VERMONT AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
INITIAL DESIGNATION PURSUANT TO CLEAN WATER ACT

I. INTRODUCTION

Under Clean Water Act ("CWA") section 402(p), 33 U.S.C. § 1342(p), the United States Environmental Protection Agency ("EPA") established permitting requirements for certain stormwater discharges. EPA established such requirements in two phases: Phase I, 55 Fed. Reg. 47990 (Nov. 16, 1990); and Phase II, 64 Fed. Reg. 68,722 (Dec. 8, 1999). In addition, section 402(p)(2)(E) and (6) and 40 C.F.R. § 122.26 (a)(9)(i)(C) and (D), provide that the EPA Regional Administrator or, in states where there is an approved state program, the State Director may designate additional stormwater discharges as requiring National Pollutant Discharge Elimination System (NPDES) permits where he or she determines that: (C) stormwater controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutants of concern, or (D) the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This additional authority is commonly referred to as the Residual Designation Authority (RDA).

In June of 2003, the Vermont Agency of Natural Resources (VTANR) received a petition from the Conservation Law Foundation (CLF) seeking a determination that would require NPDES permits, pursuant to section 402(p)(2)(E) of the CWA, for all existing stormwater discharges that contribute to violations of water quality standards in Potash, Englesby, Bartlett, Morehouse and Centennial Brooks. After consultation with EPA, VTANR responded to CLF by denying the petition. CLF then appealed this decision to the Water Resources Board.[1] In 2004, the Water Resources Board reversed VTANR's decision and remanded the matter to VTANR with instructions to implement and require NPDES permits for all non-de minimus stormwater discharges. VTANR (through the Vermont Attorney General's Office) and other interested third parties[2] appealed the Water Resources Board's decision to the Vermont Supreme Court.

In August of 2006, the Vermont Supreme Court reversed the Water Resources Board's decision that all stormwater discharges in the five watersheds required NPDES permits and remanded the matter back to VTANR to undertake the requisite analysis under its RDA to determine whether NPDES permits were necessary for the specific discharges in question, in light of the views expressed in its opinion. In re Stormwater NPDES Petition, 2006 VT 91.

VTANR then reconsidered CLF's petition in light of the Vermont Supreme Court decision and in December 2006 again denied CLF's petition finding that it had "determined that it is not prudent or necessary to residually designate existing dischargers into the five identified streams…[t]his conclusion is based on additional scientific data and information gathered and generated by ANR within the past two years, and on VTANR's ongoing efforts in developing TMDLs and implementation plans for these waters…." The denial also stated that

[1] In 2004, the Permit Reform Act divested the Vermont Water Resources Board to hear appeals of VTANR decisions and vested it in the Vermont Environmental Court. The Board was replaced by the Vermont Water Resources Panel.

[2] The third parties consisted of Pomerleau Properties, Inc., Martin's Foods of South Burlington, Inc., and the Greater Burlington Industrial Corp.

"ANR will consider residually designating the discharges it identifies in the general permit under the authority of 40 C.F.R. § 122.26(a)(9)(i)(C) (which is the more appropriate tool for residual designation after the issuance of a TMDL) if such discharges are 'point sources'. These residually designated discharges would then be subject to a NPDES general watershed permit."

In January 2007 CLF appealed VTANR's denial to the Vermont Environmental Court. In August 2008, the Environmental Court issued a Judgment Order in favor of CLF and concluded:

> NPDES permits are required for all identified, currently unregulated stormwater discharges that VTANR has determined contribute to violations of the Vermont Water Quality Standards in the five Brooks identified as impaired in these proceedings. We specifically conclude that ANR must exercise its residual designation authority…to require dischargers to apply for NPDES permits for the specific stormwater discharges that have been identified as contributing in more than a "de minimum" manner to the impairment of the identified Brooks.

It further stated, "We direct that ANR begin notifying contributing dischargers, pursuant to a specific schedule, of their obligation to apply for NPDES permits within 180 days of receiving notice." The Environmental Court defined "currently unregulated" stormwater discharges from point sources as "currently unregulated under the state stormwater`law and the NPDES permits for construction, industrial and municipal sites…." In re: Stormwater NPDES Petition (Conservation Law Foundation Appeal) Docket No. 14-1-07 Vtec (Aug. 28, 2008).

