

Vermont Regulations Pertaining to Surface Water Management

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Water Quality Planning

Water Quality Planning – A Brief History and Overview of Federal Requirements

During the early 1900's water management efforts focused closely on efficiency for irrigation, drinking water, navigation and similar purposes. The Rivers and Harbors Act of 1899, considered the oldest piece of environmental legislation in this country, served the sole purpose of preventing pollution from interfering with the navigable waters of the United States¹. Legislation throughout the 1950's and 60's became increasingly focused on improvement of ambient water quality, and the Water Quality Act of 1965 introduced the first organized efforts to classify and inventory river basins, and develop basin plans for management. While this effort largely targeted interstate rivers, it was an important first step in states taking over individualized management strategies at the watershed level.

In 1972, the Federal Water Pollution Control Act Amendments established what we know today as the Clean Water Act (CWA or "the Act"). As the foundation of modern surface water quality protection in the United States, the CWA established a national goal "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters²." The Act divided water pollution in the United States into two basic categories: point sources³ and nonpoint sources. Point sources have traditionally been considered to be "end of pipe" discharges such as wastewater treatment plant and industrial discharges, whereas nonpoint sources are typically considered to be more diffuse, precipitation-driven discharges such as stormwater runoff from urban, agricultural and silvicultural sources.

Upon passage of the CWA, large point sources became the first major target of regulatory agencies. Section 303(e) of the Act required states to prepare basin plans to address point source issues⁴. These plans helped to inventory dischargers, as well as water quality throughout the country. Point source dischargers were also now subject to a requirement to obtain a permit under the National Pollutant Discharge Elimination System (NPDES). Under NPDES, dischargers are required to obtain permits for treatment of their discharges based on technology-based effluent limitations, and in cases where stricter limits are necessary, based on water quality based effluent limitations.

River Basin Water Quality Management Plans (CWA §§303(e) and 208 and PL 92-500)

Amendments to the CWA brought about a number of fundamental changes in pollution policy in the United States, several of which were dependent heavily on watershed management. Section

¹ Ferrey, Steven. ENVIRONMENTAL LAW: EXAMPLES AND EXPLANATIONS, Fourth Edition. Page 244.

² 33 U.S.C. §1251(a)

³ "Point source" is defined in 33 U.S.C. §1362(14) as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture."

⁴ United States Environmental Protection Agency. WATERSHED PROTECTION: A STATEWIDE APPROACH. 1995. Page 10.

303(e) of the Act required each state to prepare plans to achieve water quality standards for each watershed in the state, taking into account nonpoint sources of pollution from urban, agricultural, silvicultural, and mining activities as well as point sources of municipal and industrial pollution. Inclusion of nonpoint sources, widely distributed over the landscape and transported by stormwater runoff, increased the importance of watershed processes in pollution control strategies. Section 208 of the Act established area wide planning to embrace all municipal, industrial, and nonpoint sources of pollution in watersheds, particularly in metropolitan areas and other regions where point source controls alone were insufficient to satisfy water quality standards. Slow progress toward control of nonpoint sources led to inclusion of Section 319 in reauthorization of the Clean Water Act in 1987. That program established grants to states for reducing nonpoint source pollution on a watershed basis.

Comprehensive area-wide water quality management planning in Vermont was initiated with the promulgation of federal Public Law (PL) 92-500. These amendments to the Clean Water Act required that studies recommending specific solutions to water pollution problems be conducted before Federal monies are allocated for construction and management programs toward the improvement of water quality. These studies, known as the “303(e),” the “208 Areawide Plans”, and the “201 Plans,” consider federal, state and local objectives in the development of a comprehensive water quality management plan. The overall objective is to provide a planning, construction, and management process which will “restore and maintain” the quality of the nation’s waters.

Section 303(e) authorized the initial development of river basin plans that serve as a framework for subsequent plans that focus on more specific actions for known problems (e.g. the 208 Areawide Plans). The 208 Plan, as defined in Section 208 of PL 92-500, is required to propose implementable solutions to area-wide water quality and pollution problems, both from point and non-point sources.

Water Quality Management (WQM) Plans

The idea of managing water resources within watersheds is not a modern concept. According to EPA, the idea dates back as far as the late 19th century to the U.S. Inland Waterways Commission⁵. In 1908 the Commission, supported by President Roosevelt, reported to Congress that each river system from its headwaters to the coast is an integrated system, and must be managed accordingly⁶. There has been a considerable amount of legislation and regulation guiding watershed management since the Commission’s 1908 report.

The Water Quality Management (WQM) process described in the Clean Water Act provides the authority for a consistent national approach for maintaining, improving and protecting water quality while allowing States to implement the most effective individual programs. 40 C.F.R. §130.6 provides, in part:

(a) *Water quality management (WQM) plans.* WQM plans consist of initial plans produced in accordance with sections 208 and 303(e) of the Act and certified and approved updates to those plans. Continuing water quality planning shall be based upon WQM plans and water quality problems identified in the latest 305(b) reports. State water

⁵ United States Environmental Protection Agency. WATERSHED PROTECTION: A STATEWIDE APPROACH. 1995. Page 10.

⁶ *Id.*

quality planning should focus annually on priority issues and geographic areas and on the development of water quality controls leading to implementation measures. Water quality planning directed at the removal of conditions placed on previously certified and approved WQM plans should focus on removal of conditions which will lead to control decisions.

(b) *Use of WQM plans.* WQM plans are used to direct implementation. WQM plans draw upon the water quality assessments to identify priority point and nonpoint water quality problems, consider alternative solutions and recommend control measures, including the financial and institutional measures necessary for implementing recommended solutions. State annual work programs shall be based upon the priority issues identified in the State WQM plan.

(c) *WQM plan elements.* Sections 205(j), 208 and 303 of the Act specify water quality planning requirements . . .

