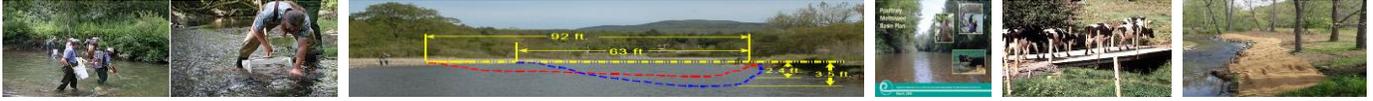


Vermont Department of Environmental Conservation
Watershed Management Division

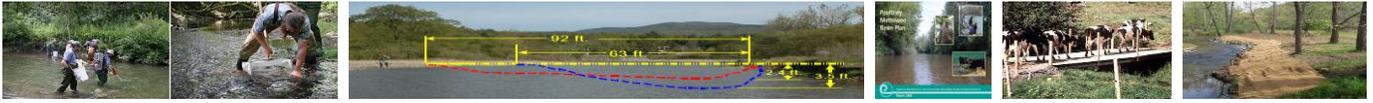


Chapter 4. Tactical Basin Planning: Managing Waters along a Gradient of Condition using a Geographically Targeted Approach.



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A. Introduction

The Vermont Agency of Natural Resources, Department of Environmental Conservation (DEC, or Department) and its federal, state, municipal, regional and local watershed partners engage in tactical basin planning process in all of Vermont's planning basins. The goal of the process is to develop tactical water quality watershed management plans for each of 15 planning basins that are built within a two-year timeframe, are revisited every five years, and for which implementation tables of priority actions are continually updated. Tactical basin planning is carried out for the Department by the Watershed Management Division (Division). The Monitoring, Assessment and Planning Program (MAPP) bears primary responsibility for implementing the basin planning process, and fostering effective partnerships, particularly with the Agency of Agriculture, the Natural Resource Conservation Service, Regional Planning Commissions, and the Conservation Districts of the Natural Resources Conservation Council.

The overall goal for each tactical basin water quality management plan is to establish and carry out strategies that will protect, maintain, enhance or restore the surface waters of the basin by directing regulatory, technical assistance, and funding to highest-priority sub-watershed areas

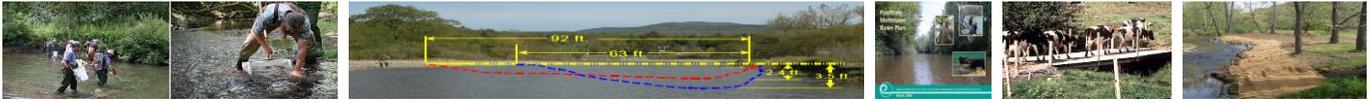
B. Federal and State Law Requirements for Basin Planning

Basin planning is required by both federal and state law. Sections 208 and 303(e) of the federal Clean Water Act (Public Law 92-500) require that states engage in water quality planning. Chapter 40 CFR 130, in part, directs state agencies to prepare basin plans, to focus on priority issues and geographic areas, to identify priority point and nonpoint water quality problems, consider alternatives and recommend control solutions and funding sources. At the state level, basin and watershed planning requirements are found in a number of statutory and regulatory provisions, including 10 V.S.A. §§ 1251, 1253 and 1258, 24 VSA Chapter 117, and the Vermont Water Quality Standards Rule (VWQS). Title 10 V.S.A. §1253(d) provides that basin plans must be developed on a five year rotational basis, while the VWQS requires that basin plans:

- Identify strategies, where necessary, by which to allocate levels of pollution between various sources as well as between individual discharges
- Contain specific recommendations by the Secretary that include the identification of all known existing uses
- Recommend changes in classification and designation of waters, including reclassifying waters' designated uses from Class B(2) to a higher classification level and designating waters as Outstanding Resource Waters,
- Contain schedules and funding recommendations for remediation, stormwater management, riparian zone management, and other measures or strategies pertaining to the enhancement and maintenance of the quality of waters within the basin.

Basics of Tactical Basin Planning

Tactical basin planning coordinates existing programs and builds partnerships to promote efficient and environmentally sound management of Vermont's surface water resources. Inherent in the process is the understanding that stakeholder groups and individuals have ongoing opportunities to effectively participate in planning for the management of Vermont's watersheds. The tactical



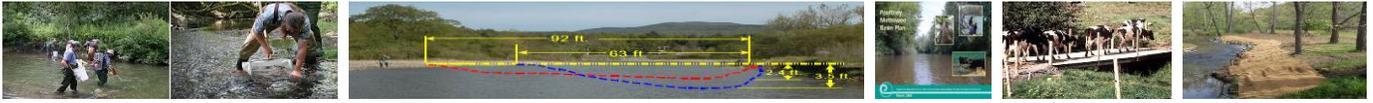
planning process is structured to identify and then consistently re-evaluate priorities for the project-level work funded by the Clean Water Initiative Program and other state and Federal water quality improvement funding programs. This chapter describes the process for developing individual, basin-specific and geographically explicit plans, establishing priority monitoring and assessment approaches, prioritized water quality improvement projects, and quantitative modeling information to support implementation of total maximum daily load pollution control plans (TMDLs).

