES, Audubon Society of New Hampshire, and U.S. Department of Agriculture (USDA).⁷⁹

Coastal Method. The Coastal Method is a site-specific method that coastal communities can use to inventory and evaluate their vegetated tidal marshes. The method, which was developed by the Audubon Society, is not designed to provide definitive site evaluations, but instead to provide a tool for planning, educating, and inventorying.⁸⁰ In addition to evaluating wetlands for designation of prime wetlands, many communities have started doing natural resource inventories and wetland evaluations for master plans or open space planning purposes.⁸¹

305(b)/303(d) assessments. As of February 2007, NHDES had not conducted any 305(b)/303(d) assessments of wetlands. The department is developing a *Wetlands Classification, Assessment, and Monitoring Strategy* that will in part inform the 305(b)/303(d) assessments.⁸²

⁷⁴ N.H. CODE ADMIN. R. ANN. [Envt-Wt] 803.02.

⁷⁵ *Id.* § 807.

⁷⁶ See Alan P. Ammann and Amanda Lindley Stone, *Method for the Comparative Evaluation of Nontodal Wetlands in New Hampshire* (1991).

⁷⁷ Crystall, *supra* note 30.

⁷⁸ See Amman, *supra* note 76.

⁷⁹ *Id.*

⁸⁰ Audobon Society of New Hampshire, *Method for the Evaluation and Inventory of Vegetated Tidal Marshes in New Hampshire (Coastal Method)* (1993).

⁸¹ Crystall, *supra* note 14.

⁸² Personal Communication with Ken Edwardson, N.H. Dep’t of Env’tl. Services (Feb. 8, 2007).

Wetland species monitoring. NHFGD is initiating species-specific monitoring efforts as part of the implementation of the state wildlife action plan. The agency is also identifying healthy habitat complexes, including wetlands, as part of its implementation of the plan.⁸³

V. Restoration and Partnerships

While there is no formal wetland restoration program in New Hampshire, various efforts are underway.

NHDES prioritization efforts. NHDES worked with NHFGD on habitat inventories for the state wildlife action plan, which provides information about restoration opportunities. Additionally, as of February 2007, NHDES expects funding from EPA to work with The Nature Conservancy (TNC) to assess habitat quality in waterways and determine how streamflow restrictions affect habitat. The outcome of this project will be a list of areas in the Ashuelot River Watershed that may be improved by removing streamflow barriers. NHDES hopes that this study and the prioritization of areas with restoration potential may serve as a model for other watersheds in the state.⁸⁴

NHDES Coastal Program. The NHDES Coastal Program runs a Coastal Restoration Program that focuses on salt marsh and river restoration. Funding for this work is provided primarily by the National Oceanic and Atmospheric Administration (NOAA), as well as some \$319 funds from EPA. Although the Coastal Restoration Program does not prioritize lands and waters for restoration, it does prioritize types of projects, such as tidal restrictions in salt marshes. The program also recently funded TNC to compile a list of restoration opportunities. As of February 2007, the program was developing prioritization criteria for the areas identified by TNC. The program also has done some inventorying of river and salt marsh habitat and aquatic species such as eelgrass and shellfish. Program staff members work closely with the University of New Hampshire (UNH) Estuaries Program, USDA Natural Resources Conservation Service (NRCS), and TNC on these inventory efforts.⁸⁵

The Coastal Program monitors the success of its restored salt marshes using the Gulf of Maine Protocol. Program staff conduct pre- and post-restoration inspections and monitor the site every five years. Inspections examine salinity, vegetation, and fish life. Program staff are developing assessment procedures for barrier removal in river restoration projects.⁸⁶

NHFGD. Under the Great Bay Resource Protection Partnership, NHFGD often partners with federal agencies (e.g., EPA, U.S. Fish and Wildlife Service, NRCS), non-profit organizations (e.g., Ducks Unlimited, TNC, Audubon, Society for the Protection of New Hampshire Forests), and the Great Bay Estuarine Reserve, a quasi-state-federal program, to conduct restoration as part of its open water marsh management of salt marshes. These efforts are part of the agency's

⁸³ Marchand, *supra* note 22.

⁸⁴ Sommer, *supra* note 33.

⁸⁵ Personal Communication with Ted Diers, N.H. Dep't of Env'tl. Services (Feb. 15, 2007).

⁸⁶ *Id.*

wildlife management work and often relate specifically to waterfowl. Funding for waterfowl work may be provided by Ducks Unlimited, local communities, and the state.⁸⁷

NHFGD does not prioritize areas for restoration. However, salt marsh habitat is minimal in New Hampshire, all salt marshes are considered to be priority habitat.⁸⁸ Projects are initiated as funds become available and, in cases when restoration is conducted on private property, permission is granted by the landowner. Monitoring restoration success is usually done in an ad-hoc, cursory manner.⁸⁹

NHFGD also works on freshwater wetland restoration projects that support wildlife species and natural communities. Projects may involve partnerships with outside entities; for example, one project is being funded by NRCS, and pre-and post construction monitoring is being conducted by UNH and the Great Bay National Estuarine Research Reserve.⁹⁰