40 C.F.R. §130.6 contains a list of plan elements (e.g. TMDLs, controls for nonpoint pollution, etc.) that shall be included in the WQM plan or referenced as part of the WQM plan if contained in separate documents when they are needed to address water quality problems. In March 2008, the EPA issued the Handbook for “Developing Watershed Plans to Restore and Protect Our Waters.” The handbook provides a comprehensive overview of how to develop and implement watershed plans at the state level. The handbook further explains the importance of management at the watershed level, and offers a framework for what EPA deems the most effective means of addressing water quality issues within these plans.

Nonpoint Source Pollution (CWA §§130 and 319)

Nonpoint sources were not comprehensively addressed in the CWA until it was amended in 1987. Now considered to be the most significant source of water pollution in the United States, nonpoint source pollution come from a variety of places. Some of the more common nonpoint sources of water pollution include agricultural and forestry runoff, storm water runoff, and atmospheric deposition of contaminants.

The basic planning and management aspects of the CWA were finalized in 1985. This CWA revision added §130, part of which called for the states to create and implement water quality management (WQM) plans. While other parts of the CWA required basin reports and water quality inventories, the purpose of §130 was to provide a more comprehensive planning strategy for states. In addition, the 1987 amendments added §319, under which states were required to identify navigable waters that would not meet water quality standards without control of nonpoint pollution⁷. Moreover, the states were required to identify the nonpoint sources, describe how they contribute to nonattainment of water quality standards, and design control programs to address the nonpoint sources contributing to nonattainment⁸.

Water Quality Planning – A Brief Overview of State Law Requirements

Section 303(e) of the federal Clean Water Act (Public Law 92-500) sets out the basic requirements for state water quality planning.. The Agency of Natural Resources, the Vermont Water Resources Panel, and the Agency of Agriculture, Food and Markets (which share the

⁷ 33 U.S.C. §1329(a)(1)(A)

⁸ 33 U.S.C. §1329(a)(1)(B), (D)

administration of the federal Clean Water Act in Vermont) are empowered to carry out water quality planning and protection. The current federal rules implementing the 303(e) requirements are in 40 CFR 130. At the state law level, basin and watershed planning requirements are included in:

6 V.S.A. §4810 (which requires the Secretary of Agriculture, Food and Markets and the Secretary of Natural Resources to develop a memorandum of understanding describing how they will coordinate watershed planning activities to comply with Public Law 92-500 consistent with the Secretary's duties, established under the provisions of section 1258(b) of Title 10, to comply with Public Law 92-500);

6 V.S.A. §4813 (pertaining to the responsibility of the Secretary of Agriculture, Food and Markets to cooperate in preparing basin plans);

10 V.S.A. §1251 (which defines the term “basin plan”);

10 V.S.A. §1253(d) (which requires the Secretary to prepare basin plans and provide progress reports);

10 V.S.A. §1258(b) (which requires the Secretary to adopt a continuing planning process approvable under section 303(e) of Public Law 92-500).

Basin and watershed planning are also addressed in the Vermont Water Quality Standards in Section 1-01 B (8) (which defines the term basin plan with reference to the basin planning process required by the Federal Clean Water Act and 40 CFR Part 130) and in Section 1-02 (D) which sets out detailed guidance on the preparation of basin plans. Reference to basin planning requirements are also found in Section D 1 (e) of Chapter 13.12 of the Department's rules governing general permits for direct discharges and in Section 13.4 b. 1. (d) (iii) of the Department's wastewater permitting rules (which requires discharge permits to comply with waste load allocations included in plans prepared under 303(e) of the Clean Water Act.

Water Quality Monitoring and Reporting – CWA § 305(b) Report and §303(d) List

The Clean Water Act requires that every state develop and submit to EPA two surface water quality-related documents. The documents, to be prepared every two years, arise out of two sections of the Act. Section 305b of the Act requires submittal of a report that describes the quality of the State's surface waters and that contains an analysis of the extent to which its waters provide for the protection and propagation of a balanced population of fish, shellfish and wildlife. This analysis is also referred to as the extent to which Vermont's waters achieve the Act's “fishable and swimmable” goals. The biennial Vermont Water Quality Assessment Report is commonly known as the “305b Report.”

The second document, developed in response to Section 303(d) of the Act, is a listing of surface waters that:

- 1) are impaired or threatened by one or more pollutants; and,
- 2) are not expected to meet Water Quality Standards within a reasonable time even after the application of best available technology standards for point sources of pollution or best management practices for nonpoint sources of pollution; and,
- 3) require development and implementation of a pollutant loading and reduction plan, called a Total Maximum Daily Load (TMDL), which is designed to achieve Water Quality Standards.

The collection, analysis and evaluation of water quality monitoring data and other information represent the assessment of a water's condition. The assessment of a water is most accurate when judgments about the water's condition are made using chemical, physical and/or biological data of known reliability collected through monitoring. While not as reliable as data collected through monitoring, an assessment of a water's condition can also take into account opinions, observations or other qualitative information.

The Vermont Water Quality Standards, revised and promulgated by the Vermont Water Resources Panel, are used by the Vermont Department of Environmental Conservation (Department) in determining the condition of surface waters, including whether the water meets (attains) or does not meet (exceeds or violates) certain criteria. The assessment of a water's condition within the context of the Water Quality Standards requires consideration of the water's classification and management type, a variety of designated or existing uses, and a series of criteria which can be numerical or narrative. The outcome of the Department's assessment is a categorization of Vermont's surface waters as either "full support," "stressed," "altered," or "impaired." Over time, the Department is gradually reducing the number of waters characterized as "unassessed."

