Watershed Planning & Projects

Water Quality Division **May 18, 2004**

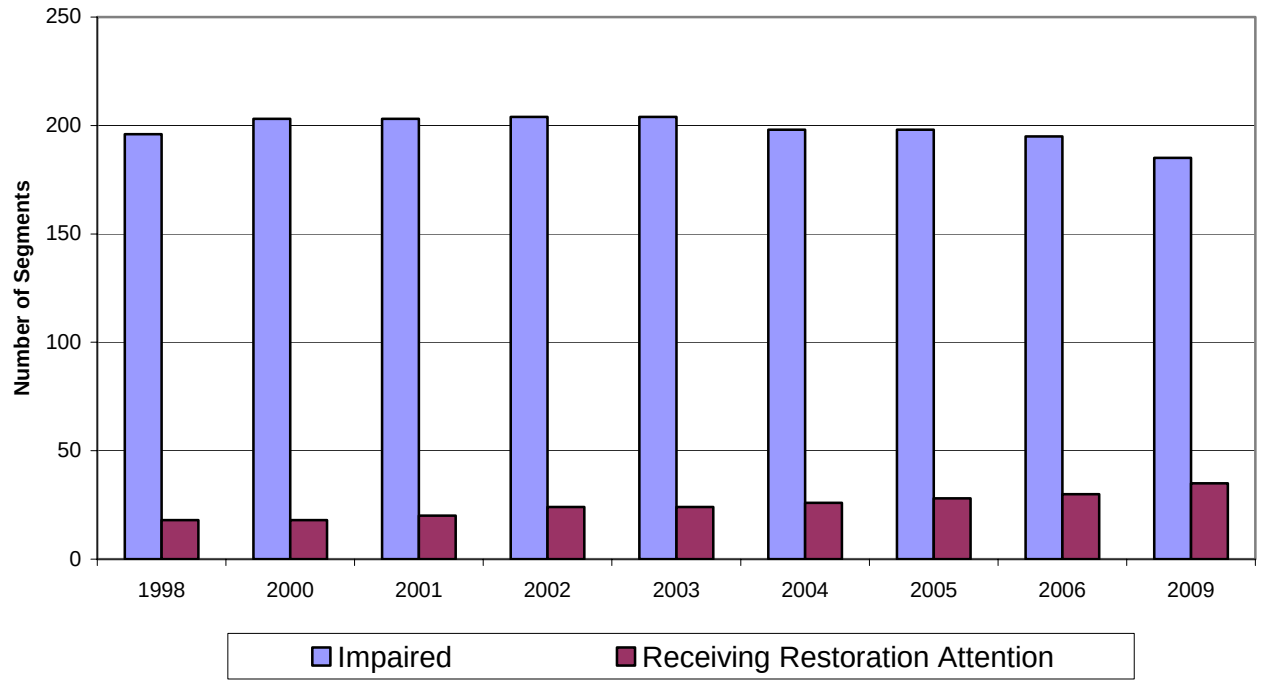
Results

Assess surface water quality conditions throughout Vermont. Restore and protect designated and existing uses and other resource values to meet or exceed the criteria of the Vermont Water Quality Standards.

