

CASIN' THE BASIN

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Lake Champlain
Basin Program

CONTENTS:

Your Local Watershed	1,4,5
Basin Waves	2
Sea Grant News	3
Champlain 2000 Awards	6
Waterchestnuts	6
Bike Champlain 2000	7
History Washes Ashore	7
Summit 2000	8
Lake Champlain Websites	8
Local Project Awards	9
Partnership Program Awards	10
2000 LCBP Funding Plan	11
Sharing with Lake Ohrid	11
LCBP Resources	12

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Your Local Watershed

by Nicole Ballinger

Missisquoi River Basin Association



Volunteers cleaning up the Missisquoi River Basin.

If you receive *Casin' the Basin*, you likely reside within Lake Champlain's basin or watershed. At 8,234 square miles (about the size of Massachusetts), the watershed spans from the Adirondack High Peaks to the Green Mountains. This area collects precipitation and, unfortunately, pollutants from the land and carries them to the Lake via hundreds of rivers and streams. Lake Champlain's water quality is affected by the all land and water uses in the Basin. That's why using a watershed perspective to protect the Lake is critically important. It's also why many local watershed, river and lake organizations have formed. Their work is vital to the Lake's future.

Continued on page 4



Bateau found - page 7.



Waterchestnuts - page 6.



Summit 2000 - page 8.



BASIN WAVES...

*Good news from around the
Lake Champlain Basin!*

Explore the Basin's fascinating geology with a new guide produced by **SUNY Plattsburgh's Geology Department**. *Outstanding Geologic Sites of the Champlain Basin New York* describes 16 field locations that are easily accessible. Maps, descriptions and directions are included for each site. Sites include Chazy's spectacular snail fossils and Jay's anorthosite (moon rock). An LCBP grant helped make this guide possible. For your FREE copy of the guide, contact David Franzi at (518) 564-4033.

Erik Beck



One of the river models produced by BRASS.

The **Boquet River Association** has produced 13 table top models of streams and watersheds, with the help of an LCBP grant. Designed by artist Jane Clark Brown, these original models demonstrate aspects of watersheds such as proper and improper development patterns, historical uses of the Boquet watershed, the importance of good habitat, and river sedimentation. The models are portable and may be borrowed by other watershed and river groups within the Lake Champlain Basin. For descriptions of the models and more information, contact the LCBP.

Colleen Hickey and Nicole Ballinger, **LCBP Education and Outreach** staff, recently shared the successful *Champlain 2000* partnership with participants at the national US EPA watershed outreach conference in San Diego. Colleen and Nicole also learned about promising outreach efforts used in other regions of the country. For more information about *Champlain 2000*, contact LCBP or visit our website, www.lcbp.org.



Girl Scouts can help clean water and earn a new patch! **The Water Drop Patch Project** encourages girls to get involved in community-based watershed projects. Activities include:

learning about their local watershed, reducing pollution, stenciling storm drains, and monitoring stream health. The US EPA and the Girl Scouts developed a booklet to help scouts earn the patch. For a copy call the National Service Center for Environmental Publications at (800) 492-9198 or read the on-line version at www.epa.gov/adopt/patch/.

Phish's WaterWheel Foundation has awarded \$121,000 to several organizations helping to improve Lake Champlain's watershed. The grantees are the **Lake Champlain Committee**, the **Lake Champlain Basin Science Center**, the **Nature Conservancy**, the **Vermont Natural Resources Council**, and the **Lake Champlain Land Trust**. Three watershed groups will also receive operating grants of \$2,000 each: the **Missisquoi River Basin Association**, **Friends of the Winooski River** and the **Franklin Watershed Committee**. WaterWheel grants are supported by sales of **Ben & Jerry's Phish Food** ice cream. Eat up this summer! For more information contact the Waterwheel Foundation at waterwheel@phish.com or visit their website at www.phish.com/waterwheel/.

The **Towns of Colchester and Williston Vermont** recently adopted ordinances to protect stream water quality. In February, the Colchester Select Board adopted regulations to create an 85' natural buffer zone on both sides of all streams in Colchester. Within this buffer zone all new development is restricted. Pollution of Mallett's Bay has been an important and controversial issue in Colchester for many years. This step will reduce pollutants reaching the Bay. For more information contact Town Planner, Sheldon Laidman at (802) 654-0719. In Williston, the Select Board amended their stream bank buffer ordinance to include a 50' natural buffer around all tributaries. Large streams, rivers and bodies of water are protected by a 150' buffer. For more information contact Town Planner, Mike Munson at (802) 878-6704. Creating natural buffers around streams helps filter out pollutants before they reach streams and eventually Lake Champlain.

The **Sunset Lake Preservation Association** in Hinesburg, Vermont was recently awarded a \$1,000 grant from the **Vermont Agency of Natural Resources** for pollution monitoring. Samples will be collected from at least five sites this summer to test for a variety of indicators, including *E. coli*, phosphorus and biochemical oxygen. The Association will use the data to direct its long-term Lake habitat preservation. For more information visit the Association's website, www.geocities.com/vtsunsetlake or contact Martin Peterson at (802) 482-5883 or thundermtn@aol.com.

The Salmon River in Clinton County, New York will be restored with help from the **Lake Champlain Chapter of Trout Unlimited**. Trout Unlimited's Embrace-A-Stream program, funded through the One Fly Foundation, awarded \$6,920 to the Lake Champlain Chapter. Volunteers from Trout Unlimited will restore the stream bed and correct an erosion problem. Partners in this project include the US Fish & Wildlife Service, the Natural Resources Conservation Service and the landowners. For more information contact the Chapter President, Bill Wellman at (518) 563-1985 or wellmanw@westelcom.com.

Don't Miss

Lecture: "Steam Power: Turning Point of Technology." July 13 at 7:30 PM by Andre Lepine, Maritime Archeologist and Jean Belise, Art Historian. Basin Harbor Club Town Hall. Free. Call (802) 475-2022 for more information.

Celebrate the Lake! July 15-23. Celebrate Lake Champlain with many fun, free activities. Locations throughout the Basin. Call the LCBP for a schedule or view it at www.lcbp.org/ctl.htm.

Give a Day to Lake Champlain July 17. Support Basin businesses who on this day give a percentage of their sales or a flat donation to the Lake Champlain Committee. For more information or to sign up your business call the LCC at (802) 658-1414.

LakeFEST July 21-23. Celebrate Vermont's lakes and the work lake associations and residents do to protect them. Call the Vermont DEC at (802) 241-3777 for more information.

Lecture: "Chronicles of Lake Champlain." July 27 at 7:30 PM by Russell Bellico. Basin Harbor Club Town Hall. Free. Call (802) 475-2022 for more information.

Adirondack Waterfest 2000! August 4. Port Henry, New York. Celebrate the Adirondack's waters. Call Art Rich at (518) 546-7261 for more information.

Champ Day! August 5. Port Henry. Celebrate the mysterious Lake Champlain monster. Call Art Rich at (518) 546-7261 for more information.

Bike Champlain 2000. September 8-10. Bicycle the Champlain Bikeway with this supported tour. Register on-line at www.champlainbikeways.org or call (518) 597-4646.

Celebrate the Winooski! Coming this September. Partake in this fun event featuring a parade, river clean-up and storm drain stenciling. Contact the Friends of the Winooski at (802) 223-7329 or on the web www.homepages.together.net/~dbraun/FWR for more information.



N E W S

Sea Grant



The trawl net workshop held last Spring by Sea Grant.

With the two new Sea Grant Specialists on board, the new Lake Champlain Sea Grant program is well underway. We'll be devoting space in this and upcoming issues of *Casin' the Basin* for news from Sea Grant.