VT Water Quality Standards (2008)

The Vermont Water Quality Standards (VWQS) serve as the foundation for protecting Vermont's surface waters. The VWQS are regulations that classify each waterbody, establish uses (e.g. swimming and fishing) that must be protected, and set minimum chemical, physical and biological criteria that must be met in all of Vermont's waters. The VWQS are promulgated by the Vermont Water Resources Panel and are used by the Department in its planning, management and regulatory programs to protect Vermont's surface waters.

The general water quality policy for Vermont is set forth in §1-02 of the VWQS.

General Policy

These rules are intended to achieve the goals of the Vermont Water Quality Policy set forth below, as well as the objective of the federal Clean Water Act (33 U.S.C. ' 1251 et seq.) which is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

Water Quality Policy (See 10 V.S.A. §1250)

It is the policy of the State of Vermont to:

1. Protect and enhance the quality, character and usefulness of its surface waters and to assure the public health;
2. Maintain the purity of drinking water;
3. Control the discharge of wastes to waters, prevent degradation of high quality waters and prevent, abate or control all activities harmful to water quality;

4. Assure the maintenance of water quality necessary to sustain existing aquatic communities;
5. Provide clear, consistent and enforceable standards for the permitting and management of discharges;
6. Protect from risk and preserve in their natural state certain high quality waters including fragile high-altitude waters, and the ecosystems they sustain;
7. Manage waters to promote a healthy and prosperous agricultural community, to increase the opportunities for use of the state's forest, parks and recreational facilities, and to allow beneficial and environmentally sound development.

It is further the policy of the state to seek over the long term to upgrade the quality of waters and to reduce existing risks to water quality.”

Basin Planning

Basin plans and the basin planning process are required by Vermont Statute 10 V.S.A. §1253(d), VWQS §1-02D and the 40 CFR Part 130, §130.6. The Department has prepared a document entitled "Vermont Watershed Initiative - Guidelines for Watershed Planning" (2007) to assist the public in understanding the requirements of the planning process.

In sum, VWQS §1-02.D. requires that basin plans:

- Inventory the existing and potential causes and sources of pollution that may impair waters
- establish a strategy to improve or restore waters and to ensure full support of uses
- Identify strategies, where necessary, by which to allocate levels of pollution between various sources as well as between individual discharges
- To the extent appropriate, contain specific recommendations by the Secretary that include but are not limited to:
 - the identification of all known existing uses, salmonid spawning or nursery areas important to the establishment or maintenance of such fisheries
 - reference conditions appropriate for specific waters
 - any recommended changes in classification and designation of waters
 - schedules and funding for remediation, stormwater management, riparian zone management, and other measures or strategies pertaining to the enhancement and maintenance of the quality of waters within a basin.
- In basins that include Class B waters which have not been allocated into one or more Water Management Types pursuant to VWQS §3-06., the basin plan shall propose the appropriate Water Management Type or Types based on both the existing water quality and reasonably attainable and desired water quality management goals.

In general, basin planning involves two components, planning and implementation. The initial phase of basin planning involves a grass roots approach: holding public forums to identify issues and concerns; forming a Watershed Council and facilitating Council meetings; ranking issues in order of priority; holding panel discussions on watershed topics of interest; formulating strategies to address the issues with the public and the council; developing surface water management goals; and with the public, collaboratively writing the watershed plan. The second phase involves on-the-ground watershed assessment, protection, and restoration projects to improve water

quality. In addition to traditional biological, chemical and physical water quality monitoring efforts, examples of other assessment-type projects include Phase I and II stream geomorphic assessments that identify physical conditions and health in rivers and streams; bridge and culvert inventories that review the adequacy of these structures for road and stream protection and fish passage; and dam inventories. Protection and restoration projects can include: riparian buffer re-establishment, stream channel restoration and habitat improvement; trash/debris removal; selective dam removal; stormwater and agricultural best management practice implementation; securing easements; educating landowners; and working with municipalities on local protection strategies.

Upon submittal of a basin plan adopted by the Secretary, the Water Resources Panel shall promptly initiate rulemaking and shall give due consideration to the recommendations contained in the basin plan.

Vermont's Watershed Management Division – Management and Regulatory Programs for the Protection of Water Quality

The primary mission of the Watershed Management Division is to protect, maintain and enhance the overall quality of Vermont's surface-water resources. Inherent in this goal is the support of both healthy ecosystems as well as appropriate public uses in the 808 significant lakes and ponds, 7,100 miles of rivers and streams and 300,000 acres of wetlands that exist within the State of Vermont. The Division's regulatory authorities are listed in the following.

Specifically, the Watershed Management Division:

- * Conducts chemical, physical and biological environmental monitoring and publishes assessments of streams, rivers, lakes and wetlands.
- * Provides guidance to citizen monitoring programs designed to evaluate the quality of the State's water resources and potential threats to that quality.
- * Assures that permitted effluent discharges, and stream flows below dams, water withdrawals and hydropower reservoirs meet water quality standards.
- * Issues grants and provides technical assistance to support local nonpoint source pollution management activities in lake and river watersheds.
- * Devises plans designed to both protect high quality waters and to bring impaired waters back into compliance with water quality standards.
- * Implements regulatory permitting programs for wetlands, floodplains, stormwater runoff, erosion control, aquatic nuisance control, lakeshore encroachments, stream alterations, and the Vermont Water Quality Standards.
- * Administers an aquatic nuisance management program, a river corridor management program, and flood hazard mitigation program, and sponsors Water Education for Teachers (Project WET).
- * Prepares watershed plans for 17 major planning basins through a public-private collaboration that identifies water quality problems and develops and implements corrective strategies.

Aquatic Nuisance Species Control

The Watershed Management Division manages the Vermont Aquatic Nuisance Control Program. The goal of the Program is "to prevent or reduce the environmental and socio-economic impacts of nuisance (primarily non-native) aquatic plant and animal species." Many species are included in the Program; however, the priority species at this time are listed below.