VTANR filed a Motion for Reconsideration of the Judgment Order, and in February 2009, the Environmental Court affirmed its Judgment Order. In re: Stormwater NPDES Petition (Conservation Law Foundation Appeal) Docket No. 14-1-07 Vtec (Feb. 18, 2008). The State did not appeal the Environmental Court's Judgment Order and VTANR is issuing this initial RDA notice to begin the RDA process as directed by the Environmental Court.

VTANR intends to issue a general stormwater permit for discharges subject to this designation in the near future because, as stated above, pursuant to the Environmental Court's Judgment Order designated dischargers need to apply for coverage within 180 days of receiving this notice.

The designation of discharges that require a permit will not become effective until VTANR issues a general permit or an individual permit that will authorize discharges subject to this designation. During the public comment period on any such permit or appeal of any such permit, the question of whether a particular designation is proper will remain open for consideration.

A. GENERAL

This notice constitutes an initial determination pursuant to In re: Stormwater NPDES Petition (Conservation Law Foundation Appeal) Docket No. 14-1-07 Vtec (Aug. 28, 2008) that owners and operators of designated discharges are required to obtain a NDPES permit because this category of discharges contributes to violations of water quality standards and is currently unregulated under the state stormwater law and the NPDES permits for construction, industrial, and municipal sites. This determination is made consistent with § 402(p) of the CWA, 33 U.S.C. § 1342(p), and related regulations found at 40 C.F.R. § 122.26.

A Designated Discharge is defined as a stormwater discharge from an impervious surface to Potash Brook if such discharge is not covered under the NPDES municipal separate storm sewer system (MS4) permit or another NDPES permit (e.g., NPDES industrial or wastewater discharge permit), or is not authorized by a state stormwater discharge permit with an associated offset or on-site controls that result in no net contribution to the receiving water. For purposes of this notice, non-municipal discharges into the MS4 system or discharges that commingle with the MS4 system are not subject to this designation.

This designation includes non-municipal discharges that are contributing stormwater runoff from an impervious surface to a specifically identified point source outfall to Potash Brook that is not currently covered under a NPDES permit or a state stormwater discharge permit with an associated offset or on-site controls that result in no net contribution to the receiving water.

For purposes of this initial designation, impervious surface means: man made surfaces, including, but not limited to, paved and unpaved roads, parking areas, roofs, driveways and walkways, from which precipitation runs off rather than infiltrates.

Where a property containing a designated discharge is owned by one person, but is operated by another person, the operator of the property is required to obtain the NDPES permit.

This document is structured generally as follows: Subsections B and C of this section provide a general introduction to the Potash Brook watershed and the Potash Brook TMDL. Section II provides some general background on stormwater and water quality. Section III describes the CWA stormwater residual designation authorities. Section IV documents how stormwater discharges are currently contributing to violations of Vermont Water Quality Standards (VTWQS). Section V then provides the basis for VTANR's selection of the designated discharges as those needing control in this initial residual designation. Finally, Section VI presents VTANR's determinations under 40 C.F.R. § 122.26 (a)(9)(i)(D).

B. POTASH BROOK GENERALLY

Potash Brook and its watershed are located in Chittenden County, principally in the municipality of South Burlington, and encompass an area of approximately 7.13 square miles (Figure 1). The main stem of Potash Brook originates in the southeast portion of South Burlington, south of Interstate 89 and east of Route 116, and flows to its mouth at Shelburne Bay in Lake Champlain. Several major tributaries flow to the main stem and drain significant portions of the watershed north and south. The entire stream and its tributaries are Class B waters designated as cold water fish habitat pursuant to the Vermont Water Quality Standards.

The land uses within the watershed are comprised of 53% developed land (residential, commercial, industrial, etc.), 30% agricultural or open land, and 17% forest, wetland or open water. Recent surveys indicate a watershed that is approximately 22% impervious.

The Potash Brook watershed is depicted on the watershed boundary map as approximately delineated in Figure 1. This boundary was established using GIS data layers (i.e. VT Digital Elevation Model and VT Hydrography Dataset), field reconnaissance and interviews with local officials with specialized knowledge of the water collection systems that impact water drainage.