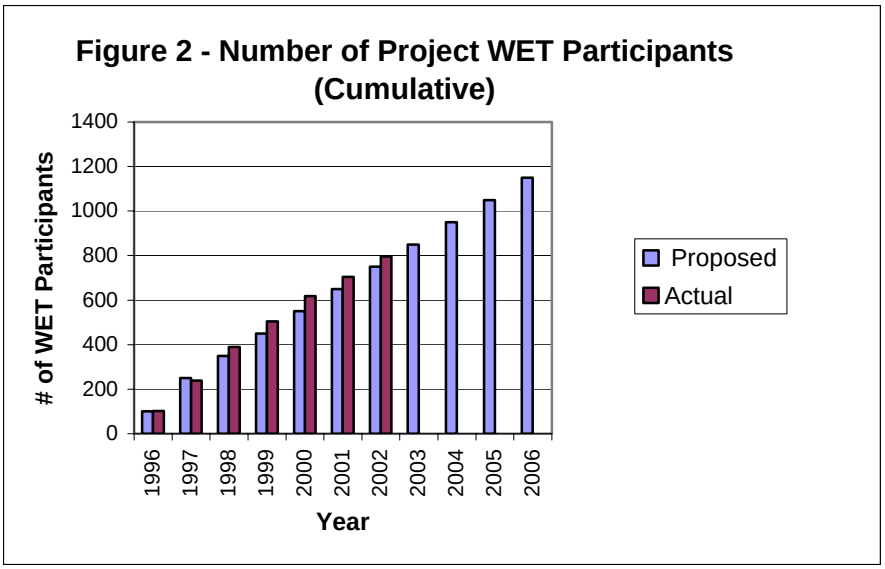
Key Indicators

Figure 1 illustrates the number of impaired water segments that do not meet one or more criteria of the Vermont Water Quality Standards. Impaired waters are either identified on the Clean Water Act Section 303d list as needing a Total Maximum Daily Load (TMDL) determination or on the State of Vermont list as those impaired waters not needing a TMDL. The graph also shows the number of impaired water segments that the Vermont DEC is attending to directly or through its partners with various restoration activities (24 in 2003). In addition DEC is planning specific restoration activities in FFY 2004 for an additional sixty-four impaired waters.

Figure 1.
Impaired Segments and
Segments Receiving Restoration Attention



Equally important to the restoration of impaired waters is the protection of waters that are currently unimpaired, so that they do not become impaired in the future. The education of today's youth is important to protecting our water resources in the future. Figure 2 illustrates the number of Vermont educators that have attended a training course and received classroom materials through Project WET–Water Education for Teachers, the Division's primary mode of educating youth.



Story Behind the Baseline Performance

The number of waterbodies in Vermont with degraded water quality conditions has steadily fallen sharply since the 1960's when the push began to construct municipal wastewater treatment facilities. In the last decade, water pollution control efforts maintain and enhance these facilities. The new focus has shifted to controlling pollutants such as phosphorus and sediment that arise from urban runoff and other sources of diffuse, land-based pollution. The Water Quality Division is addressing an increasing number of nonpoint source impaired waters through **planning,** including preparation of Total Maximum Daily Load determinations, water quality restoration plans, Watershed Improvement Permits, watershed planning, fluvial geomorphic assessments and by **direct restoration** (Figure 1)**,** including river and lake restoration projects by the Division and its partners, Clean Water Act nonpoint source Section 319 projects, and technical assistance to landowners by watershed coordinators, river management engineers, and lake biologists. It is anticipated that the Division will be giving an increasing number of waters attention and that the number of impaired waters will decline slowly. The decline in the impaired waters illustrated in the bar chart is gradual in part because it reflects the slow response of waters to nonpoint source remedial actions as well as due to the occasional discovery of previously unrecognized impaired waters.

Project WET training workshops are hosted several times a year around the state. In the beginning, the workshops were held primarily by Division staff. However, over the years, numerous workshop leaders have been trained so that now others around the state are able to conduct the workshops. This has enabled the Division to continue to train approximately 100 new educators each year, while devoting fewer Division resources to the effort.

Strategies / Performance Measures / Proposed Accomplishments

A. Grants / Loans / Contracts

1. Manage all grants for maximum long-term effect in improving water quality by increasing water segments receiving attention with resulting waters meeting water quality standards and no longer listed as impaired segments (Figure1).
2. Seek adequate funds to adequately carry out the elements of the Lake Champlain Phosphorus TMDL.

3. Synchronize grants and contracts to support high priority water pollution control activities including stormwater management, watershed project implementation and strategy development, the Lake Champlain TMDL and other priorities.
4. Enter in to the EPA "GRTS" system data for applicable 319 pass-though projects. Semi-annual progress reports will be prepared for all pass through projects unless or until all projects are entered into GRTS.