Aquatic Nuisance Control Permit.

Pursuant to 10 V.S.A. Chapter 50, an [Aquatic Nuisance Control Permit](#) is required to control nuisance aquatic plants, insects or other aquatic life (including lamprey) in Vermont waters. Some types of nuisance control activities are exempt. The use of chemical herbicides, bottom barrier materials or powered mechanical devices may also require a wetland permit. As required by 10 V.S.A., Chapter 47, Section 1263a(i), the Secretary of the Agency of Natural Resources has adopted the revised [Public Review and Comment Procedures for Aquatic Nuisance Permit Applications and General Permits](#) (pdf, 129 KB), effective January 30, 2003.

Transport of aquatic plants and aquatic nuisance species (10 V.S.A. §1454)

(a) No person shall transport an aquatic plant or aquatic plant part, zebra mussels (*Dreissena polymorpha*), quagga mussels (*Dreissena bugensis*), or other aquatic nuisance species identified by the secretary by rule to or from any Vermont waters on the outside of a vehicle, boat, personal watercraft, trailer, or other equipment. This section shall not restrict proper harvesting or other control activities undertaken for the purpose of eliminating or controlling the growth or propagation of aquatic plants, zebra mussels, quagga mussels, or other aquatic nuisance species.

(b) The secretary may grant exceptions to persons to allow the transport of aquatic plants, zebra mussels, quagga mussels, or other aquatic nuisance species for scientific or educational purposes. When granting exceptions, the secretary shall take into consideration both the value of the scientific or educational purpose and the risk to Vermont surface waters posed by the transport and ultimate use of the specimens. A letter from the secretary authorizing the transport must accompany the specimens during transport.

PENALTIES

(Vermont Statutes Annotated Title 23, Chapter 29, § 3317)

(b) A person who violates section 1266 of Title 10, a rule promulgated under section 1424 of Title 10 or any of the following sections of this title shall be subject to a penalty of not more than \$1,000.00 for each violation:

Emergency Response General Permit.

As of July 1, the Secretary of the Agency of Natural Resources has new emergency permitting authority aimed at initiating a rapid response to a new invasive species invasion. An emergency rapid response general permit for both chemical and non-chemical methods with coverage available to the commissioners of the Vermont Department of Environmental Conservation and the Vermont Department of Fish & Wildlife has been developed. A public information meeting was held in Summer 2010 and the Agency expects to finalize the general permit and a notice of intent by the end of the year.

Multi-River, Multi-Treatment Aquatic Nuisance Control Permit.

A new Aquatic Nuisance Control permit format was developed to address pesticide projects proposing multiple year treatments, multiple control methods and/or the treatment of more than one water body. Instead of individual permits, one permit decision could now cover multiple treatments, controls and water bodies.

Legislative ban of felt-soled wading boots.

In May 2010, the Vermont legislature enacted, and the Governor signed into law, a ban on the use of felt-soled wading boots in Vermont waters, effective April 1, 2011. The full text of the ban is available at <http://www.leg.state.vt.us/docs/2010/Acts/ACT130.pdf>

Other Authorities to Control Aquatic Nuisance Species

There are a number of other entities that have authority to regulate aquatic nuisance species in Vermont. For example:

NOXIOUS WEED QUARANTINE #3

(Vermont Department of Agriculture, Food & Markets)

Click [here](#) (pdf, 106 KB) for more information.

MINNOW NETS, TRAPS, TRANSPORTING and USE

(Vermont Statutes Annotated Title 10, Chapter 2, § 106)

A person may take, transport, buy, sell, and use as bait, only the following species of fish: Blacknose dace, Bluntnose minnow, Common shiner, Creek chub, Eastern silvery minnow, Emerald shiner, Fallfish, Fathead minnow, Golden shiner, Longnose dace, Longnose sucker, Mimic shiner, Northern redbelly dace, Rainbow Smelt, Spottail shiner, and White sucker.

PEST SURVEY, DETECTION and MANAGEMENT

(Vermont Statutes Annotated Title 6, Chapter 84, § 1030-1040)

The Vermont Department of Agriculture, through the Commissioner, has regulatory authority over plant pests pursuant to Title 6, Chapter 84, Pest Survey, Detection & Management. Within this statute the commissioner may conduct surveys, establish quarantines and eradicate plant pests.

A plant pest is defined as any living stage of: insects, mites, nematodes, slugs, snails, protozoa or any other invertebrate animals; bacteria, fungi, mycoplasma or other parasitic plants, weeds or reproductive parts thereof; viruses or any organisms similar to or allied with any of the foregoing; and any genetically modified organisms or biological control agents that may directly or indirectly injure or cause disease or damage to any beneficial organisms, plants, parts of plants, or plant products.

CONTROL of FISH, GAME; POWERS of COMMISSIONER

(Vermont Statutes Annotated Title 10, Chapter 103, § 4138)

The Vermont Department of Fish and Wildlife, through the Commissioner, "may take necessary actions to control, in public waters, aquatic vegetation, insects or aquatic life, for the purpose of improving such waters as a habitat." The Department of Fish and Wildlife has the authority to control aquatic invertebrate species if "improving habitat" is interpreted broadly.

PLACING FISH in WATERS

(Vermont Statutes Annotated Title 10, Chapter 111, § 4605)

The Vermont Department of Fish and Wildlife, through the Commissioner, has the authority to regulate the introduction of all live fish or the live spawn thereof, into any of

the inland or outlying waters of the state. The Department also may dispose of unlawfully imported fish as it may judge best, and the state may collect damages from the violator for all expenses incurred. In this regard, no person is to bring into the state to introduce into any of the public waters any live fish or eggs unless a permit is first obtained from the Department of Fish and Wildlife.