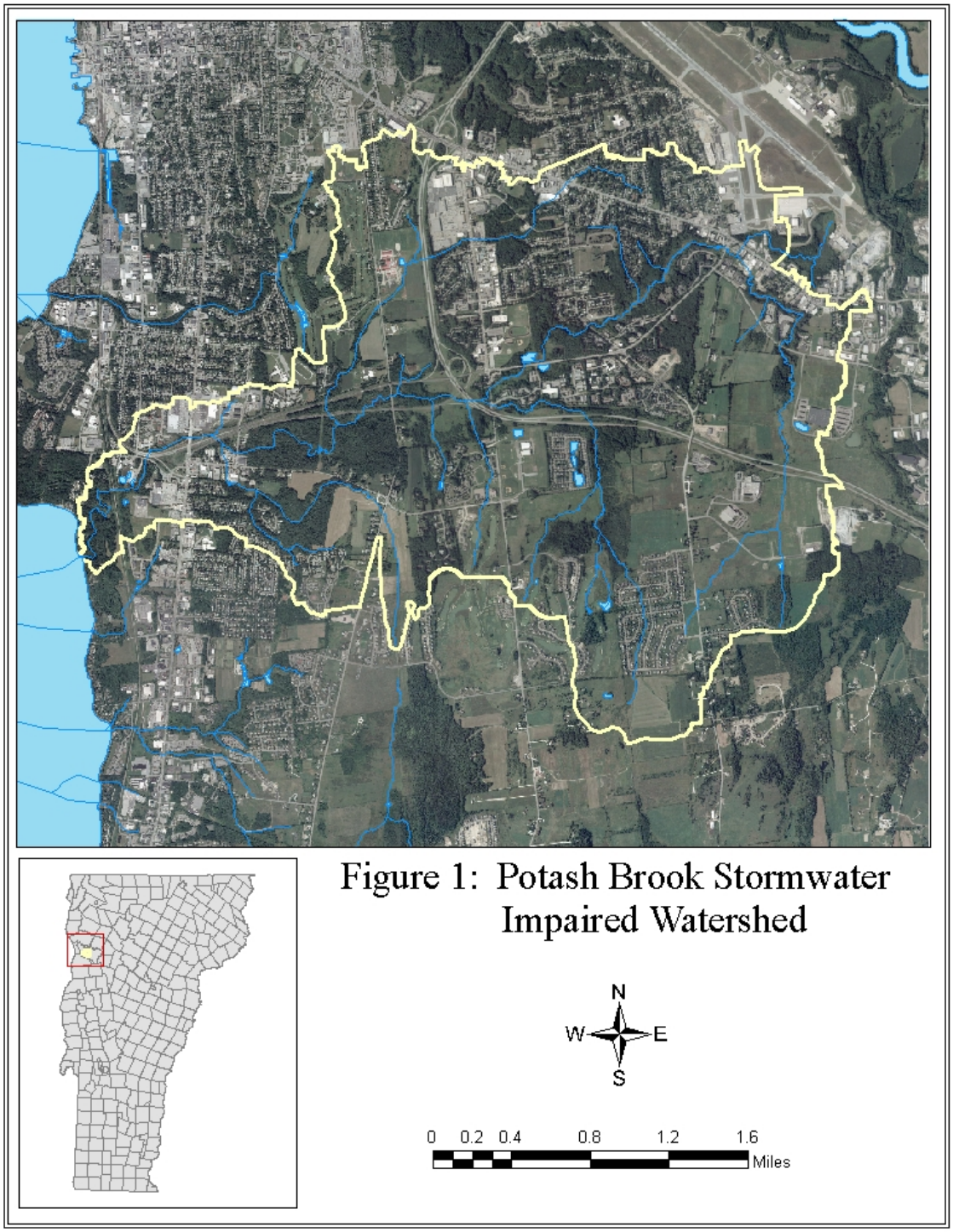


Figure 1: Potash Brook Stormwater Impaired Watershed

C. TOTAL MAXIMUM DAILY LOAD FOR POTASH BROOK

Section 303(d) of the federal Clean Water Act requires each state to identify waters not attaining water quality standards. Potash Brook was first listed as impaired in 1992 and is currently listed as impaired on the 2008 Vermont 303(d) List from its mouth at Lake Champlain to a point upstream 5.2 miles due to non-support of aquatic life designated uses. Since all tributaries and the upstream main stem drain to the impaired lower portion of the stream, the entire Potash Brook watershed is considered to contribute to its impairment. The source of the impairment is multiple impacts associated with excess stormwater runoff.