Performance Measure "A"=Actual Values "P"= Projected Values		1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of CWA 319 Nonpoint Source Management Projects (conducted outside DEC)*	P							20	20	20
	A	9	28	21	15	1	19+			
Amount of CWA 319 Nonpoint Source Management Project Funding for non-DEC projects*	P							$715K@	$715K@	$715K@
	A	$383K	$1M	$686K	$374K	$312K	$716K			
Amount of funding associated with Lake Champlain Phosphorus TMDL for implementation/ monitoring/planning***	P						$13.2M	$11.9M	$10.9M	$10.9M
	A	na	na	na	na	na				
Amount of CWA 604b Water Quality Planning Project Funding	P							$40K	$40K	$40K
	A	$40K	$40K	$40K	$40K	$40K	$40K			
Amount of CWA 104b3 Water Quality Planning Project Funding*	P							$73K	$76K	$80K
	A	$61K	$53K	$66K	$62K	$92K	pending			
Number of Vermont Conservation License Plate Projects**	P							22	23	25
	A	16	19	19	21	17	29			
Amount of Vermont Conservation License Plate Project Funding**	P							$56K	$58K	$62K
	A	$23K	$40K	$54K	$50K	$50K	$69K			
Total (not including NRCS, etc.)	**P**						**$13.2M**	**$12.5M**	**$11.6M**	**$11.6M**
	A	**$507K**	**$1,133K**	**$846K**	**$526K**	**$494K**	**$825K +**			

* PPA funded
** Conservation License Plate Watershed Grant Fund (in Department of F&W Budget)
*** Multiple-agency program (not limited exclusively to VDEC)
@ Indicates the amounts shown for 2004, 2005 and 2006 may be proportionately lower in the event of 319 program reductions
na = not applicable

B. Education and Technical Assistance

The cornerstone of all elements of the Division's Watershed Planning and Projects Program rests on the voluntary adoption of pollution prevention and control measures. This is achieved through education and technical assistance, which manifests itself in many forms and is, therefore, difficult to quantify. Overall Division efforts include a comprehensive web page at www.vtwaterquality.org, the biennial Water Quality Assessment Report (305b) and List of Waters (303d) and a Division newsletter, *Out of the Blue*, published twice a year. Watershed protection and basin planning efforts include newspaper articles, newsletters, television and radio appearances, meetings with local government and nonprofit groups, public speaking engagements, visits with landowners, inserts in newspapers, brochures, and constant repetition of the principles of land stewardship as it relates to the control of nonpoint sources. Similarly, watershed coordinators, engineers, biologists and others within the Division are in contact with landowners daily discussing better ways of managing the land, animal wastes or industrial materials to protect the surface waters or ground water. Since this is such an

organic, daily, diverse element of our program, it is only possible to describe most of the outcomes in a general, narrative form. Education of youth focuses on training educators in the use of Project WET materials, holding an annual *Make-A-Splash* water festival for 200-300 school children, and collaborating with other environmental education organizations in Vermont to coordinate and enhance each organization's programs.

Performance Measures: Maintenance of the Division's web site; twice yearly publication of *Out of the Blue*; annual *Make-A-Splash* water festival reaching on average 250 students; preparation of the biennial Water Quality Assessment Report and List of Waters.

Performance Measure "P"=Projected and A"=Actual Values		2000	2001	2002	2003	2004	2005	2006
Number of hits on WQ Division main web page*	P				19,900	19,050	20,950	22,000
	A	nt	nt	Nt				

* PPA funded nt = not tracked

C. Monitoring, Assessment, and Direct Services

1. Increase the efficiency with which the Division delivers direct technical services to land owners and municipalities to restore water quality.
2. Develop a statewide strategic program to carry out proactive, preventive stabilization of river corridors.
3. Systematically complete Total Maximum Daily Load (TMDL) calculations for waters where there is the greatest need and where the greatest result from implementation can be anticipated.
4. Maintain commitment – and seek commitments from others – to implement all approved TMDLs, including Lake Champlain, during the PPA period.