Last Spring, Mark Malchoff, the Specialist with SUNY Plattsburgh, facilitated a trawl net building workshop at the Rubenstein Lab in Burlington. Twenty participants including Vermont Fish and Wildlife staff and University of Vermont faculty and graduate students gained design and hands-on repair skills to more efficiently use fish sampling gear in Lake Champlain for both research and management. Dr. Greg Boyer, from SUNY Syracuse, recently visited the Sea Grant office in Plattsburgh to lecture on blue-green algae issues. Researchers from New York, Vermont and Quebec attended, including those who will be working on Lake Champlain blue-green issues this summer with the LCBP. The Boquet River Association was recently assisted by Lake Champlain Sea Grant as well. Mark and a SUNY Plattsburgh geologist provided guidance to BRASS on engineering plans for an eroding bluff in Noblewood Park on Lake Champlain.

Jurij Homziak, the Lake Champlain Sea Grant Specialist at the University of Vermont, is developing regional watershed programs as part of this year's George D. Aiken Lecture Series, "Vermont's Watersheds: Sustaining Ecological and Economic Vitality," hosted by the University of Vermont Division of Agriculture, Natural Resources and Extension. The series kicked off with a seminar in Burlington on May 1st and will continue with regional programs in September and October. Programs are anticipated in Poultney, Manchester and St. Johnsbury and will focus on issues of importance to local watersheds. For more information call the Division of Continuing Education at (800) 639-3188 or (802) 656-2088 or visit the Aiken Lecture website at www.uvm.edu/~dceweb/aiken/.

Phosphorus Reduction – Keeping On Track

It's been four years since *Opportunities for Action*, Lake Champlain's long term management plan, was signed by the governors of New York and Vermont. The plan identified reducing excess phosphorus in the Lake as one of the Basin's highest priorities and it set phosphorus concentration goals for each of thirteen major Lake segments. To reach these goals, known as the in-lake criteria, the annual phosphorus load entering the Lake in tributary rivers must be reduced by 57 metric tons, something we hope to achieve within 20 years. Vermont, New York and Quebec have been working hard to achieve the first 25% of this required reduction within the first five years, by the fall of 2001.

Last year the Lake Champlain Steering Committee decided to find out how we are progressing with this priority. It created a Phosphorus Reduction Team to evaluate our progress toward the interim 25% reduction goal (by 2001) and the long-term goal (by 2016). The team was also asked to explore the feasibility of accelerating our phosphorus reduction efforts to achieve our goals on a faster schedule. The team recently reported its findings.

The Team, chaired by Dr. Mary Watzin of UVM, found that by 2001, Vermont, New York and Quebec will have reduced the 1995 point and nonpoint source phosphorus inputs to Lake Champlain by about 38.8 metric tons, *far exceeding* the 5-year interim reduction goal of 15.8 metric tons per year for Lake Champlain! Most of these reductions (22.7 tons) were gained by upgrading wastewater treatment plants, but substantial progress (16.1 tons) results from the increased use of agricultural best management practices (BMPs) throughout the Basin.

Looking ahead at the 20-year goal, however, the study projected that relying on currently planned wastewater treatment plant upgrades and agricultural BMPs alone would not be sufficient in some segments of the Lake to meet our goals.

One factor considered by the Team is that non-point source phosphorus pollution is greater in runoff from urban and developed areas than from either agricultural or forested areas (on an acre by acre basis). As agricultural or forested lands in many parts of the basin are developed, there is an associated increase in phosphorus runoff to adjacent streams that offsets some of the progress being made in other areas of the watershed.

The report found that the developing economy and changing landscape will require some new approaches to ensure that progress with phosphorus reduction continues towards our established goals. Better nonpoint source management to control the more polluted urban runoff, expanded agricultural BMPs, and new technologies to improve the effectiveness of wastewater treatment plants are among the many options explored by the Phosphorus Reduction Team. The Team also explored the associated costs of these options.

New York, Vermont and Quebec have made great strides and are well ahead of schedule in reducing the phosphorus load entering the Lake. However, new approaches will be considered by the Lake Champlain Basin Program in order to reach our goals in twenty years or sooner. The Phosphorus Reduction Team Report is an important assessment of our progress and key options to explore to get this important job done.

Bill Howland
Basin Program Manager

Boat Launch Reopens



Over a half million dollars have been invested in the Westport Boat launch renovation on Lake Champlain. Funding was provided by the NYSDEC from the Clean Water/ Clean Air Bond Act and a grant from the U.S. Department of Housing and Urban Development (HUD) under the Canals Corridor Initiative.

NYS Secretary of State (and former Lake Champlain Management Conference member) Sandy Treadwell, Assemblywoman Betty Little, Westport Town Supervisor Reg Mero, and NYSDEC Commissioner John P. Cahill at the opening of the renovated Westport, NY boat launch.

Continued from page 1

Your Local Watershed

The Basin's size, however, makes lake protection and restoration efforts at a smaller scale important. The Basin is collectively made up of eight smaller sub-basins (see map next page), each drained by one or more of the Lake's major tributaries. For example, the Missisquoi Basin is drained by the Missisquoi, Pike, Rock, and Trout Rivers and includes many lakes, such as Lake Carmi. The Poultney-Mettowee Basin, where Lake George predominates, includes the Poultney and Mettowee Rivers.

Within Lake Champlain's sub-basins, more than 25 diverse organizations carry out watershed, river and lake protection activities. They include organizations such as the Missisquoi River Basin Association, which works in the 750,000+ acre Missisquoi River watershed, and the Potash Brook Project, which monitors a small tributary in the City of Burlington, Vermont. Other groups focus more on lakes, such as the Shore Owners' Association of Lake Placid and the Lincoln Pond Association. Although each organization's focus differs, their collective accomplishments are critical steps toward protecting and restoring both local lakes and rivers, and Lake Champlain.

"Although the Lake Champlain Basin Program and state agencies are able to carry out many Basin-wide activities, local watershed protection efforts are also critically important to our success," said Bill Howland, Basin Program Manager. "These local organizations have strong community connections, volunteer networks and an intimate knowledge of the unique ecological and cultural dynamics of their watersheds."

The Lake Champlain Committee, an established not-for-profit organization, is the largest watershed association and works throughout the Lake Champlain Basin. LCC has accomplished many projects through more than three decades, including watershed clean-ups, stream restorations, recreation access enhancements, and pollution prevention activities.

Lewis Creek Association



Testing Lewis Creek's water quality.

Many Players, Similar Goals

Although each local organization is unique, they all have similar goals which include clean water, habitat protection and public access. Progress is made in many ways, from stream bank restoration to river clean-ups to educational efforts. Some groups, like the Friends of Winooski, hold annual celebrations to spread the word about protecting clean water.

"This September, Celebrate the Winooski will partner with local business and arts organizations to draw people's attention to the river and raise awareness about water quality issues," said



Missisquoi River Basin Association

Stabilizing a streambank in the Missisquoi Basin.

Freddie Cousins of Friends of the Winooski. "Community members are invited to clean-up the river, stencil storm drains and watch a parade through Montpelier."

Getting students involved is another tool used by local river and lake organizations. Taking kids out to streams and rivers fosters a new generation of caretakers and teaches science in fun and realistic settings.

"We took students from Dave La Point's class at Fred Tuttle Middle School in South Burlington out to the brook to collect data on *E. coli*," said Carl Engvall of the Potash Brook Project. "It gave kids a chance to do real science and we provided the lab test results to the City of South Burlington." Similarly, the Mt. Mansfield River Watch has worked with local high school students on a stream inventory of macro-invertebrates (insects that indicate water quality). In the AuSable River Watershed, middle school students have studied stream insects.

Collaborating with local and state agencies accomplishes many projects which require technical expertise and training. For example, the Missisquoi River Basin Association (MRBA) worked with the Vermont DEC and other agencies to stabilize a one-mile stretch of the Trout River near Montgomery Center. MRBA volunteers planted over 25,000 willow whips, which help hold up the stream banks, and the Vermont DEC provided technical oversight.