Coordination with USDA. NHDES' Coastal Program works with USDA on coastal issues, as well as restoration projects in inland parts of the state. The two agencies have started an invasive species management program and have funds from the USDA's Wildlife Habitat Incentives Program (WHIP) to fund restoration work. They also have used funds from the Wetland Reserve Program and WHIP for salt marsh projects. The Coastal Program has also used NRCS field services for site design work, surveying, and hydrologic monitoring.⁹¹

Corporations. The New Hampshire Corporate Wetland Restoration Partnership provides funding for state restoration projects. The Coastal America Foundation created a corporate group whose board of directors solicits donations from member corporations.⁹²

Citizen monitoring groups. NHDES' Coastal Program administers a volunteer salt marsh monitoring program. The information collected by these volunteers is being used to develop restoration success indicators for salt marshes.⁹³

VI. Education and Outreach

New Hampshire Department of Environmental Services

Each year, NHDES conducts 30 to 40 wetland-related outreach programs that reach an estimated 5,000 people. Topics include: permitting processes, land resource management, stream crossings, and wetland delineation. The science of wetlands is often included to provide a foundation for explanations of NHDES' regulatory programs. Audiences include: professional organizations, planners, town conservation commissions, municipal public works agencies, and the general public. NHDES measures program effectiveness with participant evaluation forms

⁸⁷ Robinson, *supra* note 22.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ Personal Communication with Rachel Stevens, N.H. Dep't of Fish and Game (July 9, 2007).

⁹¹ Diers, *supra* note 85.

⁹² New Hampshire Department of Environmental Services, *Corporate Wetlands Restoration Partnership Fact Sheet*, at http://www.vhb.com/bellamy/CWRP_Fact_Sheet.pdf (last visited Sept. 21, 2007).

⁹³ Diers, *supra* note 85.

and targets audiences based upon observed needs. The department also offers several fact sheets on permitting and provides a general email address for questions from the public.⁹⁴

The NHDES Drinking Water and Groundwater Bureau conducts educational programs with wetland components, such as those from Environmental Concern, Project WET (Water Education for Teachers), and Ducks Unlimited. The Bureau also uses *WOW! The Wonders of Wetlands*, a wetland curriculum developed by Environmental Concern and Project WET, and Project Webfoot, created by Project WET and Ducks Unlimited.⁹⁵

New Hampshire Fish and Game Department

NHFGD runs an aquatic education program which includes a wetland component. The program focuses on wetland functions and values. Program staff have written a study guide, *The New England Guide to Freshwater Wetlands*, which includes background information on wetlands, a hands-on section that may be used in the field to evaluate wetlands, and additional reading and questions regarding community planning. Aquatic educators use the guide and its accompanying video, *The Wonders of Wetlands*, to train middle school and high school teachers and in a graduate-level watershed ecology course that NHFGD runs in conjunction with the UNH Cooperative Extension.⁹⁶ NHFGD also runs the Wonders of Wildlife Program, through which trained docents visit elementary schools to conduct presentations on wetlands. These docents often use Project WILD activities.⁹⁷ NHFGD also has produced and revised the publication *Identification and Documentation of Vernal Pools in New Hampshire*, which is modeled on the Massachusetts certification program.⁹⁸ Finally, NHFGD works with the UNH Cooperative Extension to create habitat brochures that cover various wetland types, including marsh and shrub wetlands, peatlands, and vernal pools. The brochures, which are targeted at the general public, summarize habitat assessments from the state wildlife action plan into easily digestible descriptions of habitats, species, threats to wetlands, and habitat maintenance.⁹⁹

VII. Coordination with State and Federal Agencies

Coordination among state agencies

NHDES has a memorandum of understanding with NHFGD and NHDRED-Natural Heritage Bureau, under which the agencies share information relating to species that are threatened, endangered, or of special concern. NHDES scans data from wetland permit applications to see if

⁹⁴ Personal Communication with Sandy Crystall, N.H. Dep't of Env'tl. Services (Feb. 5, 2007).

⁹⁵ Personal Communication with Jessica Morton, N.H. Dep't of Env'tl. Services (Mar. 22, 2007).

⁹⁶ The graduate course spends a couple of days on wetlands exclusively, during which instructors teach students how to conduct wetland classification, read inventory maps, and conduct field evaluations of local wetlands. Students in the course include middle school and high school teachers, members of conservation commissions, foresters, and graduate and undergraduate students. Participants receive a significant amount of written materials related to the course. Participants are also asked to give their feedback on the program through a post-training evaluation. Past evaluations show that approximately 80 percent of the materials (which include wetland materials) are being used. Personal Communication with Laura Ryder, N.H. Dep't of Fish and Game (May 29, 2007).

⁹⁷ *Id.*

⁹⁸ This newly updated 70-page book, published by the New Hampshire Fish and Game Department's Nongame and Endangered Wildlife Program, explains vernal pools and their inhabitants. It is a crucial tool in documenting these important wildlife habitats. Crystall, *supra* note 30.

