

CASIN' THE BASIN

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Lake Champlain
Basin Program

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Don't "P" on Your Lawn!

by Nicole Ballinger



Washington State Department of Ecology

Putting phosphorus on your lawn is almost like putting it right in the Lake! If you fertilize, a switch to phosphorus-free fertilizer is more lake-friendly.

"P" stands for phosphorus—Lake Champlain's most problematic pollutant. Phosphorus is a nutrient found in most lawn and garden fertilizers. When fertilizers run off into waterways, they feed unsightly, smelly and potentially toxic algal blooms. Several initiatives in the Champlain watershed are encouraging home owners and businesses to switch to phosphorus-free lawn fertilizers to reduce urban sources of phosphorus that pollute the Lake.

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Lake Champlain Steering Committee

(as of April 1, 2007)

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USDA NRCS (NY)

C. Randall Beach

NYS Dept of Economic Development

Gerard Boutin

QC Ministère de l'Agriculture, des Pêcheries et de l'Alimentation

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VT Agency of Transportation

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Thank You and Welcome Aboard!

This is a year of transition in the leadership of the Lake Champlain Steering Committee—the LCBP's guiding body. We welcome new members and give our fond farewell to our friends and colleagues who have moved on. In April, Canute Dalmasse, Deputy Secretary of the Vermont ANR retired, and in May, Stu Buchanan, New York State DEC Region 5 Director, will leave his post. Canute and Stu have been long-serving champions of the LCBP and the Lake; we wish them well and we will miss their excellent leadership as Steering Committee chairs. Theirs will be hard acts to follow! We also extend a hearty thank you to former Mayors Peter Clavelle (Burlington, VT), and Dan Stewart (Plattsburgh, NY); and to Louise Calderwood, Steve Lanthier, and Deborah Doyle-Schechtman, all of whom brought terrific skill and enthusiasm to the Committee. We welcome new members John Krueger, Chair, Cultural Heritage and Recreation Advisory Committee; Dave Lane, VT Agency of Agriculture; Mike Latham, NY Agriculture and Markets; and Réal Pelletier Mayor of St. Armand, QC.

We congratulate Tom Berry (longtime staff to Senator Jim Jeffords and tireless Lake Champlain advocate) on his new position as the Lake Champlain Director for The Nature Conservancy. We look forward to working with him in this new capacity. We also "welcomed home" Senator Jeffords, himself, at our 15th Anniversary Open House last fall (see page 7). We look forward to continuing work with our new Senator, Bernie Sanders, and working with the newest members of our Congressional delegation—Vermont's Peter Welch and New York's Kristen Gillibrand.

This also is a year of challenging budget resources. The last Congress adjourned with a short-term continuing resolution, which removed more than one million dollars from the US EPA budget for LCBP that are so important to our work. Through Senator Leahy's efforts,

some of the funds were restored, bringing the US EPA appropriation to \$1,183,000 this year. The Steering Committee has approved an ambitious workplan for the year, including a continuation of Lake and tributary monitoring, water chestnut harvesting, and blue-green algae monitoring. We will also continue programs to assist farms with nutrient management planning and implementation in the Missisquoi Basin. Our local grants program, however, will be significantly smaller for the next 18 months, but we hope to restore this funding at the earliest possible date. Our Senators are hopeful that US EPA funding for Lake Champlain will be expanded next year, and that new funds associated with the Champlain Quadracentennial and the National Heritage Partnership program will be appropriated through the National Park Service.

I thank everyone for their continued dedication and I am confident that our shared love of this spectacular resource will guide us to a healthier Lake.

Sincerely,

Bill Howland



LCBP

Windswept snow drifts on ECHO's porch from last February's "Valentine's Day" blizzard frame a wintry Lake Champlain.

About the Lake Champlain Basin Program

The Lake Champlain Basin Program (LCBP) was created by the federal Lake Champlain Special Designation Act of 1990. Our mission is implementing the Lake Champlain management plan, *Opportunities for Action*. Program partners include New York, Vermont, and Québec, the US Environmental Protection Agency and other federal agencies, and local government leaders, businesses, and citizen groups. The Lake Champlain Steering Committee (sidebar) leads the LCBP. The LCBP receives annual US federal appropriations. Many sources fund Plan actions including federal, state, local, and provincial agencies, and contributions from local communities, businesses, and individuals. Visit our website at www.lcbp.org to learn more, or call (800) 468-5227 in New York or Vermont.