C. Principles of Tactical Basin Planning

1. Tactical basin plans are developed to implement the goals and objectives of the Vermont Surface Water Management Strategy to protect, maintain and restore the biological, chemical, and physical integrity, and public use and enjoyment of Vermont's water resources, and to protect public health and safety.
2. Each tactical basin plan contains objectives, prioritized strategies, benchmarks and tasks in order to facilitate the implementation of the plans.
3. Each plan will spell out clear, attainable goals and targeted strategies to achieve those goals. The goals will be stated for the river basin and for individual sub-basins.
 - a. Document the highest priority water quality stressors across the basin.
 - b. Identify surface waters in very high quality condition (from biological, chemical, and physical assessment information).
 - c. Synthesize individual projects from available, existing assessments into an online database.
 - d. Provide understandable connections between the roles of participants and the environmental outcomes.
 - e. Track the outcomes and monitor the commitments of the participants.
4. Within tactical basin plans, priority for remediation is attributed to sub-watersheds where there are the most serious water quality problems. Priority for protection is ascribed to surface waters that exhibit higher quality conditions than Class B2 standards, where outstanding aquatic features are documented, or where wetlands exhibit unique exemplary functions and values.

There are fifteen major river basins that serve as hydrologic planning units within which tactical planning is focused. Within these major river basins, tactical basin plans are developed then updated on a five-year cycle as specified by § 10 VSA 1253. The tactical plans identify *priority sub-basins* for enhanced monitoring, assessment, project development, project implementation, or reclassification, within the lifecycle of each plan. The general idea is to focus resources and attention on a more concentrated area in a more coordinated fashion with the various stakeholders so that better utilization of resources (i.e., technical assistance and funding) can be achieved.

Each tactical plan is complemented by a continually-evolving implementation database that maintains information regarding specific monitoring, assessment, scoping, design, installation, or reclassification actions. This powerful database, called the Watershed Projects Database, is a



continually-updated resource with internal and external access points. In 2017 and beyond, the process of updating a tactical plan will boil down to taking stock of progress, elevating unfulfilled projects to higher priority where such is merited, identifying new monitoring and assessment priorities, and introducing new strategies or projects, while ensuring full stakeholder and public involvement in the update.

The Tactical Basin Planning Process provides the following benefits to interested stakeholders and Vermont's citizens:

- More cost-effective use of funds
- Better information to guide decision making for major river basins
- Increased ability (by ANR and partners) to resolve complex surface water resource problems
- Improved communication and coordination among governmental agencies
- More opportunities for stakeholders to get involved
- Increased ability to demonstrate results and benefits of environmental management
- Alignment of DEC regulatory and funding programs to surface waters most in need of improvement and protection.

D. Process for Developing Tactical Basin Plans

Step 1 - Scoping and information gathering to document conditions of surface waters

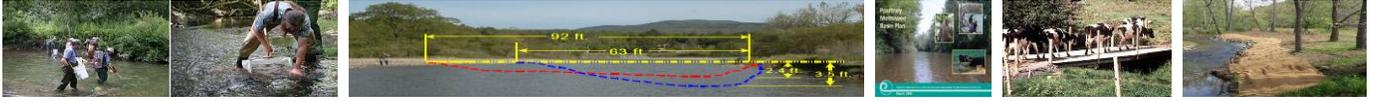
For targeted basins within the planning rotation (see Figure 1 for basin boundaries), DEC planners compile existing assessment data including:

- Water Quality Monitoring data (biomonitoring, chemical analyses, etc);
- Stream Geomorphic Assessment and attendant River Corridor Plans (RCP);
- Stormwater Master Planning (SWMP);
- Municipal Roads - Road Erosion Inventories and Capital Budget Planning;
- Agricultural-Farm Surveys and Assessments;
- Stormwater Mapping and Illicit Detection Discharge and Elimination (IDDE) Surveys
- MS4-derived Flow Restoration and Phosphorus Control Plans
- TS4-derived Phosphorus Control Plans

Step 2 - Prioritization and Targeting of Resources

In this phase of tactical plan development, DEC planners conduct structured meetings with four general groups, typically in the order indicated:

- 1) ANR Divisions, including Air Pollution Control, Drinking Water and Groundwater Protection, Waste Management and Prevention, Facilities Engineering, Fisheries, and Forestry.
- 2) Sister Agencies in State and Federal Government, including Agency of Agriculture, Food and Markets (AAFM), VTrans, US Environmental Protection Agency, Natural Resources Conservation Service (NRCS), Regional Planning Commissions (RPCs), and Natural Resources Conservation Districts.
- 3) Watershed organizations, municipal government, academia, consulting, other stakeholders.



4) Citizens.

The purpose of these meetings is to gather and review current and long term water quality monitoring data, discuss known issues in the basin, direct additional, near term monitoring, begin to identify both protection and restoration projects, and identify current levels of capacity for implementation. These core planning partners in groups one and two of the above-list coordinate shared priorities and develop a tactical approach to additional planning and project implementation for the basin in question. As current monitoring and assessment data is compiled and reviewed, DEC planners then initiate and coordinate external stakeholder meetings with other organizations (group 3).

The Agency of Agriculture and Natural Resources Conservation Service provide specific information regarding the agricultural sector. The AAFM provides primary field assessments and leadership for farm water quality improvement projects, with substantial funding support by the NRCS. The NRCS also provides precision planning services for the highest-priority agricultural watersheds identified by the developing tactical basin plan.

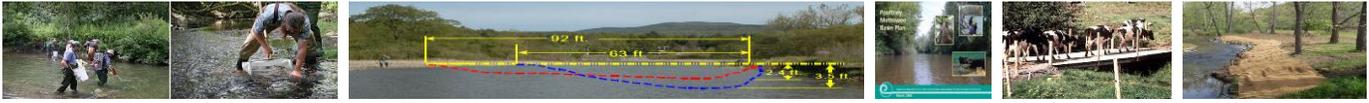
Regional Planning Commissions and Conservation Districts play particularized roles in the tactical planning process, including:

- 1) Acting to increase municipal awareness and readiness to implement Act 64 by conducting municipal outreach and education, and cross-program integration and coordination and the municipal scale;
- 2) Promoting resilience and water quality protection and improvement by providing municipal planning assistance;
- 3) Developing better information for municipalities by providing coordination of water quality monitoring, and oversight of independently funded assessments;
- 4) Collecting municipal and regional input to assist in tactical basin plan development, including project prioritization;
- 5) Assisting in the protection of high quality resources and documentation of restoration efforts by promoting water quality reclassification or designation in their jurisdiction (see Section I of this Chapter).
- 6) Regional Planning Commissions are also charged with ensuring that Regional Plans are consistent with tactical basin plans.