Section 303(d) of the federal Clean Water Act and EPA's implementing regulations (40 CFR Part 130) require states to develop Total Maximum Daily Loads (TMDLs) for impaired waterbodies. A TMDL establishes the amount of a pollutant that a water can assimilate without exceeding its water quality standard for the pollutant. TMDLs provide a scientific basis for a state to establish water quality-based controls to reduce pollutant discharges from both point sources and nonpoint sources (if state law provides for regulation of nonpoint sources) to attain the state's applicable water quality standards.

On December 19, 2006, EPA approved a TMDL submitted by ANR for Potash Brook. The pollutant of concern for the TMDL is multiple impacts associated with excess stormwater runoff. The TMDL establishes a scientifically based water quality target for Potash Brook that, when attained, will allow the brook to meet or exceed the established Vermont Water Quality Standards for which it is impaired. The TMDL was established in accordance with Section 303(d) of the federal Clean Water Act, implementing regulations (40 CFR Part 130) regarding TMDL development, and other relevant EPA guidance documents.

The basis for the Potash Brook TMDL was initially explained in the final report produced by the Vermont Water Resources Board Investigative Docket (Vermont Water Resources Board, 2004). More specifically, Appendix A of that document ("*A Scientifically Based Assessment and Adaptive Management Approach to Stormwater Management (Stormwater Cleanup Plan Framework)*") outlined the necessary steps to develop a scientifically sound approach in creating TMDLs for Vermont's stormwater-impaired waters. ANR adhered to the Framework's approach for developing cleanup targets in the Potash Brook TMDL. Several investigations were conducted by multiple parties to derive the necessary information called for in the Framework. Significant results and findings of those investigations are summarized in the TMDL. The TMDL can be found at:

http://www.vtwaterquality.org/stormwater/htm/sw_TMDLs.htm

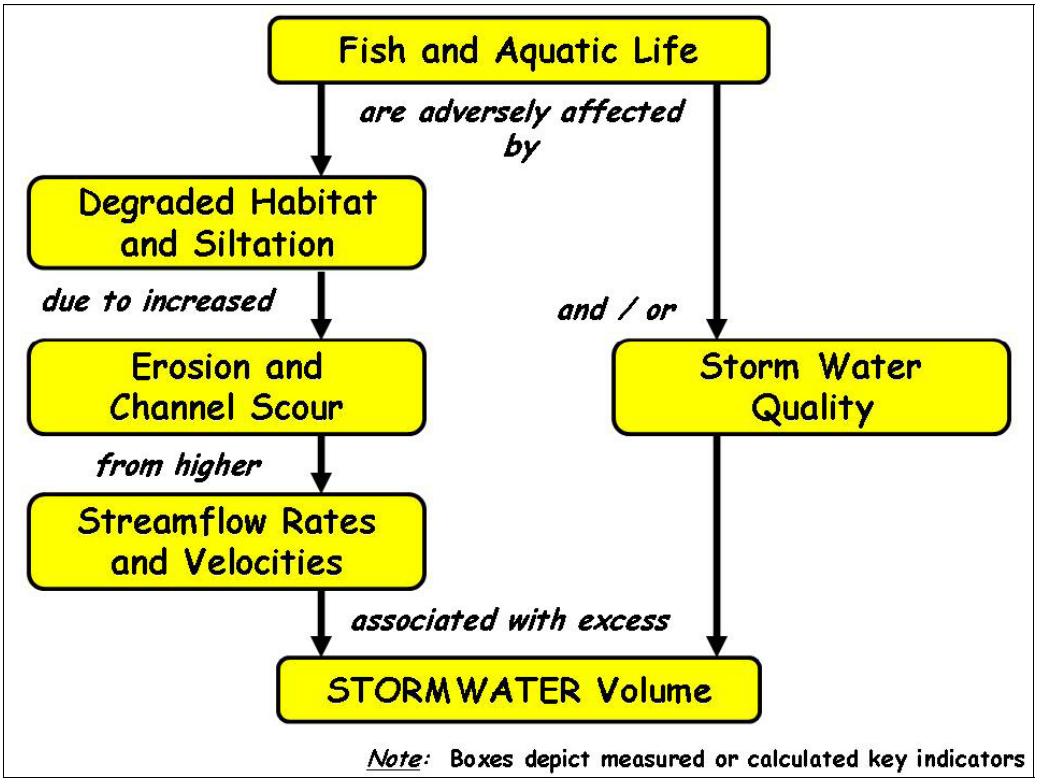
II. GENERAL FACTUAL BACKGROUND

A. STORMWATER and WATER QUALITY

In streams draining developed watersheds, biological communities are subjected to many stressors associated with stormwater runoff. These stressors are related either directly or indirectly to stormwater runoff volumes and include increased watershed pollutant load (e.g. sediment), increased pollutant load from in-stream sources (e.g., bank erosion), habitat degradation (e.g. siltation, scour, over-widening of stream channel), washout of biota, and loss of habitat due to reductions in stream base flow. The stressors associated with

stormwater runoff may act individually or cumulatively to degrade the overall biological community in a stream to a point, as in Potash Brook, where aquatic life uses are not fully supported and the stream does not attain the VTWQS.

Figure 2. Hydrology is a major driver for both upland and stream channel erosion. Consequently, control of high water flows will also achieve reductions in the delivery and transport of sediment in Potash Brook.



B. Water Quantity and Quality in Potash Brook

Potash Brook is on Vermont's §303(d) list as a result of bioassessment data. Existing information suggests that the impairment is most likely caused by water flow and sediment dynamics being out of balance. Physical habitat in the channel no longer supports healthy macroinvertebrate communities, as measured using biological criteria developed by VTANR pursuant to the Vermont's Water Quality Standards.

Biological monitoring in Potash Brook found the following results: a macroinvertebrate community assessment at rivermile 0.7 of poor in 1993 and 2001; at river mile 1.0 of poor in 1993 and 2001; at river mile 1.8 of good-fair in 1994 and fair in 1997; and at river mile 4.3 of poor in 2001. Two Potash Brook tributaries were sampled also. Potash Brook trib 3 sampled at river mile 0.3 was poor in 1994 and 2001. Potash Brook trib 7 sampled at river mile 0.1 was fair in 1994 and poor in 2001. Fish sampling in 2001 at river miles 0.7 and 1.9 on Potash Brook resulted in an assessment of good for the fish community at both locations.

III. GENERAL LEGAL BACKGROUND

A. CLEAN WATER ACT

In 1987, Congress amended the CWA to require implementation, in two phases, of a comprehensive national program for addressing stormwater discharges. In 1990, EPA promulgated the Phase I Rule that regulates stormwater discharges from major stormwater pollution sources, including discharges associated with industrial activities, discharges from construction sites greater than five acres and discharges from large and medium municipal MS4s. 55 Fed. Reg. 47,990 (Nov. 16, 1990). In 1999, EPA expanded the universe of stormwater discharges subject to control under the NPDES program by adding discharges from smaller MS4s in urbanized areas (small MS4s) and discharges from construction sites disturbing between one and five acres of land. 64 Fed. Reg. 68,781 (Dec. 8, 1999). EPA promulgated these rules based on data collected through extensive, nationwide stormwater studies.

Section 402(p) of the CWA and related regulations recognize that in order to protect water quality, additional stormwater sources may need to be regulated on a case-by-case or category-by-category basis relying on additional information or localized conditions. CWA section 402(p)(2)(E) and (6) and 40 C.F.R. § 122.26 (a) (9)(i) (C) and (D). This authority to regulate other sources based on stormwater's localized adverse impact on water quality through NPDES permits is commonly referred to as the Residual Designation Authority.

B. RELEVANT REGULATORY PROVISIONS

EPA's regulations addressing the control of stormwater discharges are found, generally, at 40 C.F.R. Part 122. EPA's authority to designate for NPDES permitting purposes stormwater discharges is found at 40 C.F.R. §122.26(a), which provides, in relevant extract, as follows:

> (9)(i) On and after October 1, 1994, for discharges composed entirely of stormwater … operators shall be required to obtain a NPDES permit … if:
>
> (C) The Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that stormwater controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern; or
>
> (D) The Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

This initial residual designation is based on 40 C.F.R. §122.26(a)(9)(i)(D) pursuant to In re: Stormwater NPDES Petition (Conservation Law Foundation Appeal) Docket No. 14-1-07 Vtec (Aug. 28, 2008).