IMPORTATION, STOCKING WILD ANIMAL (Vermont Statutes Annotated Title 10, Chapter 113, § 4709)

The Vermont Department of Fish and Wildlife, through the Commissioner, has the authority to regulate the introduction of any live wild bird or animal of any kind. The Department may dispose of unlawfully imported wildlife as it may judge best, and the state may collect damages from the violator for all expenses incurred.

WEEVIL REARING

There are three laws that regulate weevil importation and introduction in Vermont. Click [here](#) for more information

Management of Encroachments in Vermont Lakes

Construction in or near Lakes and Ponds

Any project that encroaches beyond the normal summer water level of a lake or pond that is a public body of water may require a [Shoreland Encroachment Permit](#). Encroachments include such projects as retaining walls or riprap to control shoreline erosion, commercial docks, large docks or docks involving concrete, dredging or filling, and repairs or replacements of existing encroachments. Some small projects may not require a permit, but it is best to check with the Watershed Management Division to be sure.

A permit from the [U.S. Army Corps of Engineers](#) may be required for projects or activities which encroach beyond the ordinary high water mark of Lake Champlain or Lake Memphremagog, including seasonal docks, moorings, jetties, beach replenishment or grading, shoreline stabilization, and water intakes. A Corps permit also may be required for projects on other lakes and ponds in the state, if the project involves the discharge of dredged or fill material or mechanized clearing beyond the ordinary high water mark. Projects that require a Corps of Engineers permit for the discharge of dredged or fill material or mechanized landclearing also require a Section 401 [Water Quality Certification](#) from the Watershed Management Division before the Corps permit is issued.

Finally, some projects in lakes or ponds or within the buffer zone along the shoreline may require an [Act 250](#) Permit.

Docks.

Certain docks and other encroachments in Vermont Lakes must obtain a permit as provided in 29 V.S.A. §403.

§ 403. Encroachment prohibited

(a)(1) Except as provided in subsection (b) of this section, no person shall encroach on any of those waters and lands of lakes and ponds under the jurisdiction of the board without first obtaining a permit under this chapter.

(2) Except as provided in subsection (b) of this section, no person shall encroach on the following waters with a dock or pier without first obtaining a permit under this chapter:

(A) boatable tributaries of Lake Champlain and Lake Memphremagog upstream to the first barrier to navigation; and

(B) Connecticut River impoundments and boatable tributaries of such impoundments upstream to the first barrier to navigation.

(3) No permit shall be granted if the encroachment adversely affects the public good.

(b) A permit shall not be required for the following uses provided that navigation or boating is not unreasonably impeded:

(1) Wooden or metal docks for noncommercial use mounted on piles or floats provided that:

(A) the combined horizontal distance of the proposed encroachment and any existing encroachments located within 100 feet thereof which are owned or controlled by the applicant do not exceed 50 feet and their aggregate surface areas do not exceed 500 square feet; and

(B) concrete, masonry, earth or rock fill, sheet piling, bulkheading, cribwork, or similar construction does not form a part of the encroachment;

(2) A water intake pipe not exceeding two inches inside diameter;

(3) Temporary extensions of existing structures added for a period not to exceed six months, if required by low water;

(4) Ordinary repairs and maintenance to existing commercial and noncommercial structures;

(5) Duck blinds, floats, rafts, and buoys.

(c) Existing encroachments shall not be enlarged, extended, or added to without first obtaining a permit under this chapter, except as provided in subsection (b) of this section.

(d) This chapter shall not apply to encroachments subject to the provisions of chapter 43 of Title 10, concerning dams, or regulations adopted under the provisions of 10 V.S.A. § 1424 concerning public waters.

(e) This section shall not apply to the installation on lake bottoms of small filtering devices not exceeding nine square feet of disturbed area on the end of water intake pipes less than two inches in diameter for the purpose of zebra mussel control. (Added 1967, No. 308 (Adj. Sess.), § 3, eff. March 22, 1968; amended 1975, No. 162 (Adj. Sess.), § 3, eff. March 15, 1976; 1981, No. 222 (Adj. Sess.) § 41; 1993, No. 233 (Adj. Sess.), § 52, eff. June 21, 1994; 2009, No. 117 (Adj. Sess.), § 2.)

Drawdowns and Desilting Operations

Drawdowns of lakes or impoundments and sediment-removal operations can result in downstream discharges of sediment. The projects often do not require permits from any of the programs described above. The Agency of Natural Resources, however, has the authority to issue what is known as a [Section 1272 Order](#) (named for the statutory authority in [10 V.S.A. § 1272](#)) for activities that may result in a discharge that is not otherwise regulated or may potentially violate the Vermont Water Quality Standards or [Vermont Wetland Rules](#).

Management of Wetlands

The Vermont Wetlands Section is responsible for identifying and protecting wetlands and the functions and values they provide. Activities to achieve these goals include education, project review, and enforcement. The Vermont Wetlands Section is responsible for the administration, implementation and informal interpretation of the Vermont Wetland Rules; for providing advisory recommendations on Act 250 projects with potential wetland impacts to the District Environmental Commissions; and for the review of wetland projects which fall under federal jurisdiction (Section 404 of the Clean Water Act) to ensure that State water quality standards are met.

New Wetland Rules and Wetland Permits.

Amended [Vermont Wetland Rules](#) were filed by the [Water Resources Panel](#) of the Vermont Natural Resources Board with the Secretary of State's office July 16, with an August 1, 2010 effective date. The new wetlands law, Act 31 of 2009, took effect 45 days later, September 15, 2010. The rules identify and protect 10 functions and values of "significant" wetlands and establish a 3-tier wetland classification system to identify such wetlands. The first two classes of wetlands (Class One and Class Two) are identified on the Vermont Significant Wetlands Inventory (VSWI) maps and are protected under the wetland rules. In addition, the buffer zones associated with these wetlands (100-foot buffer zone for Class One wetlands, and 50-foot buffer zone for Class Two wetlands) are also protected under the wetland rules. All uses which are not allowed uses are conditional uses. Conditional uses are only allowed in significant wetlands or in adjacent buffer zones upon receiving a wetlands permit issued by the Wetlands Program in the Watershed Management Division. A permit may only be issued when it is determined that the proposed conditional use will not have undue adverse effects on the functions of a significant wetland.