⁹⁹ Marchand, *supra* note 22.

projects that impact these species should be given special attention. As July 2007, NHDES no longer accepts applications unless the applicant has already screened the project for these impacts using the NHFGD's online tool or by hard copy request (see *II. Regulatory Programs*).¹⁰⁰

NHDES collaborates with NHFGD, NHDRED-Natural Heritage Bureau, and the New Hampshire Office of Energy and Planning to administer the state's ILF program.¹⁰¹

NHDES also collaborates with two other bureaus at NHDRED—the Trails Bureau (in the Division of Parks and Recreation) and the Forest Protection Bureau (in the Division of Forests and Lands)—to address permitting and enforcement issues and needs for the forestry and trails communities. Coordinated efforts have contributed to the development of several streamlined permitting processes with related Best Management Practices Manuals. A special Trails Notification may be used to create or maintain trails that cross wetlands or surface waters.¹⁰² Best management practices for timber harvest and forest management have been established to ensure the protection of water quality. Under a cooperative arrangement, forest rangers in the Forest Protection Bureau may cite loggers who are in violation of wetlands laws.¹⁰³

NHDES' Coastal Program coordinates with the agency's Wetlands Bureau, Wastewater Engineering Bureau, NHFGD, NHDRED, and the Pease Development Authority - Division of Ports and Harbors to administer the federal consistency provision of the Coastal Zone Management Act.¹⁰⁴

Finally, NHDES is examining the treatment of vernal pools in the regulatory process and is leading a committee to explore if and how vernal pools should be addressed specifically by department rules.¹⁰⁵ The committee includes NHFGD, Corps, EPA, various consultants, nongovernmental organizations, and the New Hampshire Wetlands Council.¹⁰⁶

Coordination with federal agencies

NHDES participates in regular monthly meetings with federal resource agencies (e.g., Corps, NOAA's National Marine Fisheries Service, U.S. Fish and Wildlife Service, and EPA) to: discuss regulatory issues such as stream crossings and habitat protection; access shared data; and review newly received permit applications based upon areas of interest, such as Essential Fish Habitat.¹⁰⁷

¹⁰⁰ Tilton, *supra* note 33.

¹⁰¹ Sommer, *supra* note 33.

¹⁰² NEW HAMPSHIRE TRAILS BUREAU, *BEST MANAGEMENT PRACTICES MANUAL*, at <http://www.nhtrails.org/Trailspages/BMP.html> (last visited Sept. 21, 2007).

¹⁰³ New Hampshire Division of Forests and Lands, *Forest Law Enforcement*, at <http://www.dred.state.nh.us/divisions/forestandlands/bureaus/forestprotection/law.htm> (last visited Sept. 21, 2007).

¹⁰⁴ Personal Communication with Ted Diers, N.H. Dep't of Env'tl. Services (June 6, 2007).

¹⁰⁵ Vernal pools currently are protected as surface waters or wetlands.

¹⁰⁶ Marchand, *supra* note 22.

¹⁰⁷ Tilton, *supra* note 33; Personal Communication with Sandy Crystall, N.H. Dep't of Env'tl. Services (Feb. 5, 2007).

NHDES also participates in quarterly meetings of the New England Interstate Water Pollution Control Commission, composed of EPA, Corps, and the New England state governments. States use these meetings to update each other on programs related to pollution control, discuss upcoming issues (such as federal funding and new initiatives), and identify opportunities for states to collaborate.¹⁰⁸

NHDES' Coastal Program chairs the New Hampshire Dredge Management Task Force (DMTF), an interagency work group that meets quarterly to review existing and proposed dredging and dredged material management projects and to develop policies and guidelines for dredging activities in New Hampshire's coastal waters. The DMTF provides technical and regulatory expertise to ensure that dredging projects are conducted in a manner consistent with state and federal rules. Regular participants in the DMTF include the Coastal Program, NHDES' Wetlands Bureau and Waste Management Division, NHFGD, Pease Development Authority - Division of Ports and Harbors, Corps, EPA, National Marine Fisheries Service, UNH, and New Hampshire congressional delegation staff.¹⁰⁹

VIII. Acronyms and Abbreviations

Corps – U.S. Army Corps of Engineers

DMTF – Dredge Management Task Force

EPA – U.S. Environmental Protection Agency

FTE – Full-time Equivalent

ILF – In-Lieu Fee

NHDES – New Hampshire Department of Environmental Services

NHDRED – New Hampshire Department of Resources and Economic Development

NHFGD – New Hampshire Fish and Game Department

NOAA – National Oceanic and Atmospheric Administration

NPDES – National Pollution Discharge Elimination System

NRCS – USDA Natural Resources Conservation Service

SPGP – Statewide Programmatic General Permit

TNC – The Nature Conservancy

UNH – University of New Hampshire

USDA – United States Department of Agriculture

(Project) WET – Water Education for Teachers

WHIP – Wildlife Habitat Incentives Program

¹⁰⁸ Tilton, *supra* note 33.

¹⁰⁹ Personal Communication with Ted Diers, N.H. Dep't of Env'tl. Services (June 6, 2007).