Performance Measure "P"=Projected and A"=Actual Values		1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of river basins assessed under rotational assessment program*	P	4	4	3	2	3	3	3	3	3
	A	1	2	1	2	2	1+			
Number of waters in need of further assessment (see Part C list) being monitored	P							50	50	50
	A	nt	nt	nt	nt	50	51			
Number of segments no longer considered impaired (i.e. removal of segment from either of Parts A or B)	P			0	na	9	Na	5	na	5
	A	334	na	0	na	9				
Number of basins with updated basin plans*	P	0	1	1	1	2	2	1	2	2
	A	0	0	0	0	1	0			
Number of TMDLs completed by DEC*/approved by EPA	P	na	2/2	6/6	13/ 10-13	13/ 10-13	14/ 10-14	7/7	5-9 / 5-9**	12/8-12
	A		0/0	2/0	2/2	9/2	30/39			

* PPA funded nt = not tracked na = not applicable

****** These TMDL numbers are contingent upon EPA accepting a TMDL development methodology that utilizes numeric hydrologic targets associated with a narrative linkage to instream sediment loading as outlined in the Vermont Water Resources Board Final Report "*Investigation Into Developing Cleanup Plans For Stormwater Impaired Waters, Docket No. INV-03-01"*. This TMDL methodology develops hydrologic targets from the analysis of "attainment" streams and applies them to the stormwater impaired reaches. Sediment loading will be addressed through a narrative

discussion that outlines a clear link between hydrologic targets and resultant sediment loading reductions, rather than numeric loading targets.

It is anticipated that the TMDL targets will be developed subsequent to the modeling project currently being conducted by TetraTech under EPA contract. At that time the process of developing TMDLs for the 17 stormwater-impaired streams will be initiated. This TMDL methodology will not include the completed management plan specifics (Implementation Plan) for each watershed since these are outside the scope of current TMDL requirements. Additionally, inclusion of specific implementaion plans in these TMDLs would not allow the proposed TMDL completion schedule due to the extensive and time consuming process involved.

Lake Champlain Phosphorus Reduction

Point and nonpoint source phosphorus reduction activities listed in the Lake Champlain Phosphorus TMDL implementation plan will be actively pursued, contingent on the availability of state and federal funding and the provision of other necessary authority to the Department to carry out these implementation activities. Vermont Governor Douglas announced his “Clean and Clear Water Action Plan” on September 30, 2003. A major focus of this plan is implementation of the Lake Champlain Phosphorus TMDL. Department and Agency staff will work with the Administration to define the funding needs contained in the TMDL and to assist with state budget development to support TMDL implementation. The Governor will convene a “Funders Summit” on December 2, 2003 to begin developing mutual funding commitments from all agencies and organization that have a role to play in implementing the TMDL. Department and Agency staff will organize the Summit and will conduct the essential follow-up activities from the Summit to develop funding opportunities.

Implementation of phosphorus reductions in the Missisquoi Bay watershed will continue, consistent with the approved Lake Champlain Phosphorus TMDL. Monitoring will continue, contingent on continued funding from the Lake Champlain Basin Program and the U.S. Geological Survey. The Department will work to implement the Missisquoi Bay Phosphorus Reduction Agreement signed with Quebec in 2002. We will work with the Quebec Ministry of the Environment and the Lake Champlain Basin Program to continue the expanded monitoring of phosphorus loads to Missisquoi Bay from Vermont and Quebec portions of the watershed. A workplan will be jointly prepared by Vermont and Quebec to ensure coordination of monitoring and data analysis efforts.

Highlights

Status of "Lake Champlain Phosphorus Reduction."

Governor Douglas proposed over $6 million in state funding for the Clean and Clear Action Plan for state fiscal year 2005, combined with an anticipated nearly $8 million in federal funding. The Vermont General Assembly is currently considering this budget request. The Governor's Funders Summit was held successfully on December 2, 2003. Funding ideas and contacts from the Summit are being pursued.