Other Wetland Regulatory Programs

Class Three wetlands do not appear on the Vermont Significant Wetlands Inventory maps, or have been found by the Watershed Management Division to be insignificant for providing the wetland functions when last evaluated. These wetlands are not protected by the Vermont Wetland Rules and a wetlands permit is not required for projects in Class Three wetlands. Class Three wetlands may, however, be protected by other federal, state or local laws and regulations, including those administered by the [U.S. Army Corps of Engineers](#) and the [Vermont Environmental Board \(Act 250\)](#). Projects that require a federal permit will also require a [Section 401 Water Quality Certification](#).

In 1986, the Vermont Legislature passed an act that allowed for state and local protection of wetlands in Vermont. The law enables Vermont towns and cities to protect wetlands at the local level. This can be accomplished through the Town's municipal plan, zoning and subdivision regulations, shoreland protection bylaws, health ordinances and flood hazard regulations.

Stormwater Management

10 V.S.A. §§1258, 1264 and 1264a

The Watershed Management Division implements a stormwater permitting program consisting of two major components: 1) the issuance of stormwater permits pursuant to state law for the post-construction management of stormwater runoff pursuant to 10 V.S.A. §§1264 and 1264a ; and 2) the issuance of permits pursuant to an EPA-delegated federal "NPDES" program for construction site runoff, stormwater associated with industrial activities and stormwater discharges from municipal stormwater systems pursuant to 10 V.S.A. §§1258 and 1264. The Division may also issue NPDES stormwater permits for other point source stormwater discharges designated by the Secretary pursuant to 40 C.F.R. 122.26(a)(9)(i)(D) and stormwater discharges designated by the Secretary as requiring a NDPEs permit pursuant to 40 C.F.R 122.26(a)(9)(i)(C) to implement a TMDL.

The Division uses a combination of individual and general permits to authorize stormwater discharges. There are currently five distinct Federal and State permits which regulate the runoff of stormwater. A permit could be required for construction of impervious surfaces (roads, buildings, parking lots, etc), for restoration of [impaired waters](#) in a few select watersheds, for stormwater runoff from certain [industrial activities](#), for municipal management of stormwater in certain [large municipalities](#), and for [construction site runoff](#).

The Division has issued two stormwater rules governing the issuance of state stormwater permits for post-construction stormwater runoff from the construction of impervious surfaces.

River Management

Regulations, Permits, and Stream Crossing Approval

Most in-channel management activities and new projects like bridges, culverts or utility crossings require regulatory action by the River Corridor Management Program in the Watershed Management Division. State jurisdictional thresholds and guidance on permit application is provided within the documents below or by contacting the [Stream Alteration Engineer](#) in your area.

Construction in or near Rivers and Streams

Construction in a river or stream on or within the banks may require a [Stream Alteration Permit](#) if 10 or more cubic yards of material will be involved, and if the watershed area is greater than 10 square miles. There is an exemption for small-scale gravel removal by riparian landowners, but the gravel removal must be reported to the Agency prior to excavation and must be for personal use. An [Act 250](#) Permit may be required for projects in rivers and streams or within a buffer zone along the bank. Projects in, under, or over any rivers and streams may require a permit from the [U.S. Army Corps of Engineers](#) and a Section 401 [Water Quality Certification](#) from the Watershed

Management Division. We recommend that anyone contemplating work in or near rivers or streams contact a [stream alteration engineer](#) early in the planning stage.

Gravel Removal and Prospecting

Once a widespread commercial activity in Vermont's rivers, gravel removal is now restricted to maximum annual volumes for landowners use and for the maintenance or restoration of stream channel stability. As a commercial activity, gravel mining has proven to be extremely damaging to natural stable stream functions and has greatly increased flood and erosion damages in VT on stream systems that have experienced extensive mining in the past. Information on how to get assessment of potential stream sedimentation problems, approval for gravel removal projects and the effects of gravel removal on stream stability is provided in the documents below or by contacting the [Stream Alteration Engineer](#) in your area.

Mineral prospecting activities in Vermont streams are regulated under 10 V.S.A. 41, Section 1021(h)(1). Operation of suction dredges is prohibited. Operation of sluice boxes is allowed by permit. Hand panning is unregulated. Hand panning only is allowed on state owned lands. Written permission from property owners is required on private lands.

Streamflow Protection

Water Withdrawals

Water withdrawals in both streams and lakes usually require one or more permits. [Act 250](#), [Stream Alteration](#) (in rivers), or [Shoreland Encroachment](#) (in lakes and reservoirs) permits may be needed, as well as a permit from the [U.S. Army Corps of Engineers](#). As with other projects requiring a federal permit, a Section 401 [Water Quality Certification](#) from the Agency will be required before the permit is issued.

For most types of water withdrawals (except those for snowmaking), the Agency has adopted a [procedure](#) that defines the standards and process used by the Agency during its review of project proposals. The procedure defines how the Agency will determine the minimum streamflow that is necessary to meet [Vermont Water Quality Standards](#).

For snowmaking water withdrawals, the Agency has developed [rules](#) as directed by [10 V.S.A. §§ 1031-1032](#). The rules serve the same purpose as the Agency procedure, but apply specifically to snowmaking projects.