Several RPCs have taken the additional step of forming Clean Water Advisory Committees to assist in the review and development of surface water priorities during each respective tactical basin planning process. These are official subcommittees of the RPC Commissioners/Board, and provide representation and expertise from the municipalities served by the RPC.

Step 4 – Development of TMDL Phase II Implementation Actions.

Each tactical basin plan within the Lake Champlain, Lake Memphremagog, or Connecticut River Basin will also contain information on how the State of Vermont will implement the TMDLs applicable to these watersheds. This content will include water quality modeling information that presents a consistent assessment of the total phosphorus reductions expected by implementation of the basin plan for Lakes Champlain and Memphremagog, and in future basin plan iterations,



the cumulative phosphorus reductions achieved over the planning cycle elapsed. The DEC is also developing similar capabilities for pollution that originates in the Connecticut River Basin, to support the Long Island Sound nitrogen TMDL. For a complete description of Phase II TMDL modeling and content, the reader is referred to the [Lake Champlain TMDL Phase I Implementation Plan](#). As of this writing, completed phosphorus modeling is presented in the [Lamoille and Missisquoi Tactical Basin Plans](#).

Step 5 – Public Outreach and Awareness of the Basin Planning Process

Following on the compilation of monitoring and assessment data to inform the draft tactical basin plan, public forums and targeted meetings are convened by DEC Planners, RPC's, and/or Conservation Districts to present the draft basin plan, and solicit public input to identify gaps and seek additional recommendations on priority surface waters for protection and restoration identified in Steps 1-3. Stakeholders and the public will have opportunities to inquire about the data and the proposed implementation actions, and can highlight gaps and areas of concern that may not be addressed at this stage in plan development. As these gaps are identified, subsequent monitoring and assessment actions can be highlighted in each plan to verify then address the new areas of concern.

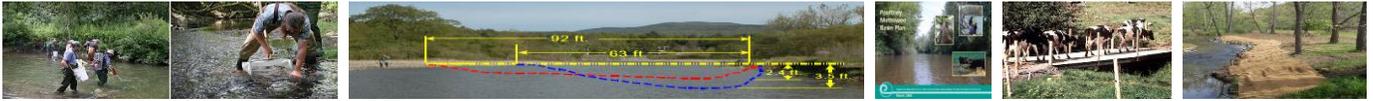
Step 6 - Finalizing Tactical Basin Plans

During the final development of each Tactical Basin Plan, implementation tables are assembled. The printed implementation tables of the tactical basin plan summarize, at the strategic level, the hundreds of specific actions referenced in the dynamic online Watershed Projects Database. Implementation table elements include strategies for the protection of very high quality waters, actions to remediate impaired waters, project-specific recommendations for impaired and stressed waters, and present the regulatory actions required by the Vermont Clean Water Act at relevant geographic scales. The final plans and implementation tables will be presented at a final round of public meetings/ presentations. A web-based Watershed Projects Database has been created that provides for a continuously updated and accessible roster of projects that have been identified through monitoring data and assessment reports during the Tactical Basin Planning process.

Step 6 – Implementation of Tactical Basin Plans

As appropriate, agreements and MOUs may be developed between stakeholder groups to identify leads and project partners for funding and project implementation. Many projects identified in the Watershed Projects Database have funding source, potential partners, and an indication of the performance measures (as a function of environmental value and co-benefits) articulated in the project description. The Watershed Projects Database can be reviewed at queried from the Watershed Management Division website, at:

<https://anrweb.vt.gov/DEC/IWIS/ARK/ProjectSearch.aspx>



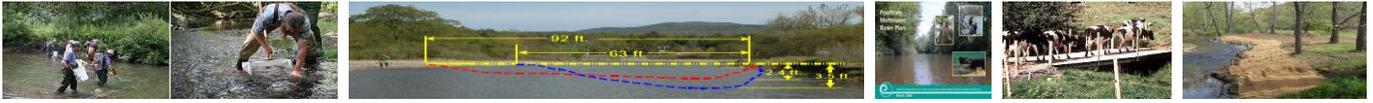
Tactical Basin Planning Timeline for a Specific Basin

Tactical Basin Planning Timeline	Month																								
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Scoping and information gathering (monitoring and basin assessment info compiled)	█	█	█	█	█	█																			
Prioritization and Targeting of Resources (internal) Identify and Secure Sources of Funding				█	█	█	█	█	█																
Prioritization and Targeting of Resources (external) Identify and Secure Sources of Funding				█	█	█	█	█	█	█	█														
Public Outreach and Awareness of the Basin Planning Process SW Plan and draft Tactical Plan presentation								█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Development of Tactical Basin Plans and Attendant Strategies										█	█	█	█	█	█	█	█	█	█						
Implementation of Tactical Basin Plans																	█	█	█	█	█	█	█	█	█
Milestone(s)	Initial Assessment Report drafted						Final Assessment Report produced, Initial Tactical Plan drafted						Final Tactical Plan produced, Implementation Table, Report card drafted						Track implementation progress via report card, Sequence Rotational Basin Planning Process (ongoing)						

