

Executive Summary

In 2004 the General Assembly passed significant budget increases for programs in the agencies of Agriculture, Transportation and Natural Resources to implement Governor Douglas' Clean and Clear Action Plan to improve water quality in Vermont. Following is a summary of the accomplishments of the Agency of Natural Resources in the implementation of this plan.

Administration

The Clean and Clear Executive Director began work in early June 2004. Primary duties of the position are to coordinate the various program activities associated with Clean and Clear and to increase public awareness of water pollution issues and strategies to reduce pollution.

- Meetings of Clean and Clear program managers are held monthly to report on progress and coordinate activities.
- A Clean and Clear website has been established at www.vermont.gov/cleanandclear/ or www.anr.state.vt.us/cleanandclear for dial-up connections. This website will be a focal point for providing information to the public about a wide variety of pollution control initiatives and how individuals can do their part to reduce pollution of state waters.
- There have been over 90 (informal count) news reports on water pollution issues related to the Clean and Clear Action Plan since June, 2004, and about 25% of those reports have been initiated by the Executive Director.

Private Fund Raising

As Governor Douglas announced at the Governors' Funders Summit in December 2003, the Clean and Clear Action Plan includes a strategy for promoting private donations for projects that are consistent with the federally approved plan to reduce phosphorus discharges to Lake Champlain (the Lake Champlain Phosphorus TMDL). Ed Colodny agreed to lead this effort and has made substantial progress in developing the organization for this initiative.

- A steering committee, called the Vermont Trust For Clean and Clear Waters ("Trust") has been established and includes representatives of environmental, business, local and government interests who have met several times to develop and guide the private funding initiative.
- The legal framework for the Trust has been established with the pro bono assistance of the law firm of Dinse, Knapp, and McAndrew, where Ed Colodny is Of Counsel. The firm provides complimentary office space for meetings of the Trust.
- The Trust has established an account with the Vermont Community Foundation to hold and disburse funds donated to the Trust.
- Fundraising has resulted in \$35,000 in donations to date to assist with the development effort.
- The Trust initially pursued the option of doing its own, direct fundraising and then disbursing the donations to projects that furthered the goals of Clean and Clear throughout

the Lake Champlain Basin. However, this option presented several logistical obstacles, such as incorporation as a 501c3 non-profit and the associated overhead and administrative expense. There was also concern that the Trust's fundraising efforts would compete with existing non-government organizations (NGOs) for the same donor dollars. Instead, the Trust has decided to assist existing NGOs with their fundraising for projects that the Trust will certify to be consistent with the Clean and Clear Action Plan and the Lake Champlain TMDL.

- Although many of the action items under Clean and Clear are appropriately funded by government (e.g., wastewater treatment plants, watershed planning, regulation), the Trust identified several of the Clean and Clear Program areas that would be appropriate for private funding. These include: the Conservation Enhancement Reserve Program (CREP); Alternative Manure Technology; the Stream Stability Program; Wetland Protection and Restoration; Monitoring; St Albans Bay Treatment; and Information and Education.
- The Trust's first initiative will be to assist the University of Vermont with fundraising for a project to develop an enhanced environmental accounting system to gauge the progress of our efforts to clean up the Lake.
- The other priority area selected by the Trust is to provide private funding to increase the available match for farmers enrolling in the federal Conservation Reserve Enhancement Program (CREP).

Wastewater Discharges

About 22 metric tons per year in phosphorus reductions specified in the Lake Champlain Phosphorus Total Maximum Daily Load (TMDL) will come from reduced phosphorus discharges from wastewater treatment plants. A schedule has been developed for funding these treatment plant upgrades so that the bigger reductions are funded first and the state capital costs are spread equally over six years. The General Assembly appropriated \$1,000,000 in capital funds in FY05 to start the upgrade process.

- \$500,000 was appropriated for the lagoon-type wastewater treatment plant in Richford. The plant design is nearing completion, and construction should be complete later this year.
- \$500,000 was appropriated for the plant serving Troy/Jay. The plant is in design and should be operational late this year or early next.
- The total reduction in phosphorus at the design flow for these plants will be 3.364 metric tons per year.
- Funding for Hardwick (\$500,000) and Waterbury (\$500,000) is being requested in the FY06 capital budget, along with funding for increased costs at the Richford facility (\$190,000).
- The total reduction in phosphorus at the design flow for Hardwick and Waterbury would be 5.11 metric tons per year.

Watershed Action Planning

The river basin plans required by statute are the central focus for public involvement in the development of strategies for water quality improvement and protection at the community level in watersheds throughout Vermont. Watershed Councils are established in each basin to insure a broad cross-section of public involvement. The two watershed coordinator positions approved by the General Assembly in 2004 have been filled and we now have watershed action plans under

development in five watersheds in the Lake Champlain basin. In the Connecticut Valley, the White River basin plan was completed in 2003 and the plan for the West, Williams and Saxons rivers is under development.