Water withdrawals in both streams and lakes usually require one or more permits. [Act 250](#), [Stream Alteration](#) (in rivers), or [Shoreland Encroachment](#) (in lakes and reservoirs) permits may be needed, as well as a permit from the [U.S. Army Corps of Engineers](#). As with other projects requiring a federal permit, a Section 401 Water Quality Certification from the Agency will be required before the permit is issued.

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For snowmaking water withdrawals, the Agency has developed [rules](#) (40 kb) as directed by [10 V.S.A. §§ 1031-1032](#). The rules serve the same purpose as the Agency procedure, but apply specifically to snowmaking projects.

Dams

Construction, reconstruction, alteration, modification, or removal of dams that can impound more than 500,000 cubic feet of water or other liquid require a [Dam Order](#) from the Department of Environmental Conservation. This program is managed by the Dam Safety Section of the Facilities Engineering Division. If the dam is associated with a hydroelectric project, it is regulated by the [Public Service Board](#) under the same statute ([10 V.S.A. Chapter 43](#)).

Some smaller dams may require a [Stream Alteration Permit](#), if they would otherwise fall under the jurisdiction of that program. In addition, dams may require a Wetland [Conditional Use Determination](#), an [Act 250](#) Permit, a permit from the [U.S. Army Corps of Engineers](#) and Section 401 [Water Quality Certification](#), as well as local permits. Finally, any project that will obstruct the movement of fish requires [authorization](#) from the Commissioner of [Fish and Wildlife](#).

Fluvial Erosion Hazards

Fluvial Erosion Hazards and DEC Floodway Procedures (10 VSA §§751, 752, 753, 6086 and 24 VSA § 4424)

Below is a summary of federal and state legislative actions, procedures, statutes, policies, and programs that form the basis for Watershed Management Division's flood hazard avoidance strategy and its Act 250 floodway determinations with respect to fluvial erosion hazards.

- [Passage of Act 137](#). The 1998 legislative response to the magnitude of flood damages in the 1990s (\$60 million in recovery costs) was the passage of Act 137 whose overarching objective was to promote long-term river stability to provide both protection from flood damage and a healthy riverine function. Sec. 2 10 V.S.A §905b(3).
- [Woodford Packers Decision](#). In 2003, the ANR Secretary, through the ANR General Counsel's Office, successfully appealed the District 8 Environmental Commission's Woodford Packers decision to the State Environmental Board. The Attorney General's office successfully defended the Environmental Board's Ruling before the State Supreme Court. These rulings and case law confirm and support the Agency's authority to determine floodways using both inundation and erosion hazard standards under Criterion 1(D). re Woodford Packers, Inc. (2002-056); 175 Vt. 579; 830 A.2d 100 2003 Vt 60.
- [ANR Floodway Procedure](#). In February 10, 2003, the DEC established the Procedure on ANR Floodway Determinations in Act 250 Proceedings to inform the public with regard to how to address Criterion 1(D) in their development proposals and how the ANR would review them for compliance with the criterion.
- [ANR Floodway Procedure Technical Guidance](#). In October, 7, 2003, the ANR released the Technical Guidance for Determining Floodway Limits, pursuant to Act 250 Criterion 1(D). The Guidance provides the public with technical information regarding how fluvial erosion hazards are assessed and factored into the Act 250 recommendations.

- State Hazard Mitigation Plan. With respect to Disaster Assistance, 44 CFR Chapter 1, Subchapter D, Part 200, Section §201.4, p. 402 and Section § 201.6 p. 405 describe state mitigation plans and local mitigation planning, respectively. These plans must be in place in order for the state or local municipalities to receive funds as part of the FEMA mitigation grant programs (specifically the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation Program (PDM), and the Flood Mitigation Assistance (FMA) grant programs). The purpose of these funds is to reduce the loss of life and property from future natural hazard events. Every three years, the State Hazard Mitigation Committee (SHMC), which is chaired by the Deputy Secretary of Administration, is responsible for developing the State Hazard Mitigation Plan. Upon receipt of FEMA approval, the Secretary of Administration officially adopts the state mitigation plan. The current state plan, updated in 2007, states that there is consensus of the SHMC members that hazard avoidance "...should remain a primary focus of the state's overall mitigation efforts," and describes the state's goal to reduce flooding and fluvial erosion hazards (p 26).
- Vermont Senate Resolution Regarding Pre-Disaster Mitigation Planning. As an example of the value of the State Wide Hazard Mitigation Plan, Senator Bartlett's Senate Concurrent Resolution S.C.R. 58, acknowledges the FEMA \$500,000 PDM grant for disaster prevention. The resolution also makes note of ANR's river corridor protection as a "...nationally recognized and emulated, paradigm for the management of river corridors that focused on both protecting communities and individuals from flood-related losses and on reducing water quality degradation." To date, the ANR and partners have attracted over \$1.02 million from FEMA's PDM grant program for mitigation planning, which includes fluvial geomorphic assessment, river corridor planning, and fluvial erosion hazard mapping.
- State Land Use Planning Statute. Title 24 V.S.A. Chapter 117 section §4424 contains the authority for municipalities to adopt bylaws to address development in hazard areas. One of the purposes of this statute is to "minimize and prevent the loss of life and property, the disruption of commerce, the impairment of the tax base, and the extraordinary public expenditures and demands on public service that result from flooding, landslides, *erosion hazards* [emphasis added], earthquakes, and other natural or human-made hazards. [Note: New Hampshire, experiencing similar erosion-related damage, is in the process of developing a fluvial erosion hazard component to their DES Rivers Program, and has similar statute revisions underway to authorize NH municipal FEH bylaw adoption.]
- Lake Champlain TMDL. 33 U.S.C.A. § 1313 (Federal Water Pollution Control Act FWPCA § 303(d) requires the establishment and U.S. Environmental Protection Agency (EPA) approval of a total maximum daily load (TMDLs) for impaired waters. The EPA had previously approved a TMDL for phosphorus loading into Lake Champlain and the associated implementation plan acknowledges the contribution of phosphorus loading from physically unstable river systems. These documents describe fluvial erosion hazard mapping as an important strategy to identify the magnitude of river corridor necessary to maintain and restore stable riverine processes and the basis for local plans to address stream instability.