E. Stakeholder Process

The specific stakeholder outreach sequence associated with the steps outlined above is as follows:

1. Invite technical ANR partners to consider their role for plan coordination and implementation and how this collaboration can be mutually beneficial. Develop a core group of internal staff responsible for construction of the Tactical Plan.
2. Outreach to determine which programs complement the effort to coordinate existing programs to protect or improve water quality. Solicit input on initial plan findings from State or Federal agency programs, Regional Planning Commissions, and Natural Resources Conservation Districts.
3. Solicit input from external partners and programs, including but not limited to watershed organizations, municipalities, lake associations, and other relevant groups. Simultaneously, Regional Planning Commissions and as appropriate Natural Resources Conservation Districts conduct municipal outreach.
4. Identify and reach out to additional advocacy organizations, major private sector entities as appropriate, and other relevant stakeholders.
5. Conduct media outreach at release of draft plan for public comment, and at final plan signature and release. Tactical basin plans are signed by the Secretary, ANR, and the Commissioner, DEC. A responsiveness summary is developed and issued concurrent with the approved plan.



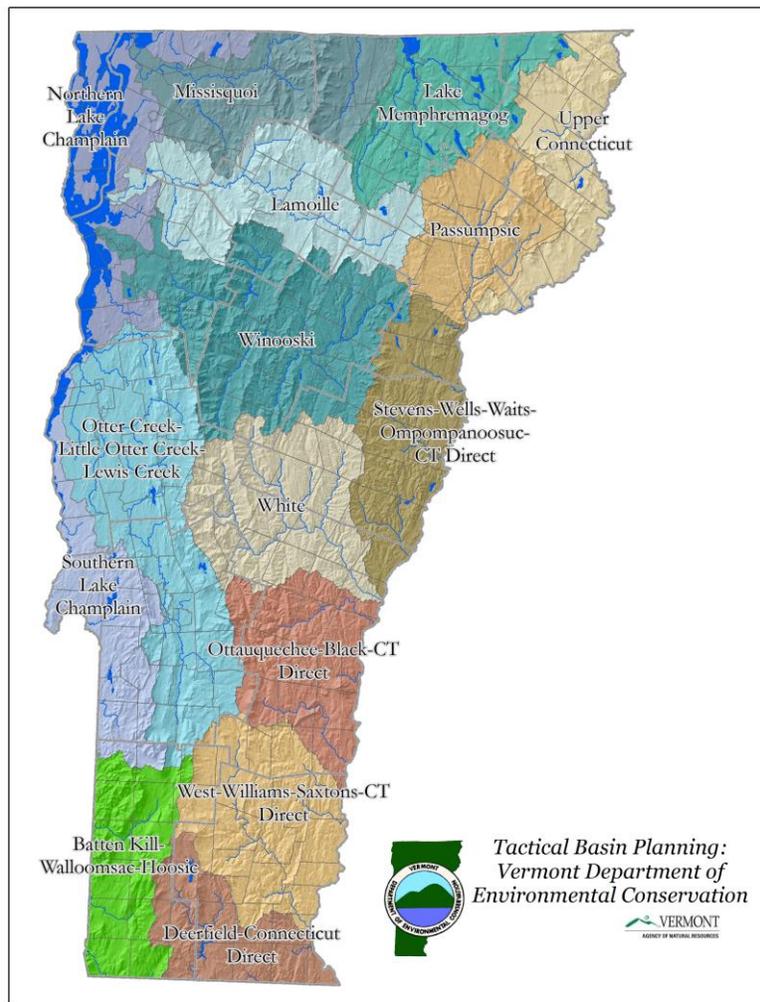
F. Tactical Planning Basins

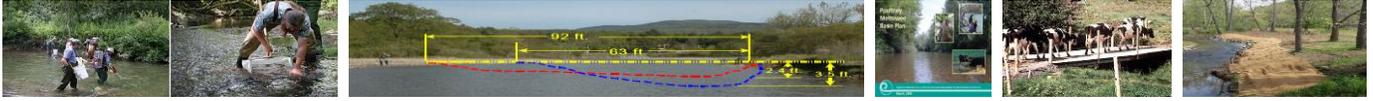
In Vermont, there are 15 planning basins, which occur within the Lake Champlain, Lake Memphremagog, Connecticut, or Hudson River drainages (See map of the 15 major river basins below).

Lake Champlain Planning Basins: Missisquoi, Lamoille, North Lake Champlain Direct Drainages, Winooski, Otter Creek, and South Lake Champlain Basins.

Connecticut River Planning Basins: Upper CT, Passumpsic, Stevens/Wells/Waits, Ompompanoosuc/Black, West/Williams/Saxtons, and Deerfield.

Hudson River Planning Basin: Battenkill/Hoosic/Walloomsac.





G. Tactical Plan Outline

The outline of a tactical basin plan is as follows:

Executive Summary

- Partners and Towns
- Executive Summary
- Top Objectives and Strategies
- Summary of Classification Opportunities

Chapter 1. Planning Process and Watershed Description

- A. Tactical Basin Planning Process
- B. Vermont Water Quality Standards
- C. The Vermont Clean Water Act
- D. River Basin description and Priority Sub-basins

Chapter 2. Water Resource Assessments & Recommendations

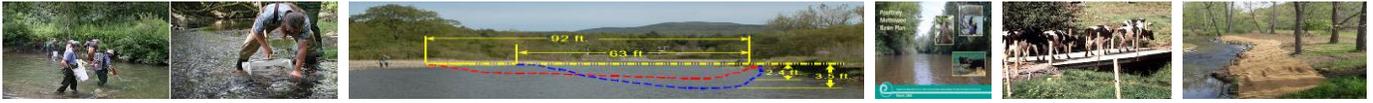
- A. Overview of Water Resources and Stressors
- B. Assessment and Management Methodology
- C. Condition of Specific Water Resources
- D. Water Quality Monitoring and Assessment
- E. Additional Assessments
- F. Status and Management of Water Resources by Land Use