Local watershed and river groups are often able to work most efficiently with local landowners whose land uses are damaging water quality. While state agencies may be perceived as regulators, local groups are often made up of trusted friends and neighbors. Local organizations can help landowners plan and implement better land management practices and may even increase landowner compliance with regulations. Local organizations also provide a link to funding and technical expertise from state and federal agencies.

"We've helped partner local landowners with state agencies several times," said Janet Swentusky of the AuSable River Association. "Recently we fenced horses out of wetlands near

the AuSable River with the cooperation of the landowner, the USDA Natural Resources Conservation Service, the US Fish and Wildlife Service, and the Lake Champlain Basin Program."

Challenges and Opportunities

When one considers the diversity and magnitude of these local watershed, river and lake organization's accomplishments, it is hard to believe how heavily they rely on volunteer labor. Only a few have a full or part-time staff to coordinate activities, seek grant money, increase membership, and recruit volunteers.

Last winter, the Lake Champlain Basin Program spearheaded an effort to strengthen these groups. While the LCBP has provided grants for specific projects since 1992, it is now providing a new forum for information sharing and training. The LCBP recently held two meetings for watershed groups, provided a newsletter, created a portable watershed exhibit, and started an email list-serve. In the months ahead, the LCBP will be increasing the visibility of local groups by adding more pages about watershed organizations to its website. By networking this way, the LCBP hopes to strengthen these groups, while supporting their unique identities within their watersheds.

"Sharing our successes and difficulties helps watershed groups feel like they are not alone in their efforts and are instead part of a greater movement to protect rivers and lakes," said Robin Ulmer of the Boquet River Association. "Together watershed groups can benefit from sharing project techniques and work towards sustaining themselves over the long-term."

This year, the LCBP is helping to fund the formation of the Little Chazy River Watershed Partnership, which will inventory the watershed's natural and cultural resources, compile GIS mapping data, and hold public meetings. The LCBP has also provided funding towards the formation of other relatively new groups such as the AuSable River Association and the Poultney-Mettowee Watershed Partnership. Total LCBP funding to watershed groups since 1992 has been nearly \$636,000.

Continued from page 4

New funding sources such as the WaterWheel Foundation, which distributes royalties from Ben and Jerry's Phish Food ice cream to Lake Champlain watershed protection projects, are also offering grants, and training opportunities are growing. Last May a stream restoration training session was held by the Vermont DEC, the US Fish and Wildlife Service and the Association of State Wetland Managers. The LCBP makes funds available to watershed groups to attend training and other professional development.

You Can Help

Opportunities abound for local residents to get involved. To get wet in your watershed, meet new people and help your lakes and rivers — volunteer! Activities include tree planting, river clean-ups, water quality monitoring, office help, and animal tracking. For contacts and more information, see the sidebar, visit our website (www.lcbp.org) or call us at (800) 468-LCBP.

Missisquoi River Basin Association



Preparing willow waddles for a streambank planting.

Local Watershed Contacts

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(802) 425-2002 scottpond@aol.com

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Lamoille River Anglers Association
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Mt. Mansfield River Watch
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Potash Brook Project
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Poultney - Mettowee Watershed Partnership
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Poultney River Watch
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www.gwriters.com/prw.html

Saranac Lake River Corridor Commission
Deborah A. McDonnell - Office of Community Development Power and Light Building 2 Main St. - Third Floor Saranac Lake, NY 12983
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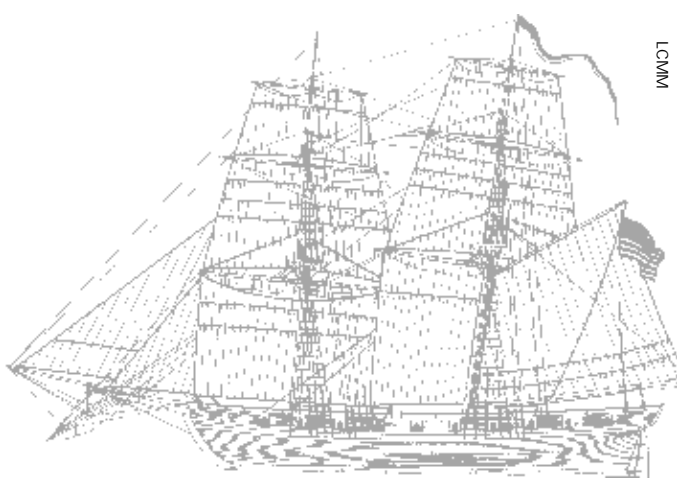
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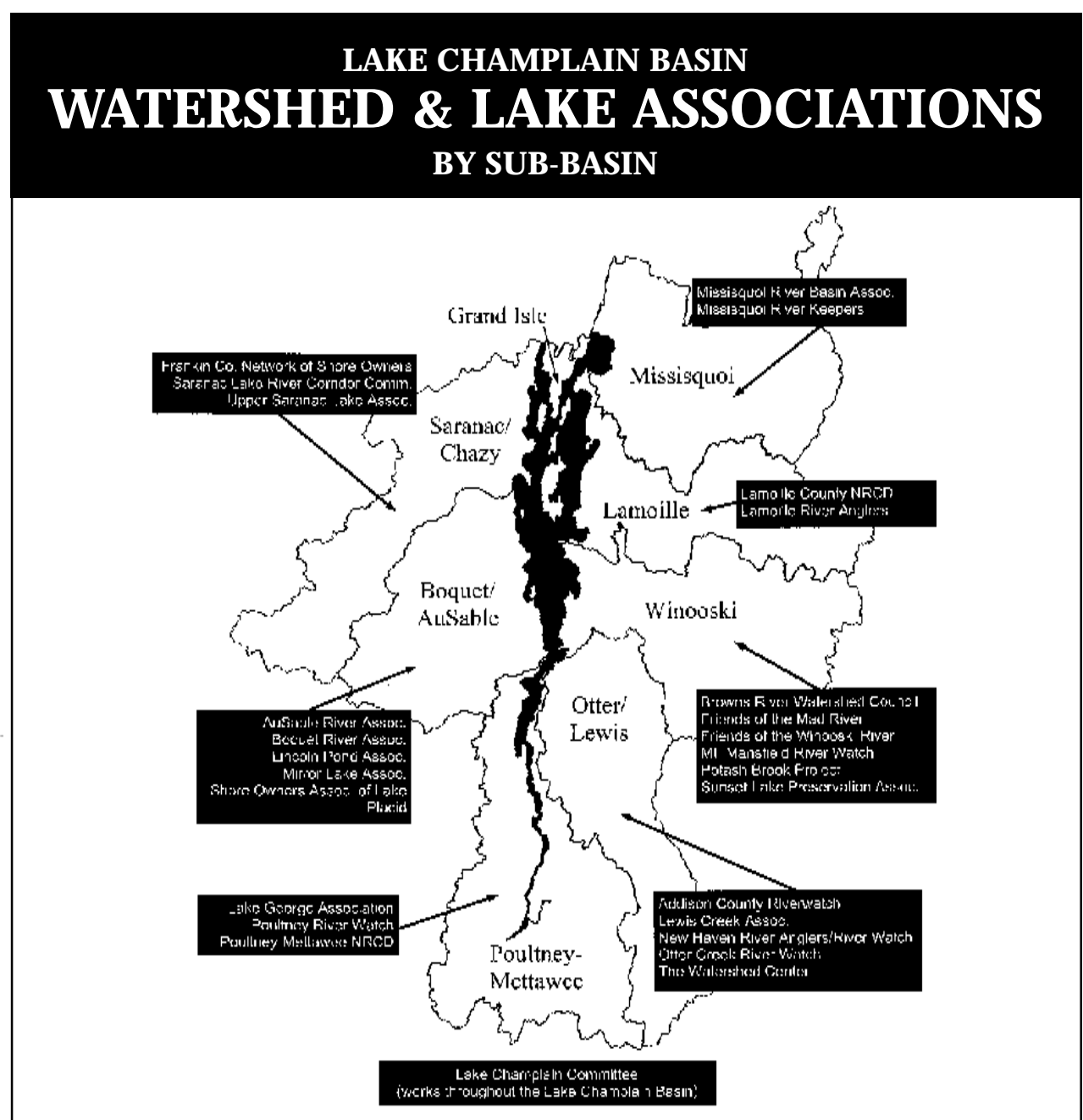
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LCBM



New York Waterchestnut Control Funding

VT DEC



Hand-pulling waterchestnuts.