Champlain Basin

- The Poultney/Mettowee basin plan is in final draft form and should be adopted in the near future.
- The Lamoille River basin plan has been drafted and shared with communities throughout the watershed and received a largely favorable response. The Watershed Council is preparing a revised draft for public review and comment and should be starting the public process in the near future.
- The Otter Creek basin plan is in the early stages of development, with the Watershed Coordinator working with several watershed associations, planning commissions and other organizations in the basin to develop inventories, restorations projects and recommendations for waterbody typing and classification.
- The Northern Lake Champlain basin is composed of a number of smaller disconnected watersheds flowing to the lake. The Watershed Council agreed with the Agency and the Missisquoi River Basin Association that the Rock and Pike rivers would be best addressed in the Missisquoi River basin plan because these rivers, like the Missisquoi River, flow to Missisquoi Bay. Development of the basin plan for the remainder of the Northern Lake Champlain basin is underway.
- The Missisquoi River basin plan development began with the hiring of a new watershed coordinator in June and the opening of agency offices at the Northwest Regional Planning Commission in St Albans. The Missisquoi plan will include all the tributaries to Missisquoi Bay. The agency began seeking public involvement in plan development with six public meetings around the basin.

Connecticut Basin

- The White River basin plan was adopted by the Secretary in 2003 and submitted to the Water Resources Board for adoption to the typing and classification recommendations in the plan. Action on these recommendations is expected this year.
- The West, Williams, and Saxons rivers basin plan is well underway. Although the agency has been actively involved in this planning basin, the lead for this basin plan development is with the Windham Natural Resources Conservation District, using a grant from the agency to support their work.
- The Stevens, Wells, Waits and Ompompanoosuc rivers basin plan is in the early stages of development.

Stream Stability

Erosion from the beds and banks of unstable streams is a significant source of sediment and phosphorus pollution. The agency's river management program uses a comprehensive, scientific strategy for evaluating erosion and flood potential on a watershed scale and for designing interventions to reduce that potential in ways that will provide long term protection, compatible with natural river and stream hydrology. The three phases of this strategy are *project identification* through comprehensive stream geomorphic assessments, *project development* through alternatives analyses that engage riparian landowners, local governments and others in the design of erosion treatments and corridor protection strategies, and *project implementation* of river corridor restoration and protection practices.

- All \$590,000 in grant funding has been obligated to projects, including the \$90,000 that was specifically earmarked for the St Albans Bay and Missisquoi Bay watersheds.
- Ten project identification assessments are under way.
- Grants have been awarded for ten project development projects.
- The agency has provided funding to implement four river corridor restoration and protection projects.
- All positions authorized by the 2004 Appropriations Act were filled by September 2004, except the Stream Alteration Engineer. This engineering position has been difficult to fill because of the job market for engineers, but it should be filled soon.
- Offices have been opened and staffed in St Albans and Rutland.
- Development of a web-based geomorphic assessment Data Management System is well underway and should be completed by mid-year. The DMS will be available online to the public and partner agencies and will automate the analysis, quality assurance, maintenance and reporting of the geomorphic assessment data.
- Other activities include: improved mapping, public information initiatives, training seminar development, and other activities designed to improve understanding of river management science by both the public and professionals involved in the field.

Better Backroads

The Better Backroads program is a partnership between ANR, VTrans, the Northern Vermont Resource Conservation and Development Council (RC&D), and the Vermont Local Roads Program at St Michaels College that provides technical assistance and small grants to towns for improved back road maintenance. Using appropriate designs for roadside ditching, culverts, etc. both reduce pollution from sediment and phosphorus and are cost-effective in the long run. The program was able to award grants for all the enhanced funding provided last year under the Clean and Clear Action Plan.

- \$31,487 was awarded to nine towns to conduct road inventories and/or develop capital budget plans.
- \$185,515 was awarded for 32 projects to correct erosion problems.
- The RC&D is in the final stages of the recruitment process for the 1.5 positions funded under Clean and Clear.

Erosion Control at Construction Sites

As a delegated state, Vermont manages the EPA program for issuing permits for projects that will disturb more than five acres of land during construction. The EPA jurisdiction has changed to cover projects that disturb more than one acre of land, and the Vermont program will have to follow suit in order for the state to retain delegation. The General Assembly approved one new position for this program in 2004 and additional staffing will be required in order to implement the new federal jurisdiction in a way that is both effective in preventing pollution from construction sites and timely in response to applications from the regulated community.