Chapter 3. Regulatory Programs for Addressing Stressors and Pollutants

- A. Approved TMDL Implementation Plans (e.g., Lake Champlain/ Long Island Sound, or others)
- B. For Lake Champlain basins, a “Phase II” implementation plan that apportions the load and wasteload phosphorus allocations among the regulatory programs that will implement the TMDL, at relevant geographic scales. These apportioned allocations serve as planning level targets for the regulated sectors.
- C. For the Memphremagog Basin, a phosphorus TMDL implementation plan that apportions the load and wasteload phosphorus allocations among the regulatory programs that will implement the TMDL, at relevant geographic scales. These apportioned allocations serve as planning level targets for the regulated sectors.
- D. For Connecticut River and the Battenkill, Hoosic, Walloomsac Basins, a description of the regulatory processes in place to implement Act 64, and information that will assist municipalities in complying with the requirements.

Chapter 4. Management Objectives for Surface Waters in the Lamoille River Basin

- A. Classification of Surface Waters Pursuant to the Vermont Water Quality Standards
- B. Existing Uses
- C. Outstanding Resource Waters
- D. Class 1 Wetland Designations
- E. Warm and Cold Water Fish Habitat Designations



Chapter 5 – The Implementation Table: Protection and Remediation Actions

A. Watershed Partners

B. Basin-wide Implementation Table Summary

H. Resources to Support Tactical Basin Planning

Vermont DEC, in partnership with other organizations, has developed several useful online resources that support and provide transparency to the basin planning process.

Water Quality Monitoring Data and Stream Geomorphic Assessments

A web-based portal for surface water data and information has been developed to provide information to citizens and stakeholders. The Integrated Watershed Information System presents water quality data housed by DEC, including water quality monitoring, and mapping that displays stream geomorphic assessments. The system also presents links to other useful sources of water monitoring data from Vermont. The system can be found on-line at:

<https://anrweb.vt.gov/DEC/IWIS/>. The Stream Geomorphic Assessment Data Management System website is accessible on-line at: <https://anrweb.vt.gov/DEC/SGA/Default.aspx>.

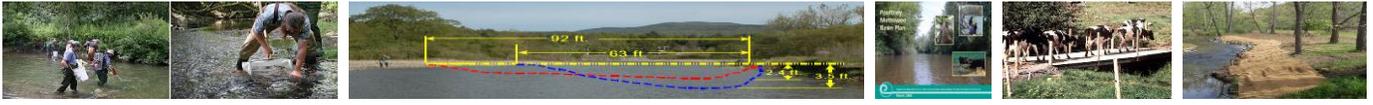
Vermont Integrated Watershed Information System

Stream Geomorphic Assessment Data Management System

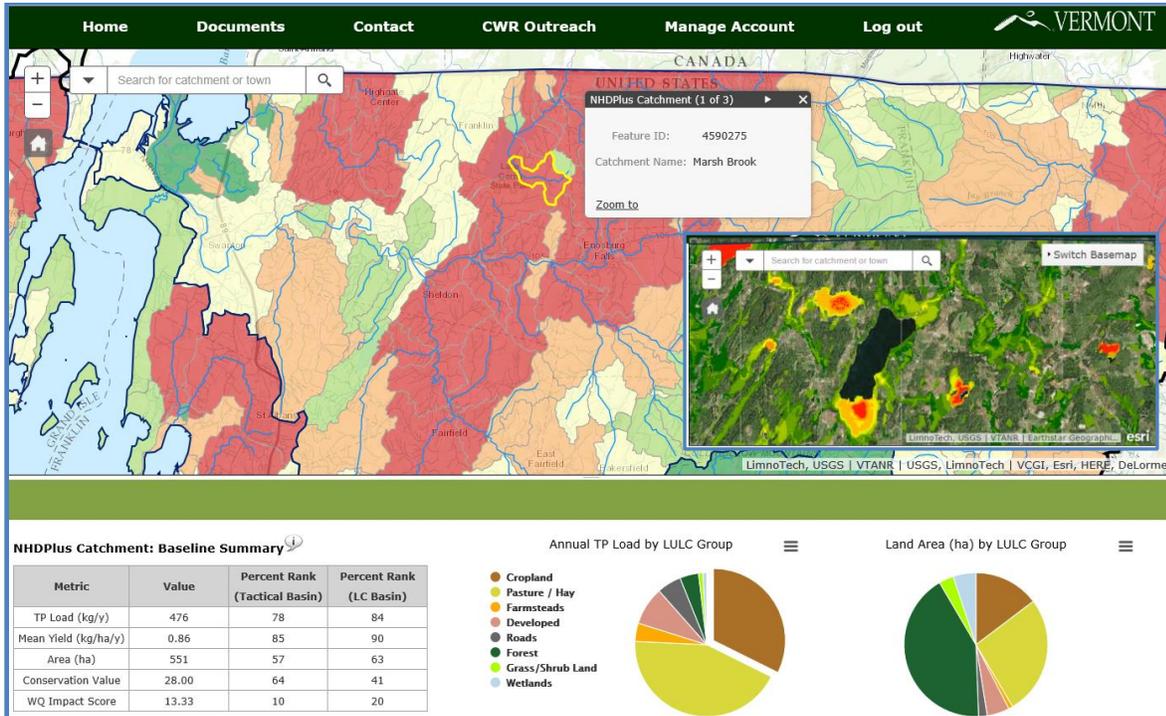
The Clean Water Roadmap

The Clean Water Roadmap Tool (CWR) is a partnership between DEC, Keurig-Green Mountain Coffee Roasters, the Nature Conservancy (TNC), and other stakeholders. The overall goal of the CWR is to ‘map’ the results of the Lake Champlain Soil Water Assessment Tool (SWAT) model and associated follow-on products, especially EPA’s Best Management Practices (BMP) Scenario Tool, along with management actions contained in DEC’s Tactical Basin Plan implementation tables and tracking systems. The CWR provides a description of *one way* the LC TMDL phosphorus reductions can be achieved, largely based on EPA’s reasonable assurance scenario.