Great news from New York! Governor Pataki has requested funding for waterchestnut control on Lake Champlain in the 2000 budget. The NYSDEC is currently working with the VT DEC to match the US Army Corps of Engineers' \$400,000 appropriation for aquatic nuisance control in the Lake Champlain Basin. Since 1982, the majority of waterchestnut control funding has come from Vermont, the LCBP and the Army Corps of Engineers.

"We are thrilled that New York has finally come up to bat on this effort," said Ron Ofner, chair of the New York Citizens Advisory Committee. "Our CAC has worked hard to impress the urgency of this funding on NYSDEC Commissioner Cahill and Senator Stafford." Last summer, the New York, Vermont and Quebec CACs held a field trip on the South Lake to view the waterchestnut's devastation first hand.

Waterchestnuts were introduced to New York in the 19th century for their ornamental appearance. By the 1940's they had spread to Lake Champlain. To combat this spread, the VT DEC mechanically harvested 7,512 cubic yards of waterchestnuts in 1999. (One cubic yard is roughly equal to the bed of a pick-up truck). In addition, contracted workers and Nature Conservancy volunteers spent a total of 5200 hours hand-pulling 77 tons of the plant. The Nature Conservancy's efforts were funded in part by a grant from the LCBP.

"Funding for harvesting machines and hand pulling is critical to stop the plant's northward spread on Lake Champlain," said Ann Bove, Aquatic Biologist for VT DEC. "Our assessments have shown that as funding increases for these activities, the waterchestnut's northward advance is halted."

Also, for the first time in four years, no new infestations were found on Lake Champlain. Unfortunately, however, a new infestation has been documented on Quebec's South River, a tributary of the Richelieu. The South River is only a few miles overland from Missisquoi Bay, whose shallow waters would be prime waterchestnut habitat. The Quebec Ministry of Environment and the Vermont DEC are working with several other agencies to quickly address this issue, and avoid the entrance of waterchestnut from the north

For more information about volunteering to hand-pull chestnuts, contact Ann Bove, VT DEC (802) 241-3782 or Sherry Crawford, The Nature Conservancy, (802) 265-8645.

Champlain 2000 Wins Environmental and Media Awards

Congratulations to *Champlain 2000*! The *Champlain 2000* partners, WPTZ NewsChannel 5, the Lake Champlain Basin Program and KeyBank, recently received Environmental Quality Awards from the US Environmental Protection Agency Region 2 (New York). WPTZ was also recently recognized by the New York State Department of Environmental Conservation. *Champlain 2000* is the weekly series which has aired on WPTZ's Monday evening news since May 1999.

from the television news industry. It was honored with an EMMY nomination by the Boston/New England chapter of the National Academy of Television Arts and Sciences for service reporting. In March, *Champlain 2000* earned two regional Edward R. Murrow Awards from the Radio and Television News Directors Association for Outstanding News Series and Outstanding Documentary.

For more information about the *Champlain 2000* series, visit the following websites: www.wptz.com and www.lcbp.org or contact the Lake Champlain Basin Program.

NYSDEC



NYSDEC media awards ceremony. From left to right: Commissioner John P. Cahill, Jeff Meyers (Press Republican), Jack LaDuke (WCAX), North Country Public Radio's Adirondack News Bureau's Brian Mann and Martha Foley, Andy Wormser (WPTZ), Paul Sands (WPTZ), Dennis Aprill (Press Republican) and Region 5 Director Stuart Buchanan.

The US EPA's Environmental Quality Award is the highest recognition presented to the public for protecting and enhancing environmental quality. It was awarded to all three partners for *Champlain 2000*. Bill Howland, Basin Program Manager, Buzz Hoerr, Education and Outreach Committee Chairman, and Thom Hallock, WPTZ NewsChannel 5 anchor/*Champlain 2000* correspondent, attended the award ceremony at EPA Region 2 headquarters in New York City on April 28th.

"The success of *Champlain 2000* goes beyond personal and professional recognition," said Thom Hallock. "*Champlain 2000* puts the successes and challenges facing up-state New York, Vermont - our entire region - in the spotlight, at the highest levels of government."

"We are very proud of *Champlain 2000*," said WPTZ/WNNE President and General Manager, Paul A. Sands. "The community partnership among WPTZ NewsChannel 5, the Lake Champlain Basin Program and our sponsor, Key Bank, is serving as a national model of public, governmental and corporate cooperation. *Champlain 2000* is a perfect fit with our television station's mission to be aware of and responsive to the needs of the communities we reach."

Also last April, Paul A. Sands and WPTZ News Director, Andy Wormser attended the New York DEC's Earth Day Partnership Forum to accept an award for *Champlain 2000*. The awards were specifically for the television, newspaper and radio media in Region 5. DEC Commissioner John P. Cahill gave opening remarks.

Champlain 2000 has also received top honors

Lake's Citizen Advisory Committees Win EPA Awards

Lake Champlain's three Citizen Advisory Committees (CAC's) received Environmental Merit Awards from EPA New England in recognition of their exceptional work and commitment to the environment during 1999. Awards were presented to the New York, Vermont and Quebec CACs during an Earth Day ceremony in Boston last April. The 2000 ceremony was the 30th anniversary celebration of environmental achievement in New England. The EPA New England Environmental Merit Award is an annual award that recognizes outstanding environmental advocates who have made significant contributions toward preserving and protecting our natural resources. For more information about the Merit Awards and other award winners, visit the EPA New England website at www.epa.gov/region01/busind/ema.html.

Bike Champlain 2000!

Alden Pellet



Cycling along the Lake's shore.

Ride the *Bike Champlain 2000* bicycle tour! Lake Champlain Bikeways, Inc. with support from several area organizations, including the Lake Champlain Basin Program, is hosting the tour in September. The tour will follow the "Champlain Bikeway" on quiet back roads through breathtaking scenery, history and culture in Vermont and New York. Options for route extensions into Quebec will also be offered. The terrain is generally flat-to-gently rolling and interspersed with occasional hills.

The tour will be held in conjunction with the *Triangle of Excellence*, an annual meeting organized by the Mayors of Burlington, Vermont, Plattsburgh, New York and St. Jean-sur-Richelieu, Quebec. This year, Mayor Peter Clavelle (who is also a member of the Lake Champlain Steering Committee) will host the *Triangle of Excellence* meeting in Burlington on September 8th. This annual gathering brings together public officials, the business community and interested citizens to look at how the three cities can work in partnership. The theme for this year's meeting will be tourism, with a special focus on bicycle tourism and Lake Champlain Bikeways.

For more information contact Lake Champlain Bikeways at: Lake Champlain Visitors Center, RR 1, Box 220, Crown Point, NY, 12928, (518) 597-4646, lcvisit@capital.net, www.champlainbikeways.org.

The first 150 lucky ones go...so register early!

Bike Champlain 2000 at a Glance

When: September 8-10, 2000

Distance: 150 miles

Where: Begins in Burlington, Vermont with overnight stay in Plattsburgh, New York, return to Burlington through the Champlain Islands

Cost: Early Registration by August 15, 2000 - \$125.00, Late Registration - \$150.00. Price includes a sunset dinner cruise, support vans and many extras, but not lodging.

Special Events: 8th Annual South-End Art Hop (5-11 PM in Burlington) and Battle of Plattsburgh activities on September 9th (a multi-day celebration, September 6-10)

Register: On-line at www.champlainbikeways.org or call (518) 597-4646

History Washes Ashore

Sometimes history is right under our feet! Last summer, the remains of a bateau, which is a lightweight, flat-bottomed boat, washed up along Cumberland Bay's north shore. The bateau, which is believed to date from the War of 1812, was likely uncovered by wave action and last summer's low waters.