LCBP Awards Local Farms

The LCBP recently announced its 2006 Lake Champlain Farm Award recipients. Four farms were recognized for their exemplary efforts beyond regulatory programs to reduce pollution entering the Lake Champlain watershed. The farm families, nominated by agricultural organizations, were also recognized for their community leadership and willingness to share pollution reduction techniques.

Giroux's Poultry Farm, Chazy, NY

Roger Giroux, along with sons Craig and Willie, operate this third generation poultry operation—the largest in New York with over one million eggs packed daily. Located within the shoreline communities of Champlain, Chazy, Beekmantown, and Plattsburgh, the Giroux's have taken many steps to reduce impacts to Lake Champlain's water quality.

Feed for the laying hens is evaluated and balanced with phosphorus reduction in mind. Manure is dried on-site and made into certified organic fertilizer grade compost that is delivered to buyers in New York, Vermont, New Hampshire, and Maine. Local growers benefit from the Giroux's custom spreading service, which deposits compost on farm fields at precise tonnage rates. Much of the grain feed is farm-grown and corn and soybeans are grown in rotation, utilizing reduced tillage techniques on tile drained lands. The Giroux's have also completed a comprehensive nutrient management plan that guides manure spreading by field.

Fermes Gasser Ltée, Pike River, Québec

In 1966, Ernest Gasser and family's dairy and steer farm became the first agricultural company farm in Québec. In the 1980s, they fenced out cows from the river and invested their own funds in a trial methane system utilizing cow manure. A manure spreading management program also reduces chemical fertilizer use. To reduce soil erosion and protect waterways, they installed two kilometers of windbreaks and shrubs. The Gasser family reduces soil impact with their tillage methods and participates in agricultural research.

Ernest Gasser is recognized as strong agricultural leader in Québec, presenting information to local agricultural and environmental audiences and to the Vermont Citizens Advisory Committee. He has also served as president of the Pike River

Cooperative for eight years. Many family members have served as municipal officials and as farmers' union administrators.

Gosliga Farm, Addison, VT

Jake Gosliga and family operate a beautiful second generation dairy farm highlighted by the dramatic background of Lake Champlain and the Adirondacks, with lands that stretch to the Dead Creek wildlife area. Jake was one of only 10 farmers to participate in a UVM Extension class that taught farmers to write and implement nutrient management plans. Working with challenging clay soils, Jake rotates crops to lower soil erosion and applies manure based on correct agronomic rates. Well maintained stream buffers and grass waterways on all field ditches reduce pathogen runoff from manure spreading. Manure and milk house waste are directed to a storage pit.

The Gosliga Farm has worked extensively with Ben and Jerry's agricultural soil research program and UVM researchers, providing them with unlimited access to farm fields as they refine the Vermont Phosphorus Index. To improve wildlife habitat and water quality, the farm has designated nesting area for snow geese and maintains many acres of woodland.

Burtland Farm, Georgia, VT

Jason and Christina Burt have established themselves as leading young farmers, operating a 250 cow free-stall dairy that includes over 1,000 tillable acres along the Georgia shoreline. The

farm produces over six million pounds of milk for the St. Albans Co-op. As a founding member of the Farmers' Watershed Alliance in the north lake, Jason is pro-active in protecting Lake Champlain's water quality, installing buffer zones along waterways and controlling silage leachate. To encourage other farmers, Jason has spoken at public meetings and has worked with the media to share the techniques used on his farm.

The 2006 farm award recipients are known for effectively working with state, federal and provincial agricultural agencies and incorporating many best management practices to protect water quality. While agriculture is a significant source of the Lake's phosphorus problem, it is important that the LCBP recognize farmers who take extra voluntary steps to reduce pollution.

The LCBP thanks the Vermont and New York agriculture agencies, the Vermont Farm Bureau, Clinton County Soil and Water Conservation District, the Québec Ministry of Sustainable Development, Environment and Parks, the Dura Club of Bedford, the Montérégie Sustainable Advisory Club, and the Center de Service du MAPAQ for their assistance in the award nomination process. Additional thanks go to the citizens and organizations who submitted the many nominations.