The CWR is a map-based application that allows users to click on a specified watershed and receive a summary report of relevant best management practices (BMPs) and ultimately, associated implementation table activities in the selected area. BMP suitability will be assessed using the landscape criteria in SWAT and EPA’s Scenario Tool, while implementation table activity locations will be based on data in DEC’s Watershed Projects Database. The Nature Conservancy’s Conservation Blueprint for Water Quality shows locations that would be high priority for



conservation. Additional relevant spatial information, such as township boundaries, partner data (TNC's), hydrologically connected backroads, etc., may also be included in the future. The CWR can be used by DEC staff, RPCs and Conservation Districts, and other organizations including the public, to identify priority areas and actions for Lake Champlain phosphorus reductions.



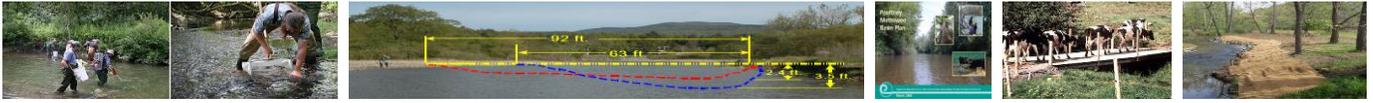
Screenshot of the Clean Water Roadmap, showing total phosphorus loading from the Marsh Brook sub-watershed of Lake Carmi, Franklin, VT. This is the scale at which total phosphorus loads have been estimated for every sub-watershed in the Lake Champlain basin. The inset shows high-priority conservation areas from The Nature Conservancy's Blueprint for Conservation.

Implementation Tables and the Watershed Projects Database

The summary Implementation Table incorporated into each Tactical Basin Plan provides as an over-arching roster of priority implementation strategies identified for each Basin, which appears as a more detailed, prioritized, and "tactical" list of projects in the online Watershed Projects Database (as previously described in Step 6 of the planning process. Together, these resources include location information, project description, the source of the project if an assessment supports the project, and any partners that may have expressed interest in implementing the

ID	Project Name	Project Type	Status	Grant Number(s)
7	Towle Neighborhood Road Erosion Control - Planning and Design	Road Project	Completed	2016-ERP-1-22
51	Northrop Road at Talcott Road (WB-3) Fairfield Ditch Project	Road Project	Completed	2015-ERP-2-12
55	Erosion Reduction along Shenang Road	Road Project	Completed	2015-ERP-2-21
246	Geomorphic Compatibility and AOP Culvert Assessment (Belvidere, VT)	Road Project	Completed	
247	Geomorphic Compatibility and AOP Culvert Assessment (Cambridge, VT)	Road Project	Completed	
248	Geomorphic Compatibility and AOP Culvert Assessment (Fairfax, VT)	Road Project	Completed	
249	Geomorphic Compatibility and AOP Culvert Assessment (Fletcher, VT)	Road Project	Completed	
258	Geomorphic Compatibility and AOP Culvert Assessment (Waterville, VT)	Road Project	Completed	
956	Waterville AOP CULVERT SMITHVILLE RD 79-10	Road Project	Not Graded	
1372	Managing use of post cutting logging roads	Road Project	Not Graded	
1373	Fairfield Pond road project	Road Project	Not Graded	
1374	HQ-08 (Missisquoi Valley Rail trail, near end of Bismark St)	Road Project	Not Graded	
1381	BC-05 (Shenang Rd, just north of Rt. 36 junction) road project	Road Project	Not Graded	
1383	EB-01 (Lost Nation Rd just west of Taylor Rd junction) road project	Road Project	Not Graded	
1385	Fairfield River, FR-01	Road Project	Not Graded	
1386	Fairfield River, FR-02	Road Project	Not Graded	
1387	Elm Brook-BC-19	Road Project	Not Graded	
1388	Dead Creek, BC-09 (Menard Rd)	Road Project	Not Graded	
1391	Wanzer Brook WB-04 (Assorted places along Chester A Arthur Rd)	Road Project	Not Graded	
1392	BC-12 (Ryan Rd by Black Creek Crossing)	Road Project	Not Graded	
1393	BC-16 (Elm Brook Rd, by Black Creek Crossing and railroad bridge just north of crossing)	Road Project	Not Graded	

Watershed Projects Database showing certain road-related water quality projects in the Missisquoi Basin.



project. The database can be updated in real time to add new actions or update existing ones, as implementation proceeds.

As required by the Vermont Clean Water Act (2015 Act 64) and the Lake Champlain TMDL, the State has developed a companion tracking system that will be used to monitor progress meeting clean water restoration goals. The tracking system is being used to track the results of State investments in clean water through State funding programs, and is housed as a DEC internal access system in the Watershed Projects Database. The tracking system will also capture work implemented under State regulatory programs, and as actions listed in the implementation tables move through various stages toward completion, the environmental benefits of the projects will be tracked and quantified. Environmental benefits will include an estimate of annual nutrient load reductions achieved. Eventually environmental benefits will also capture metrics of additional benefits, such as flood resiliency, habitat function, and socioeconomic values. The Watershed Projects Database is online at: <https://anrweb.vt.gov/DEC/IWIS/ARK/ProjectSearch.aspx>.