To conserve the boat, the Battle of Plattsburgh Association (BOPA) will create a conservation plan with assistance from the Lake Champlain Maritime Museum's conservation staff. A \$1,000 grant was provided by the Lake Champlain Basin Program's Technical Assistance Program.

Artifact recovery required a New York State archeological permit. Archaeologists and

volunteers completed on-site documentation of the fragile wood planks which were fastened with hand wrought iron nails. Afterwards, the remains were moved to an

indoor tank filled with filtered lake water. BOPA is also working with the Maritime Museum on the bateau's display in the forthcoming Battle of Plattsburgh Interpretive Center.

A second vessel was found later last summer. It was relocated in deep water to guard against vandalism and deterioration from air exposure and to preserve

it for future potential study. For more information visit www.nysm.nysed.gov/history/bateau/index.html.



The bateau found last summer.

Water Quality Connections

Swimming, boating, fishing, bicycling, visiting historic sites along the shore - it's how many residents and visitors enjoy and value Lake Champlain. If the water quality deteriorates it will conflict with enjoying the Lake, and these same people simply won't visit. Beyond the potential loss of tourism dollars at stake - an estimated \$2.2 billion annually in 1990 - losing recreational users would also mean fewer potential Lake stewards. These are important reasons why the Lake Champlain Basin Program supports recreation and cultural heritage projects. By cultivating connections through play and appreciation, the LCBP reaches a broader group of potential Lake stewards which ultimately improves the Lake's health.

Lake Champlain Bikeways, which the LCBP has funded, enhances recreation while promoting an alternative to automobiles, a known source of polluted runoff. On Northwest Public Transit's Richford to St. Albans and Champlain Islands bus routes, an LCBP grant helped install bus bike racks, providing more incentives and opportunities to pedal rather than drive. Promoting bicycling also helps lake-shore towns preserve their rural character by lessening the impacts of traffic congestion.

On the water, the LCBP has supported the Lake Champlain Paddlers' Trail, managed by the Lake Champlain Committee (LCC). By including material about Lake ecology and stewardship in the trail guide, another audience of potential Lake stewards is reached. Motor boaters are also reached through LCC's Bilingual Boating Guide. Published last year with LCBP support, this free French/English guide explains how to prevent the spread of nuisance species and provides tips for lake-friendly boating cleaning, fueling and maintenance.

Enhancing Lake and river access is essential to recreation and the creation of a water quality connection. Through several grants, the LCBP awarded \$11,300 towards the planning and creation of Noblewood Park, located near the Boquet River's outlet to Lake Champlain. Owned by the Town of Willsboro, New York, the Park

added 3,500 feet of publicly accessible beach and protected acres of wetlands which clean and purify runoff into Lake Champlain.

To support the development of lake-shore visitor centers, the LCBP awarded the Town of Willsboro \$1,000 for architectural plans to convert an unused schoolhouse into a visitor center. Good planning paid off when the town was awarded funds from the State of New York to build the center, which will provide information about cultural and recreational opportunities on and around the Lake.

Aquatic nuisance species management also has connections to recreation and cultural heritage. Zebra mussels are encrusting Lake Champlain's shipwrecks and hampering researchers' efforts to identify and study these underwater cultural resources. Since 1996, the LCBP has helped fund an underwater survey of the Lake's cultural resources before zebra mussels obscure them. The LCBP has also funded feasibility studies of wrecks for inclusion in the Lake Champlain Underwater Historic Preserve System and funded the opening of the first preserve site in New York.

The LCBP has also fostered connections with recreational anglers. The LCBP helped fund a local Trout Unlimited chapter to bring the U.S. Fish & Wildlife Service's Adopt-a-Salmon fish rearing program to several New York schools. Many angler groups have also restored fish habitat in the Lake's tributaries, which not only protects fish, but also reduces sediment transport to the Lake.

Boating, fishing, paddling, swimming, bicycling, hiking, visiting historic sites, or simply viewing the Lake from a favorite spot, is how most people "get close to it." By fostering more opportunities to experience the Lake, the LCBP encourages more people to value it and be supportive of water quality protection. Not including recreation and cultural heritage issues in the comprehensive Plan for a healthier Lake Champlain would literally be "missing the boat."

Over 80 Educators Attend Summit 2000!

Stormy weather didn't stop educators from New York and Vermont from gaining hands-on skills to teach about the Lake Champlain Basin! On May 18th the Champlain Basin Education Initiative (CBEI) hosted *Summit 2000: This Land and Water - Linking Students to Their Watershed* at the Basin Harbor Club. The workshops sponsored by LCBP featured current events and issues, cultural heritage and history, and ecosystem monitoring and research.

A few highlights (see photos):

- 1 Discussing how to authenticate Abenaki heritage with Abenaki Elder Nanatasis Bluto-Delvental and Cher Feitelberg of Charlotte Central School.
- 2 John Elder of Middlebury College making the keynote address.
- 3 Creative canoeing with Matt Chandler of Edmunds Middle School.
- 4 Exploring soil communities with Janet Mihuc of Plattsburgh State University.
- 5 Running a water flow model with a member of Missisquoi Valley Union Middle School's "Xtream Team."
- 6 Learning about 19th century Lake commerce with Erick Tichonuk of the Lake Champlain Maritime Museum.

CBEI thanks all the presenters and the resource fair exhibitors who helped make this day a success. CBEI especially appreciates the energy and enthusiasm about Lake Champlain that the educators bring to all the CBEI workshops and their classrooms!



Surfing the Web for Lake Champlain Data

Many facts and figures about Lake Champlain are readily available on the internet and more will be coming soon. Several sites with useful data are listed below. So grab this article, your mouse and catch a web of information about the Lake. If you have any favorite Lake Champlain sites, send an email to lcbp@anrmail.anr.state.vt.us. For more links to sites about Lake Champlain visit the LCBP website at www.lcbp.org.

Lake and River Levels

• Lake Champlain Data

Address: <http://www.nws.noaa.gov/er/btv/html/lake2.html>

This site provides real-time access to current lake level and temperature data from three gauges. It also graphs historical lake levels and temperatures back to 1972.

• Real-Time Stream Flow Data

Address: <http://water.usgs.gov/realtime.html>

This site provides real-time stream flow and flood stage data. Navigate the site by clicking on a station on the map near Lake Champlain to bring up a regional list of streams. Lake Champlain tributaries are categorized under "St. Lawrence Watershed."

• New York Current Surface Water Conditions

Address: http://www.dnyalb.er.usgs.gov/rt-cgi/gen_tbl_pg

This site provides access to real-time stream flow and flood stage data for Lake Champlain's tributaries which are listed under "St. Lawrence River Basin."

• Northeast River Forecast Center

Address: <http://www.nws.noaa.gov/er/nerfc/>

This site shows an interesting graphic of Lake Champlain tributary flow and it loads quickly. To navigate, click on "Current River Conditions" to see a Northeast map. On that map, click on any circle near Lake Champlain for an "Hourly Stage Plot of the Lake Champlain Basin."

Water Quality

• Long-Term Water Quality and Biological Monitoring Project for Lake Champlain

Address: <http://www.lcbp.org/ltmp2.htm>

This site presents data from 12 Lake monitoring stations representing major Lake segments. Stations are sampled regularly from late April to early November each year for both physical and chemical tests such as total phosphorus, phytoplankton and zooplankton.

• Vermont Rivers Project

Address: http://dauntless.smcvt.edu/vt_rivers/splash.html

This site provides a searchable database of water quality information collected by high school students and teachers from rivers in the Lake Champlain and Connecticut River Basins. It includes a good explanation of water quality terminology.

• Burlington Eco-Info

Address: <http://moose.uvm.edu/~empact/index.html>

As part of Burlington's EMPACT grant from the US EPA, this website presents real-time Lake data and other environmental quality indicators

including air quality data in a user-friendly format.