- The staffing approved in 2004 has allowed this program to cut its application processing time in half, from 90 to 45 days. Additional staffing requested for FY06 would further reduce this time.
- Training in erosion control techniques was provided to over 100 contractors and engineers in Burlington last fall and was very well received. The training is being offered in February 2005 in Rutland and St Johnsbury.
- As recommended in the TMDL, the agency is updating the 1987 Erosion Control Handbook.
- The agency is developing a Homebuilder's Manual to provide guidance that will allow homeowners to develop applications themselves without having to hire a consultant.

Local Municipal Actions

Many activities that can cause pollution to state waters are under the jurisdiction of local municipalities. Municipal plans and ordinances that include pollution control strategies are very effective tools in reducing the impacts of projects on adjacent waterways. In 2004, the General Assembly approved funding for one FTE to provide technical assistance to municipalities with the development of plans and ordinances that will protect water quality.

- The agency has awarded a grant to the Vermont League of Cities and Towns to provide technical assistance to municipalities in the development of plans and ordinances that will protect water quality.
- The agency and VLCT jointly developed a position description for the position that will provide this service and recruitment is in the final stages.
- In developing this program, it became obvious that there is a need to coordinate the various water quality-related planning efforts that are occurring at regional planning commissions, the University of Vermont, VLCT, the Agency of Commerce and Community Development and the Agency of Natural Resources. We have begun a dialog with these partners to establish a coordinating mechanism that will ensure effective service to municipalities and avoid duplication of effort.

Wetland Protection and Restoration

Healthy wetlands trap sediment and absorb phosphorus, reducing the impact of adjacent land uses on state waters. The General Assembly provided \$250,000 in capital funds for FY05 to protect and restore wetlands.

- The agency is using \$80,000 of this funding to develop the wetlands restoration plan recommended in the Lake Champlain Phosphorus TMDL.
- Agency staff has been in contact with numerous potential partners in the development of wetland acquisition or restoration projects.
- The agency is evaluating the potential for restoration projects on state-owned land.

Monitoring

Most of the funding for monitoring Lake Champlain comes to the states of Vermont and New York through a federal appropriation to EPA. The TMDL and Clean and Clear call for support of the statewide, Vermont Lay Monitoring Program, where local Vermonters collect samples and the agency laboratory analyzes the samples. The TMDL also recommends, continuing the Long Term Monitoring Program funded by the Lake Champlain Basin Program, updating the 1993 land use/land cover satellite information, and making a significant commitment to research in the Champlain Basin.

- The agency used the \$30,000 in general funds provided for Clean and Clear to support the Lay monitoring program in 2004. In addition to laboratory analysis, the agency is preparing a Volunteer Surface Water Monitoring Guide as a resource for all citizen monitors in Vermont.
- At the urging of the St Albans Bay Watershed Association, the agency used \$25,000 in FY04 funds to initiate a study of the long-term phosphorus changes in the sediments of St Albans Bay. Sediment cores from the bay were obtained last summer by the UVM Department of Geology and the final report is expected in June of this year.
- The agency has allocated \$75,000 in FY05 Clean and Clear funding for a grant to the Lake Champlain Basin Program to update the 1993 Landsat satellite data that formed the technical basis for the non-point source pollution calculations in the TMDL. This will provide an “apples to apples” comparison of how changes in land use over the last ten years may be affecting phosphorus loading to Lake Champlain. The results of this study should be available at this time next year.
- \$500,000 in FY05 federal funding to the US Army Corps of Engineers is available for the completion of a more comprehensive, higher resolution satellite analysis of land use and land cover in the Lake Champlain Basin that will provide additional information about the basin for a large number of potential users. This study should be completed in two or three years.
- The private funding initiative has identified research as one of its funding priorities and is presently supporting development of a research project at the University of Vermont.

Stormwater Management

In 2004 the General Assembly passed comprehensive legislation for the management of stormwater in stormwater-impaired watersheds. Although a decision by the Water Resources Board last fall raises significant questions about the implementation of portions of the new law, the agency has been proceeding to implement the law, with a focus on those portions of the law that are not in question. Following are highlights of action on stormwater in 2004, including program implementation in both impaired and unimpaired watersheds.

- 1,100 of the 1,441 expired stormwater permits have been successfully processed, either re-issued or terminated for various reasons. Only 23 permits have required the initiation of formal enforcement action, so far.
- The program is at full staffing strength as authorized by the General Assembly in 2004.
- The agency has identified 11 potential offset projects for development in impaired watersheds.
- ANR has contracted with UVM to develop a consistent baseline of stream geomorphic assessment for streams affected by stormwater in Chittenden County.
- A \$100,000 RFP has been issued for sub-watershed delineations and stormwater discharge mapping. This work product should be completed by the fall of this year.
- Other projects totaling \$187,000 are underway for satellite imagery and hydrological gauging, and ANR continues to work with EPA on the development of stormwater models for stormwater-impaired watersheds.