Other resources

WSMD Staff Support

Watershed Management Division (WSMD) and internal and external partners play a role in natural resource monitoring and assessment. These partners provide monitoring and assessment, planning and technical assistance (Rivers, Wetlands, Stormwater, and Lakes and Ponds).

Watershed Coordinators/Basin Planners

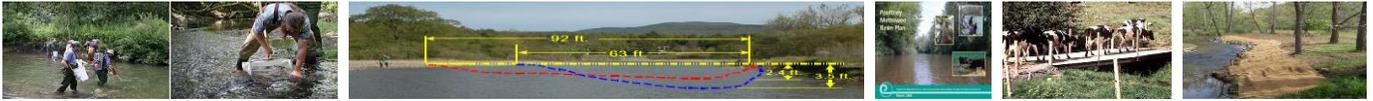
Watershed coordinators serve as liaisons among the agencies, the basin stakeholders and local concerns. Their job is to specialize in their watershed, to know what resources might be available to address concerns and facilitate to the tactical basin planning process. DEC's basin planners also serve as the primary managers of the Watershed Projects Database. DEC's basin planner contact information is available online at: <http://dec.vermont.gov/watershed/map/basin-planning>.

Implementation Teams

Watershed "implementation teams" are the field-level, technical groups within the tactical planning process. These teams are composed of field staff from most State and Federal Natural Resource Agencies (e.g. USDA-NRCS), Regional Planning Commissions, Natural Resource Conservation Districts, Watershed Organizations, and citizen advocates. These teams help in development of monitoring strategies, education and outreach, prioritization of issues and watersheds within the basin, planning, and networking among technical staff and local leaders to apply agency resources to implement strategies identified in tactical basin plans.

I. Clean Water Funding

Projects that are explicitly identified in tactical basin plans, and are prioritized highly by DEC and Regional Planning Commissions/Conservation Districts become the priority projects to be funded using the Clean Water Initiative funding mechanisms. To this end, the process by which Clean Water Initiative funds are distributed has been re-engineered to align with the Tactical Planning Process. Throughout the process of Plan development, partner organizations are encouraged to



participate in a meaningful prioritization exercise that will identify the highest priority items for State support. Projects that are specifically identified in Tactical Plans and associated river corridor, stormwater, agricultural, capitol road inventory or other relevant Plans receive higher scoring in the allocation rubric.

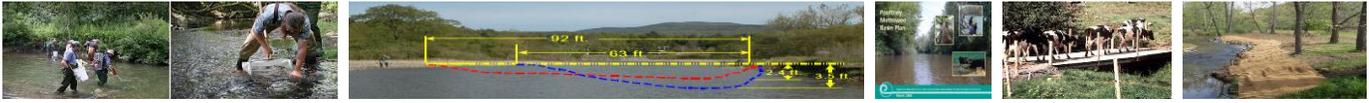
Through the Tactical Planning Process, Vermonters can be assured that:

- state dollars are invested in the most important water quality projects;
- state dollars are leveraged in every way possible to attract additional federal or private funds for appropriate and priority projects;
- there is accounting for successful pollution reductions; and,
- unique, widely applicable sets of priority funding recommendations are reflected in each basin in the tactical planning queue.

J. Schedule for Tactical Plan Development and Issuance

The Division has established a revised schedule for the issuance of Tactical Basin Plans that adheres to the five-year rotation established by VT Water Quality Standards. Table 3 provides a description of the status for each planning basin. An up to date accounting of the current status of planning for all Vermont Basins may be found in the annual legislative reports for tactical basin planning, at <http://dec.vermont.gov/watershed/map/basin-planning>.

Basin and Most Recent Plan Status	Major Watershed	Planner	Activity	2015	2016	2017	2018	2019	2020
Basin 15 – Passumpsic June 2014 – Tactical Plan	CT RIVER	Ben Copans	M+A	Mon	Assess				Mon
Basin 16 – Northern Conn June 2014 – Tactical Plan			Planning			Start	Finish		
Basin 17 - Memphremagog June 2012 – Tactical Plan			M+A			Mon	Assess		Start
			M+A	Assess				Mon	Assess
			Planning	Start	Finish				»
Basin 1 – Hoosic, Battenkill Jan., 2016 – Tactical Plan	CHAMPLAIN	Ethan Swift	M+A				Mon	Assess	
Basin 2 and 4 – Poultney, Mettawee, South Lake June 2014 – Tactical Plan			Planning	Finish					
Basin 3 – Otter, Lewis, Little Otter May 2012 – Traditional/Tactical Hybrid			M+A	Mon	Assess	Start	Finish		
Basin 7 – Lamoille February 2009 – Traditional Plan			Planning			Mon	Assess		
Basin 9 – White July 2013 – Tactical Plan	CT RIVER	Danielle Owcarski	M+A	Assess				Mon	Assess
Basin 14 – Stevens, Wells, Waits, Ompompanoosac	CT RIVER	Danielle Owcarski	Planning			Start	Finish		
Basin 5 – Northern L.C. Direct August, 2015 – Tactical Plan	CHAMPLAIN	Karen Bates	M+A	»			Mon	Assess	
Basin 6 – Missisquoi, Rock & Pike March 2013 – Traditional Plan			Planning	Start	Finish		Mon	Assess	
Basin 8 – Winooski May 2012 – Traditional/Tactical Hybrid			M+A	Mon	Assess				
Basin 10 (13) – Black, Ottawaquechee May 2012– Traditional/Tactical Hybrid			Planning			Start	Finish		
Basin 11 & 13 – West, Williams, Saxtons Jan., 2016 – Tactical Plan	CT RIVER	Marie Caduto	M+A			Mon	Assess		
Basin 12 & 13 – Deerfield, Broad Brook March 2014– Tactical Plan	CT RIVER	Marie Caduto	Planning	Finish					Start
			M+A		Mon	Assess			
			Planning				Start	Finish	