• Englesby Brook - Burlington, Vermont

Address: <http://bowdnhbow.er.usgs.gov/CurrentProjects/Englesby/Englesby.htm>

This site provides real-time stream flow data and historical nutrient data for Englesby Brook in Burlington, Vermont, which is the most polluted urban stream in the Basin. The Englesby Brook watershed is being cleaned up over the next 5 years as part of the Pine Street Barge Canal Superfund agreement.

Weather

• Lake Champlain Open Waters Forecast

Address: <http://www.wunderground.com/MAR/VT/001.html>

Find the daily forecast of Lake Champlain weather from the National Weather Service on this site.

• Daily Snowfall Map of the Northeast

Address: http://www.nws.noaa.gov/er/nerfc/graphics/snowmaps/sf1_today.jpg

Save this site for winter. It provides a nice graphic presentation of daily snow fall and tends to load quickly.

Please note: Websites can change daily and some sites may not work or may load slowly. The Lake Champlain Basin Program cannot vouch for the accuracy of the data presented on the above sites.

\$320,097 Awarded to Local Projects

Twenty-two new projects were recently awarded a total of \$320,097 through the Lake Champlain Basin Program to support the local implementation of *Opportunities for Action*. Funded projects include preventing toxic substance pollution, protecting human health and reducing polluted runoff. This year the LCBP received an unprecedented number of proposals, requesting a total of \$587,453. All projects require a 25% non-federal match.

Au Sable Watershed Nonpoint Source Reduction Projects

Au Sable River Association, Inc. \$15,180

ASA will restore eroded stream banks on Palmer Brook that threaten a nearby septic system and provide town boards with an inventory of junk cars in river floodplains to promote better floodplain management.

Bartlett Brook Stormwater Treatment System

City of South Burlington \$20,000

The City will repair stream bank erosion and construct a wetland/wet pond stormwater treatment system near Bartlett Brook which drains US Route 7 and adjacent commercial land. The system will treat runoff that has been found to carry toxic substances.

Colchester Pond Phosphorus and *E. coli* Inventory and Education

Winooski Valley Park District \$7,400

WVPD will hire a water quality coordinator to initiate a phosphorus and *E. coli* monitoring program for Colchester Pond and its tributaries. Information about septic system maintenance, proper pet waste disposal, and other pollution issues will also be provided to homeowners and park visitors.

Enhancing Stormwater Management in the Growing Towns

National Wildlife Federation \$19,035

NWF's Northeast Natural Resource Center will work with the Vermont Agency of Natural Resources, a consulting firm, and local watershed groups to expand its storm water management workshops for local decision makers.

Farmland Protection and Agricultural Development Plan

Clinton County Cornell Cooperative Ext. \$10,000

The Extension will work with the Clinton County, New York community to help keep prime farmland in agricultural use, develop local farm product markets, and assess the long-term viability of the County's agriculture.

Farmland/Streambank Erosion and Runoff Control

Boquet River Association \$17,970

This funding will support two major streambank erosion control projects on the Boquet River and will build upon BRASS's recent experience with stream geomorphology assessments.

Friends of the Mad River Support

Friends of the Mad River \$15,000

This project will support hiring the staff required to oversee the group's water quality monitoring program, develop outreach materials and coordinate stream restorations.

Huntington River Riparian Inventory

Vermont River Conservancy \$8,200

Landowners, local, regional and statewide groups, and government agencies will develop inventories to identify and prioritize habitat

protection, recreation access and nonpoint source pollution control projects.

Lake Champlain Birding Trail Enhancements in New York

George D. Aiken RC&D Council, Inc. \$15,000

The Birding Trail partners will create route finding signs at numerous sites and two information kiosks.

Lamoille County Community Vegetation and Biomonitoring

Lamoille County Conservation District \$7,770

The District will buy a hydroseeder to share with Lamoille County towns for construction revegetation and training, and recruit volunteers for stream macroinvertebrate monitoring.

Lewis Creek Long Range Riparian Restoration Plan

Lewis Creek Watershed Association \$16,650

In addition to monitoring water quality, conducting outreach and restoring stream banks, the Association will evaluate and plan for future programs in the watershed.

Lincoln Pond Evaluation of *Acentria ephemerella*

Cornell Cooperative Extension \$3,900

The Extension will continue monitoring Eurasian watermilfoil populations and evaluate the biological control of moth larvae (*Acentria ephemerella*). Education and outreach activities will be included.

Little Chazy River Watershed Partnership

Town of Chazy, Water & Sewer Committee \$18,000

The Town will establish a new watershed partnership for the Little Chazy River. Projects will include inventorying natural and cultural resources in the watershed, compiling GIS data, and holding public meetings.

Mercury Manometer Replacement Program for Dairy Farms

Northwest Vermont Solid Waste Management District \$20,200

This project will inform farmers about mercury pollution hazards and replace 84 mercury manometers currently in use with non-mercury digital versions at no cost to farmers.

Mirror Lake Stormwater Management

Town of North Elba/Village of Lake Placid \$7,500

An engineering consultant will be hired to inventory and map existing storm drains and discharge points into Mirror Lake as part of a recently completed Water Management Plan.

Missisquoi Basin Streambank Restoration

Missisquoi River Basin Association \$20,525

Working with landowners, the Vermont YCC and state and federal agencies, MRBA will restore stream banks, support farm nutrient management, improve canoe access, and provide public information about Missisquoi basin issues.

Poultney-Mettowee Watershed Partnership

Poultney-Mettowee NRC \$20,000

The NRC will coordinate the Poultney-Mettowee Partnership steering committee, inventory natural, cultural and economic resources, finalize a management plan, assist farmers with nutrient management, and conduct outreach.

Relocation of Phosphorus Injection Point

Village of Champlain, NY \$13,000

The Village will correct a design problem in the wastewater treatment plant's phosphorus removal system.

Sediment Trap Installation

Essex County, New York Soil & Water Conservation District \$7,767

The District will partner with and train town highway departments to install 12 pre-cast concrete sediment traps in road ditches in Essex and Washington Counties.

Shelburne Bay Watershed Data Collection and Evaluation

Lintilhac Foundation and Heindel and Noyes \$16,000

Working with planners and citizens, the project will create a public website for Shelburne Bay watershed data to be used for planning and management, and assess water quality in the Bay and major tributaries.

Watershed Restoration Program

Vermont Youth Conservation Corps \$20,000

Nine VYCC crews will assist local communities with streambank, wetland and habitat restoration projects, and participate in educational activities.

VYCC



A Vermont Youth Corps member working on a streambank stabilization project.

Winter Manure Storage Facility

Lake Carmi Camper's Association \$21,000

Cooperating with the VT Department of Agriculture and Markets, the Association will assist a farmer with manure storage to help the farm comply with Vermont's winter spreading ban and prevent manure runoff into Lake Carmi.

LCBP Awards \$80,000 in Partnership Program Grants

Twenty-one new projects will receive a total of \$80,000 of funding through the Partnership Program. The Partnership Program offers small awards up to \$5,000 to support local organizations helping to implement projects relevant to *Opportunities for Action*. The total amount requested was \$201,943. All projects require a 25% in-kind match.

Adaptive Watersports Program

Lake Champlain Community Sailing Center and Vermont Adaptive Sports \$5,000

The Program will install two lifts and a "sip and puff" system to increase accessibility for people with disabilities. They will also make boat and dock repairs to improve handicapped accessibility.

Adirondack Coast Bicycling Guide - Phase II PRIDE of Ticonderoga \$3,000

The Adirondack Coast Bicycling Committee will print 20,000 copies of an expanded version of their guide. It will feature twelve loops and an updated directory of services along the loops.

AuSable Mini-Park

Town of Wilmington, NY \$4,500

Funds will be used for the design of a walkway and interpretive park through a wetland along the West Branch of the AuSable River on town property. The mini-park will be accessible from Route 86 and adjoins the town library.