IV. FACTUAL BASIS FOR DETERMINATIONS

A. VERMONT WATER QUALITY STANDARDS

Potash Brook is listed as impaired based on narrative criteria relating to aquatic biota. The impact of excessive stormwater flows into Potash Brook has resulted in a violation of the Vermont Water Quality Standards (VTWQS) §3-04(B)(4) which states that there shall be:

> *"No change from the reference condition that would prevent the full support of aquatic biota, wildlife, or aquatic habitat uses. Biological integrity is maintained and all expected functional groups are present in a high quality habitat. All life-cycle functions, including overwintering and reproductive requirements are maintained and protected."*

In Vermont, numeric biological indices are used to determine the condition of fish and aquatic life uses. Vermont's Water Quality Standards at 3-01(D)(1) and (2) provide the following regulatory basis for these numeric biological indices:

> *"(1) In addition to other applicable provisions of these rules and other appropriate methods of evaluation, the Secretary may establish and apply numeric biological indices to determine whether there is full support of aquatic biota and aquatic habitat uses. These numeric biological indices shall be derived from measures of the biological integrity of the reference condition for different water body types. In establishing numeric biological indices, the Secretary shall establish procedures that employ standard sampling and analytical methods to characterize the biological integrity of the appropriate reference condition. Characteristic measures of biological integrity include but are not limited to community level measurements such as: species richness, diversity, relative abundance of tolerant and intolerant species, density, and functional composition.*
>
> *(2) In addition, the Secretary may determine whether there is full support of aquatic biota and aquatic habitat uses through other appropriate methods of evaluation, including habitat assessments."*

Potash Brook is designated as impaired on the Vermont 303(d) List from its mouth at Lake Champlain to a point upstream 5.2 miles due to non-support of aquatic life designated uses. Since all tributaries and the upstream main stem drain to the impaired lower portion of the stream, the entire Potash Brook watershed is considered to contribute to its impairment. The source of the impairment is multiple impacts associated with excess stormwater runoff.

B. VIOLATIONS OF WATER QUALITY STANDARDS IN POTASH BROOK

In the stormwater-impaired streams in Vermont, aquatic life impairments are detected through the use of biological monitoring of the fish and macroinvertebrate communities. The biological monitoring program relies on data from reference sites to help define biological community goals for a given stream type. This approach is provided for in the VTWQS and specific numeric biological criteria have been established for several stream types, including Potash Brook, to indicate compliance with the VTWQS.

The monitoring is extremely useful in that it directly measures the health of the aquatic life community. Also, the monitoring is reflective of environmental conditions that occur in the stream over an extended period of time (i.e., months) including the effects of intermittent

discharges such as stormwater. However, biological monitoring is limited when trying to identify the various causes and the extent to which they contribute to the impairment.

Biological data was collected on Potash Brook by the VTANR from 1987 to 2004, and at several sites by the City of South Burlington in 2001 and 2004. The biological data collected by South Burlington has been approved for use by the VTANR through the development of a Quality Assurance/Quality Control plan, and through replicate sampling. Table 1 gives the extent of the biological sampling from 1987 to 2004.

Table 1. Biomonitoring frequency at multiple sampling sites in Potash Brook.

Stream Reach (RM=river mile)	# of macroinvertebrate samples	# of fish samples
Main stem RM 0.7	4	2
Main stem RM 1.0	9	5
Main stem RM 1.3	-	3
Main stem RM 1.8	3	4
Main stem RM 1.9	2	-
Main stem RM 2.1	-	1
Main stem RM 3.0	2	-
Main stem RM 4.3	3	-
Trib 3, RM 0.3	3	1
Trib 7, RM 0.1	2	-

Macroinvertebrates were assessed in the *poor* range for a majority of the samples. All sampling results from RM 0.7 and RM 1.0 scored *poor,* with the exception of RM 1.0 during 1989 (*fair*). At site RM 1.8, samples taken during 1989, 1994 and 1997 scored *good*, *good-fair* and *fair* respectively. The remaining upstream RM 1.9, 3.0, and 4.3 all scored a *poor* for all sampling events. The tributary samples have also been consistently assessed as poor, except for Trib 7, RM 0.1 in 1997 was rated as fair-good.