Watershed Management Division

- The Vermont League of Cities and Towns. The Vermont League has become an important partner in educating municipalities throughout the state about pro-active steps that towns can take to reduce flood and fluvial erosion hazards and improve water quality.

- Vermont Acceptable Agricultural Practices. In April, 2006, the Vermont Agency of Agriculture Food and Markets revised the Acceptable Agricultural Practices (AAPs) to include, among other changes, a provision under Section 4.07 to deter farm structures from being constructed within a fluvial erosion hazard area as designated by a local ordinance.

River Corridors and Buffers - Vermont Act 110. (2010)

The following is a summary of the river corridor and riparian buffer-related changes in Vermont law (10 V.S.A. Chapter 49 and 24 V.S.A. Chapter 117) as a result of the passage of Act 110 in May of 2010. In several parts of this summary, entire lists and their introductory paragraphs from pre-existing State Statute are presented for the sake of context and clarity, using underlining to indicate the new language enacted as part of Act 110. Unless otherwise noted, the following Vermont law takes effect on July 1, 2010:

It is in the public interest to encourage and promote protected river corridors and buffers adjacent to rivers and streams of the state, where:

“River corridor” means the land area adjacent to a river that is required to accommodate the dimensions, slope, planform, and buffer of the naturally stable channel, and necessary to maintain or restore fluvial equilibrium conditions and minimize fluvial erosion hazards, as delineated by the agency of natural resources in accordance with river corridor protection procedures.

“Buffer” means an undisturbed area consisting of trees, shrubs, ground cover plants, duff layer, and generally uneven ground surface that extends a specified distance horizontally across the surface of the land from the mean water level of an adjacent lake or from the top of the bank of an adjacent river or stream, as determined by the secretary of natural resources.

It is in the public interest to establish policies, plans, and rules that encourage and promote protected river corridors and buffers for the following purposes:

- further the maintenance of safe and healthful conditions;
- prevent and control water pollution;
- protect spawning grounds, fish, and aquatic life;
- control building sites, placement of structures, and land uses;
- reduce property loss and damage;
- preserve shore cover, natural beauty, and natural stability; and
- provide for multiple uses of the waters in a manner to provide for the best interests of the citizens of the state.

A River Corridor Management Program will be established by the ANR Secretary to aid and support the municipal adoption of river corridor and buffer bylaws.

No later than February 1, 2011, state financial incentives shall be offered to municipalities through existing grants and pass-through funding programs which encourage municipal adoption and implementation of zoning bylaws that protect river corridors and buffers. The Agency of Natural Resources will define the minimum standards for a municipality to be eligible for financial incentives.

Under the River Corridor Management Program, beginning February 1, 2011, the secretary shall:

- (1) upon request, provide municipalities with maps of designated river corridors within the municipality. A river corridor map provided to a municipality shall delineate a recommended buffer that is based on site-specific conditions. The secretary shall provide maps under this subdivision based on a priority schedule established by the secretary in procedure; and
- (2) develop recommended best management practices for the management of river corridors and buffers.

Municipal Zoning

Municipal zoning bylaws may permit, prohibit, restrict, regulate, and determine land development, including the following:

- (1) Specific uses of land and shoreland facilities;
- (2) Dimensions, location, erection, construction, repair, maintenance, alteration, razing, removal, and use of structures;
- (3) Areas and dimensions of land to be occupied by uses and structures, as well as areas, courts, yards, and other open spaces and distances to be left unoccupied by uses and structures;
- (4) Timing or sequence of growth, density of population, and intensity of use;
- (5) Uses within a river corridor and buffer, as those terms are (now) defined in 10 V.S.A. §§ 1422 and 1427. 3

Provisions of zoning bylaws must be uniform for each class of use or structure within each zoning district, except that additional classifications may be made within any district to regulate, restrict, or prohibit uses or structures at or near any of the following:

- (A) Major thoroughfares, their intersections and interchanges, and transportation arteries.
- (B) Natural or artificial bodies of water.
- (C) Places of relatively steep slope or grade.
- (D) Public buildings and public grounds.
- (E) Aircraft and helicopter facilities.
- (F) Places having unique patriotic, ecological, historical, archaeological, or community interest or value, or located within scenic or design control districts.
- (G) Flood, fluvial erosion, or other hazard areas and other places having a special character or use affecting or affected by their surroundings.
- (H) River corridors and buffers, as those terms are defined in 10 V.S.A. §§ 1422 and 1427.

A municipality may define different and separate zoning districts, and identify within these districts which land uses are permitted as of right, and which are conditional uses requiring review and approval. The list of districts now includes:

River Corridors and Buffers A municipality may adopt bylaws to protect river corridors and buffers, as those terms are (now) defined in 10 V.S.A. §§ 1422 and 1427, in order to:

- protect public safety; prevent and control water pollution;
- prevent and control stormwater runoff;
- preserve and protect wetlands and waterways;
- maintain and protect natural channel, streambank, and floodplain stability;
- minimize fluvial erosion and damage to property and transportation infrastructure;
- preserve and protect the habitat of terrestrial and aquatic wildlife;
- promote open space and aesthetics; and
- achieve other municipal, regional, or state conservation and development objectives for river corridors and buffers.

River corridor and buffer bylaws may:

- regulate the design and location of development;
- control the location of buildings;
- require the provision and maintenance or reestablishment of vegetation, including no net loss of vegetation;
- require screening of development or use from waters; and
- reserve existing public access to public waters.