Buffer Zone Inventory for Priority Stream Reaches

Boquet River Association \$4,000

BRASS will inventory and prioritize buffer zone needs along the river and its tributaries. The results will enable BRASS to engage in dialogue with priority landowners, and provide blueprints for potential cost-sharing buffer zone programs with road departments and landowners.

Champlain Valley Clayplain Forest Project Middlebury Area Land Trust \$5,000

The Clayplain Forest project is a local collaborative effort to conserve, research and restore one of Vermont's most threatened natural communities. Funds will be used to develop a landowner brochure, host natural history talks and walks, and organize an association for local residents to participate in conservation planning.

Cumberland Head Conservation and Development Plan Update

Cumberland Head Tomorrow \$2,999

The revised plan will address bicycle and pedestrian trails, open space preservation, historical and archeological resources, public lake access, and the integration of plan proposals with the new "connector highway."

Lady Sherbrooke Initiative

Lake Champlain Maritime Museum \$3,500

LCMM will design a two year program about the Lady Sherbrooke and steam navigation which will focus on the evolution of steam technology and the parallel growth of regional commerce on Lake Champlain and the Hudson, Richelieu and St. Lawrence Rivers. Three free evening lectures and two free teacher workshops will also be held.

Lake Champlain Birding Trail Viewing Platform

George D. Aiken RC&D Council \$4,500

The Birding Trail partners will construct a viewing blind or platform and boardwalk at the West

Rutland Marsh, a birding trail site. The enhancements will reduce resource impacts and increase visitor awareness of species and habitat through improved access.

Lewis Creek Watershed Citizen Wildlife Tracking Program

Lewis Creek Watershed Association \$2,500

The LCA has developed a wildlife tracking program for citizen volunteers during the past few years. Funds will be used toward the development of a report that analyzes the data collected to date.

Local Waterfront Revitalization Plan

Town of Essex, New York \$5,000

The Town will create a shoreline overlay district in conjunction with its zoning ordinance revision. The overlay district is intended to protect the shoreline from unsuitable growth, erosion and run-off, and maintain natural habitats and view sheds.

Mirror Lake Shoreline Improvements

Village of Lake Placid \$3,000

The Village will address erosion and public access on Mirror Lake along a 300 foot public park. Plantings will be completed for erosion control and fencing will be installed.



Vermont Fish and Wildlife

Native mussel species: eastern elliptio and eastern lampmussel.

Native Mussel Survey of the AuSable River AuSable River Association \$3,885

The Association will work with the NYSDEC, the US Fish and Wildlife Service and a SUNY intern to survey native mussels. The study will supplement future protection strategies and gather information about the habitat and life history of mussels.

Nuisance Non-native Species Project

Winooski Valley Park District \$2,500

The Park District will partner with Scouts and others to remove nuisance non-native plants without using chemicals from public parks along the Winooski River. Local residents will also be encouraged to remove these species from backyards and neighborhoods. A wetlands forum will provide walks and training about removing nuisance species.

Plainfield Village Common

Plainfield Planning and Conservation Commissions \$4,000

By narrowing a roadway and reconfiguring a parking lot, Plainfield will reclaim a site next to the Winooski River for pedestrians. A gently sloping path will lead to a spectacular view of the waterfall, a Plainfield landmark.

Poultney River Riparian Restoration

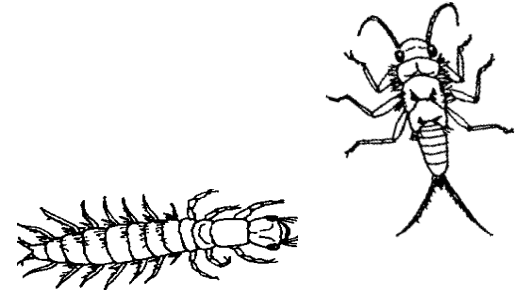
Poultney-Mettowee NRC \$5,000

The NRC will restore several eroded streambanks and establish a riparian buffer within a one-mile reach of the Poultney River. The project will demonstrate effective stream corridor management as part of the Poultney Walking Trail.

River Walk Interpretive Sign Project

Village of Saranac Lake \$3,000

The village will install interpretive signs along the Saranac River Walk to increase public awareness of the natural environment.



Macroinvertebrates which indicate good water quality (top to bottom): mayfly nymph, stonefly nymph and caddis fly larva.

Saranac River Invertebrate Study

Lake Champlain Chapter of Trout Unlimited \$3,521

TU will work with SUNY faculty and students on a catalog and reference collection of invertebrates in the lower Saranac River. The baseline data, slide collection and digital images will be available to other users.

Summer Trails Project

Merck Forest and Farmland Center \$5,000

Merck Forest will hire an experienced summer crew to control erosion and maintain trails at the height of the Mettowee River/Lake Champlain watershed. The trails need large scale improvements, including water bars, boardwalks, bridges, and stabilization.

Summit Linked Interpretation and Downhill Education

Adirondack Park Institute \$3,000

This New York - Vermont partnership will allow the Adirondack VIC and the Lake Champlain Basin Science Center to work with Smugglers Notch Resort and Whiteface Mountain on watershed interpretation signs for the upper reaches of the Lake Champlain watershed. Naturalists will develop text and a prototype of the potential signs to be placed at the ski areas.

Survey of Rainbow Lake for Eurasian Watermilfoil

Rainbow Lake Association \$975

The Association will survey Rainbow Lake during the summer of 2000 for Eurasian watermilfoil. Association members will also be trained to become watermilfoil watchers.

Trees for Streams - 2001

Lamoille County Conservation District \$5,000

Funds will be used to purchase 1,200 trees and 3,000 willow waddles for spring 2001 plantings on public and private land in Lamoille County. The vegetation will stabilize streambanks, build stream-buffers and provide hands-on education opportunities for the community.

Lake Champlain Steering Committee

- Tammy Benjamin**
Montpelier, VT - VT Agency of Transportation
- Stuart Buchanan**
Raybrook, NY - NYS DEC
- Patrick Brennan**
Albany, NY - NYS Department of Agriculture and Markets
- Gregory Caito**
Plattsburgh, NY - NYS Dept. of Economic Development
- Peter Clavelle**
Burlington, VT - Mayor
- Canute Dalmasse**
Waterbury, VT Agency of Natural Resources
- Mario DelVicario**
New York, NY - USEPA Region 2
- Jean Hubert**
Longueuil, Quebec - Ministere de L'Environnement
- Donald Garrant**
Plattsburgh, NY
- Leon Graves**
Montpelier, VT - VT Department of Agriculture
- Buzz Hoerr**
Colchester, VT - VT CAC Chair
- Ron Manfredonia**
Boston, MA - USEPA, New England
- Kenneth Miller**
St. George-de-Clarenceville, Quebec - CAC Chair
- Ronald Ofner**
Crown Point, NY - NY CAC, Chair
- Robert Reinhardt**
Albany, NY - NYS OPRHP
- Dave Tilton**
Essex Junction, VT - US Fish and Wildlife
- John Titchner**
Winooski, VT - USDA, NRCS
- Emily Wadhams**
Montpelier, VT - VT Agency of Commerce and Community Development
- Mary Watzin**
Burlington, VT - UVM School of Natural Resources

Sharing with Lake Ohrid

In April 2000, LCBP Vermont Coordinator, Michaela Stickney, traveled to Lake Ohrid in Macedonia and Albania to work with local organizations involved in protecting Lake Ohrid and its basin.

Michaela worked primarily with the 20 member Lake Ohrid Watershed Committee, which is similar to the LCBP's former Management Conference, to develop a framework for a watershed approach for Lake Ohrid. She delivered a five-day training on watershed management, team building, advanced facilitation, and conflict resolution. The World Bank-funded Lake Ohrid Conservation Project (LCOP) is using a committee and communication structure modeled after the LCBP. This consensus-based decision making process is a new and exciting arena for countries who have recently changed to a

decentralized government.