K. Protection of Vermont's Surface Waters

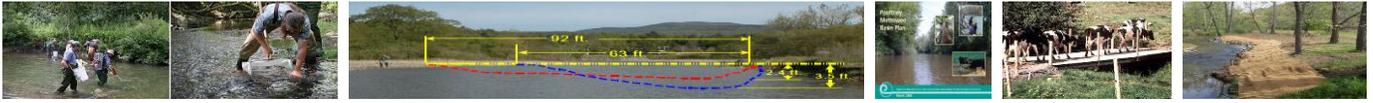
As noted above, tactical basin plans identify very high quality surface waters and identify appropriate legal mechanisms for their protection. This can take place either through water quality reclassification, wetland reclassification, or Outstanding Resource Water designation.

In Vermont, surface waters are classified by the governing water quality law that is implemented through rules of the State and guided by VTANR policy pursuant to the Water Pollution Control Act of 1972 (Clean Water Act, or Act). Pursuant to the Act, States are required to establish and implement water pollution control programs (see generally 40 CFR 131). Under these statutes, Vermont classifies surface waters, designates specific uses to each classification that those surface waters are managed to support, and adopts specific water quality criteria designed to protect the designated uses at the established classification level. Vermont's implementation of the Clean Water Act's framework of classification, use, and criteria is expressed in Statute in Title 10 V.S.A. Chapter 47 (see 10 V.S.A. §§ 1205-1253), most recently amended by Act 79 or 2016. Chapter 29a of Vermont's Environmental Protection Rules, also known as the Vermont Water Quality Standards (WQS) provides the designated uses and specific criteria for each classification. In determining whether water bodies meet water quality criteria and support designated uses, VTANR follows water quality policies and guidance documents which establish baseline expectations for surface waters.

Classification Structure under the Water Quality Standards.

The designated uses of Vermont's lakes and ponds, and rivers and streams may be classified in one of four Classes, as follows:

- Class A(1) waters are waters in a natural condition that have significant ecological value. By statute (10 V.S.A. § 1253), all surface waters above 2,500 feet of elevation in Vermont are Class A(1). Specific waters may have individual uses designated to Class A(1) through the process of amending the Vermont Water Quality Standards. Below the 2,500 ft. elevation threshold, there are numerous surface waters which have been documented to attain the biological criteria established for Class A(1), or to exhibit characteristics consistent with Class A(1). These waters are documented in the tactical plans, and where appropriate, proposed for reclassification.
- Class A(2) waters are waters of uniformly excellent character that, with filtration and disinfection, are suitable for a public water source. Where appropriate, tactical basin plans will recommend reclassification of Class A(2) public water source waterbodies when that waterbody is no longer used for the provision of drinking water.
- Class B(1) waters are waters of which one or more uses are of consistently and demonstrably higher quality than Class B(2) waters. Tactical basin plans catalogue all surface water that consistently and demonstrably attain a higher level of quality than Class B(2), and recommend reclassification for these surface water uses.



- Class B(2) waters are waters that are suitable for: swimming and other primary contact recreation; irrigation and agricultural uses; aquatic biota and habitat; good aesthetic value; boating, fishing, and other recreational uses; and, with filtration and disinfection, a public water source. Class B(2) is the base classification to which all surface waters, excepting those existing Class A(1) or A(2), are managed.

Class 1 Wetland Designation

There are now six Class 1 wetlands designated in Vermont to date, but there are others that qualify for this category, which enjoys additional statutory and regulatory protection. Currently, the wetlands designated as Class 1 include:

- Dorset Marsh in Dorset
- Tinmouth Channel in Tinmouth
- North Shore Wetland in Burlington
- Chickering Fen in Calais
- Dennis Pond in Brunswick
- Sandbar Wetlands in Milton and Colchester.

All Basin Plans approved since 2012 contain specific recommendations for wetland reclassification to Class 1. The latter three wetlands in the above list were reclassified as a result of identification in the respective tactical basin plans.

Outstanding Resource Waters (Tier 3 of Anti-Degradation)

An additional tool to manage and protect Vermont's waters is through the designation of Outstanding Resource Waters (ORWs) pursuant to Tier 3 of Vermont's Anti-Degradation Policy and 10 V.S.A. §1424. ORWs are waters of the State designated pursuant to 10 V.S.A. §1424a as having exceptional natural, recreational, cultural or scenic values. To gain an ORW designation, there must be evidence that the waters in question have exceptional natural, cultural, scenic, or recreational values. To date, the following waters have been designated as ORWs: the Batten Kill and its West Branch, Pikes Falls on the North Branch of Ball Mountain Brook, the lower Poultney River and Great Falls on the Ompompanoosuc River. No ORWs have been designated since 1996. All four Basin Plans approved since 2012 contain specific recommendations for ORW designation.

Existing Uses (Tier 1 of Anti-Degradation)

"Existing uses" are those uses of waters that have been designated by the Secretary and have actually occurred on or after November 28, 1975, in or on waters, whether or not the use is included in the classification of the water, and whether or not the use is actually occurring. Once an existing use is designated by the Secretary, the use cannot be eliminated. In addition, the level of water quality necessary to protect an existing use must be maintained and protected. All tactical basin plans catalogue existing uses as required by the VWQS.