Fish community evaluations were consistently in the *good* range with the exception of RM 1.3 during 1989 when the site scored in the *very good* range, and the Trib 3 site, which scored *poor*. In most cases, biological condition ratings of *fair or poor* will indicate impaired status for Class B waters when collected for a minimum of two years.

V. SELECTION OF DESIGNATED DISCHARGES

As noted above, regulations promulgated under the CWA provide VTANR with the authority to designate a wide range of stormwater discharges or categories of discharges once specific standards in 40 C.F.R. § 122.26 relating to localized conditions are met. The regulations also provide VTANR with broad discretion in designating discharges based on localized considerations.

In enacting CWA Section 402(p), Congress allowed for the immediate regulation of specified sources known to present the most significant threats to surface water quality. In promulgating the Phase II stormwater rule (64 Fed. Reg. 68722, Dec. 8, 1999) implementing section 402(p), EPA sought to control sources presenting the greatest potential harm to water quality on a nationwide basis. This initial residual designation follows a similar principle in controlling localized discharges that are known to be contributing to water quality standards violations in Potash Brook.

In August 2008, the Environmental Court issued a Judgment Order in favor of CLF and concluded:

> NPDES permits are required for all identified, currently unregulated stormwater discharges that VTANR has determined contribute to violations of the Vermont Water Quality Standards in the five Brooks identified as impaired in these proceedings. We specifically conclude that ANR must exercise its residual designation authority…to require dischargers to apply for NPDES permits for the specific stormwater discharges that have been identified as contributing in more than a "de minimum" manner to the impairment of the identified Brooks.

It further stated, "We direct that ANR begin notifying contributing dischargers, pursuant to a specific schedule, of their obligation to apply for NPDES permits within 180 days of receiving notice." The Environmental Court defined "currently unregulated" stormwater discharges from point sources as "currently unregulated under the state storm law and the NPDES permits for construction, industrial and municipal sites…." In re: Stormwater NPDES Petition (Conservation Law Foundation Appeal) Docket No. 14-1-07 Vtec (Aug. 28, 2008).

This initial residual designation covers stormwater discharges from an impervious surface to Potash Brook if such discharge is not covered under the NPDES municipal separate storm sewer system (MS4) permit or another NDPES permit (e.g., NPDES industrial or wastewater discharge permit), or is not authorized by a state stormwater discharge permit with an associated offset or on-site controls that result in no net contribution to the receiving water. For purposes of this notice, non-municipal discharges into the MS4 system or discharges that commingle with the MS4 system are not subject to this designation.

This designation includes non-municipal discharges that are contributing stormwater runoff from an impervious surface to a specifically identified point source outfall to Potash Brook that is not currently covered under a NPDES permit or a state stormwater discharge permit with an associated offset or on-site controls that result in no net contribution to the receiving water.

VI. DETERMINATIONS

DETERMINATION THAT THE DISCHARGE OR CATEGORY OF DISCHARGES WITHIN A GEOGRAPHIC AREA CONTRIBUTES TO A VIOLATION OF A WATER QUALITY STANDARD PURSUANT TO 40 C.F.R. SECTION 122.26(a)(9)(i)(D)

1. The applicable Vermont Water Quality Standards identify Potash Brook in South Burlington, Vermont as a Class B water, designated as a habitat for fish and other aquatic life. Vermont's water quality standards contain designated aquatic life uses and criteria to protect those uses.

2. Based on extensive sampling, Vermont determined in each of its Section 303(d) lists since 1992 that Potash Brook was not meeting water quality standards. For purposes of this designation, the relevant water quality standard that is being violated is the failure to attain the aquatic life support use for which Potash Brook is designated.

3. The discharges identified in this decision document as designated discharges are contributing to violation of the applicable Vermont water quality standards.

4. Pursuant to an Environmental Court Judgment Order, the identified category of designated discharges must be controlled through the issuance of permits under the NPDES program.

VII. AUTHORIZING SIGNATURE

Vermont Agency of Natural Resources

By: _____/s/_____ Date: _____6/19/2009_____
Jonathan Wood
Secretary