Lakes Ohrid and Champlain became Sister Lakes in 1996 with the signing of the Sister Lake Declaration of Intent among Macedonia, Albania, Vermont, New York, and Quebec. Since then, there have been five exchanges among scientific researchers, heritage protection experts, and watershed protection specialists. Both lakes have much to learn from each other. Each has international, multi-jurisdictional watershed boundaries and significant natural and cultural resources.

Lake Champlain's Macedonian and Albanian counterparts will return to Lake Champlain in June as delegates to the international LakeNet Conference.



St. Jovan Kaneo monastery on the shore of Lake Ohrid.

2000 LCBP Funding Plan (U.S. Environmental Planning Agency Funding)

On February 16, 2000 the Lake Champlain Steering Committee approved a plan to spend \$1.719 million of U.S. EPA funds for Lake Champlain Basin projects. The LCBP projects are related to the highest priorities listed in *Opportunities for Action*. All project grant recipients must provide a minimum 25% non-federal match.

Building Local Level Implementation	\$384,240
Local Implementation Grants	\$271,000
New York Circuit Rider	\$ 45,000
Technical Coordination/Assistance	\$ 68,240
Measuring and Monitoring Success	\$337,000
Lake Wide Monitoring	\$276,000
Lay Monitoring	\$ 14,000
Agricultural Best Management Practice Tracking	\$ 10,000
Urban Best Management Practice Effectiveness Monitoring	\$ 37,000
Reducing Phosphorus	\$ 74,200
Animal Feed Education Project	\$ 28,500
Agricultural Best Management Practice Effectiveness	\$ 17,200
Blue Green Algae Study	\$ 28,500
Pollution Prevention and Toxics Management	\$ 34,500
Agricultural BMP Demo to Reduce Bacterial Loads	\$ 34,500
Nuisance Aquatic Species Management	\$ 53,000
Water Chestnut Program Coordination	\$ 53,000
Managing Fish and Wildlife	\$ 46,000
Sea Lamprey Assessment - Poultney and Winooski Rivers	\$ 36,000
Wetlands Acquisition - Initiate Phase III	\$ 10,000
Cultural and Recreation Resources	\$126,000
Cultural Heritage Resource Coordination	\$ 63,000
Recreation Resource Coordination	\$ 63,000
Informing and Involving the Public	\$298,969
Public Outreach, Publications and Media Efforts	\$ 95,000
Education and Outreach Support Grants	\$ 67,000
LCBP Resource Rooms, VT & NY	\$ 10,000
Fisheries Information Project	\$ 5,752
Education and Outreach Coordination	\$ 69,930
Communications Specialist	\$ 51,287
Program Coordination and Administration	\$365,091
VT-NY Program Coordination and Office Administration	\$361,874
NEIWPC Fiscal Management	\$ 3,217
TOTAL	\$1,719,000

LCBP



Members of the Lake Champlain Steering Committee met in St. John, Quebec last March.

RESOURCES

Call the LCBP at (800) 468-5227 or (802) 655-6382 to order (unless otherwise noted). Visit www.lcbp.org/reports.htm for a complete list of technical reports and other publications. Stop by our Colchester offices or our Resource Room at the Science Center, 1 College Street, Burlington, VT to view LCBP resources. Call for hours and appointments.

GENERAL INTEREST PUBLICATIONS

Drainage Basin Map. This 24" x 32" map highlights town, county, state and international boundaries within the Basin. Also includes principle surface waters and major river basin boundaries. \$3.00

Fact Sheet Series. Free fact sheets on zebra mussels, nonpoint source pollution, the Basin, wetlands, Lake Champlain historic sites, and boating to Lake Champlain's parks and historic villages. FREE

Lake Champlain Basin Atlas. This full-color atlas contains over 50 maps, photos and graphics about the nature of the Basin, the socio-economics of the Basin and Lake Champlain issues, such as phosphorus and nuisance species. Includes the land use map. \$25.00 from Northern Cartographic (802) 860-2886.

Land Use Map. This 24" x 32" full-color map depicts land use and vegetation types in the Basin derived from satellite imagery. \$3.00 from

Northern Cartographic (802) 860-2886 or the LCBP.

Opportunities for Action. The LCBP's final plan recommends priority management actions for Lake Champlain. October, 1996. FREE

Progress '99. Reports on the progress towards implementing *Opportunities for Action*. June, 1999. FREE

RECENT TECHNICAL REPORTS

Evaluation of Soil Factors Controlling Phosphorus Concentration in Runoff from Agricultural Soils in the Lake Champlain Basin. Frederick R. Magdoff, William E. Jokela and Robert P. Durieux, University of Vermont, Department of Plant and Soil Sciences. June 1997. LCBP Report #29. \$5.00

Lower Trophic Level Interactions in the Pelagic Foodweb of Lake Champlain. Dr. Suzanne N. Levine, Dr. Mark Borchardt, Dr. Moshe Braner, Angela Shambaugh, and Susan Spencer, UVM School of Natural Resources and Marshfield Medical Research Foundation. July 1997. LCBP Report #30. \$12.00

Estimation of Lake Champlain Basinwide Nonpoint Source Phosphorus Export. William Hegman, Associates in Rural Development, Inc, and Catherine Borer, UVM Water Resources & Lake Study Center. September 1999. LCBP Report #31. \$7.25

The Freshwater Mussels of the Lower Missisquoi River: Current Status and the Potential for a Refugium from Zebra Mussel Impacts. Paul Marangelo, VT Agency of Natural Resources. June 1999. LCBP Report #32. \$5.50

Ecological Effects of Sediment - Associated Contaminants in Inner Burlington Harbor, Lake Champlain. Tetra Tech, Inc.. September 1999. LCBP Report #33. \$7.50

Benthic Phosphorus Cycling in Lake Champlain: Results of an Integrated Field Sampling/Water Quality Modeling Study. Part A: Water Quality Modeling/ Part B: Field Studies. HydroQual, Inc. June 1999. LCBP Report #34A \$13.25 & #34B \$8.25

Determination and Quantification of Factors Controlling Pollutant Delivery from Agricultural Land to Streams in the Lake Champlain Basin. J.W. Hughes, W.E. Jokela, D. Wang, C. Borer, UVM. September 1999. LCBP Report #35 \$5.00

SLIDE SHOW PRESENTATION

The LCBP staff presents free 20-40 minute slide shows on issues in the Lake Champlain Basin to schools and community groups. Can be adapted to most any audience. Call to schedule. FREE

Casin' The Basin is published three times a year by the Lake Champlain Basin Program to inform the public about events and issues which affect the Lake Champlain Basin. The public is encouraged to respond to information presented in this newsletter and can send comments to:

Casin' the Basin
Lake Champlain Basin Program
PO Box 204
54 West Shore Road
Grand Isle, VT 05458

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(NEIWPCC operates the business affairs of the Lake Champlain Basin Program. NEIWPCC, a non-profit interstate agency established by an Act of Congress, serves and assists its member states individually and collectively by providing coordination, public education, training and leadership in the management and protection of water quality in the New York and New England Region.)



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about Lake Champlain?

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THE LAKE CHAMPLAIN BASIN PROGRAM

The Lake Champlain Basin Program (LCBP) was established to coordinate the activities envisioned by the Lake Champlain Special Designation Act of 1990. The LCBP is a government funded initiative working in partnership with numerous cooperating agencies, organizations and individuals to develop and implement the comprehensive pollution prevention, control and restoration plan for Lake Champlain. The program is guided by the Steering Committee which represents a broad spectrum of lake-basin interests and organizations from New York, Vermont, and Quebec including local government and citizen representatives, scientists, and state and federal agencies. In addition, many individuals are involved in the planning process through advisory committees and interested citizens participate through public meetings. The ultimate goal of the LCBP is to insure that the Lake and its drainage basin will be protected, restored and maintained so that future generations will enjoy its full benefits.

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