Willie and Craig Giroux accept a 2006 LCBP Farm Award from Ron Jackson (NY CAC), Buzz Hoerr (VT CAC), Phil Benedict (VT Agency of Agriculture), Steve Mahoney (CWIC-NY), and Art Stemp (NYSDEC).



Continued from page 1.

Green Lawns Not Green Lakes

The message “Don’t ‘P’ on Your Lawn” is part of a coordinated effort among several groups working on lawn care initiatives, including the Lake Champlain Basin Program, Cornell Cooperative Extension, Lake Champlain Committee, Vermont Agency of Natural Resources, Vermont Agency of Agriculture, and Lake Champlain Sea Grant / UVM Extension. In 2006, these groups began pooling resources and ideas to create a coordinated outreach message. In addition to promoting the use of phosphorus-free fertilizer, the group has created several other tips for “Green Lawns, not Green Lakes” (see sidebar).

“A consistent message will have the best results and be the least confusing to the public,” said Buzz Hoerr, Chair of the Vermont Citizens Advisory Committee on Lake Champlain. “Most people want to do the right thing for the Lake, but the messages can sometimes be unclear or even contradictory. Don’t ‘P’ gets your attention and invites you to learn more.”

A key component of the message is that a healthy lawn can benefit water quality. Although forested areas have the least phosphorus runoff, a poorly maintained lawn that is bare and patchy with exposed soil does not filter runoff nearly as well as a healthy lawn. However, an over-fed lawn that uses too much fertilizer is also a source of phosphorus run off. In suburban and urban areas where lawns are an established part of the landscape and people are reluctant to let them grow to forest, a solution is to create healthy soil and grass that traps rainfall and filters it before it reaches waterways. Healthy lawns also reduce the need for pesticides and herbicides.

Do Lawns Need “P”?

By law, all lawn and garden fertilizers bags must display their nutrient analysis. The series of three numbers indicate the levels of nitrogen (N), phosphorus or phosphate (P) and potassium (K). Nitrogen stimulates leaf growth, phosphorus strengthens stems and roots, and potassium encourages stress tolerance. The middle number is always phosphorus, so if a bag reads 25-3-10, it has 3% phosphorus. On an averaged size lawn of 5000 sq. feet, a 20 pound bag of 25-3-10 would add just over a 1/2 pound of phosphorus.

“While this number seems small, in most studies, established northern lawns actually need no additional phosphorus to stay healthy. Many

lawns will benefit from an annual application of nitrogen, however,” said Amy Ivy of Cornell Cooperative Extension. “Starter fertilizer that contains phosphorus should only be used once when the lawn is first grown from seed.”

In Chittenden County, Vermont, a UVM study found that 75% of established lawns already had enough phosphorus. A study of St. Albans lawns also indicated that soils there had high to excessive levels of phosphorus. Too much excess phosphorus flows to nearby lakes and rivers and only a very small amount of phosphorus in water (25 ppb) is needed to significantly increase algal blooms in lakes.

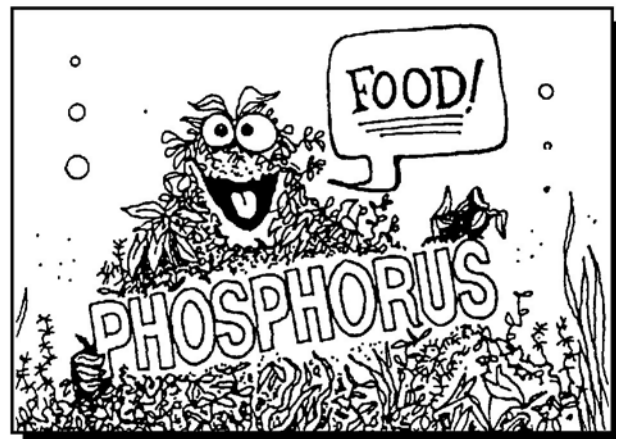
This is important because recent surveys in Chittenden County (Regional Stormwater Education Program) and St. Albans City (Town of St. Albans) indicated that roughly 40% of respondents in those areas used fertilizer. In Chittenden County nearly two-thirds did not know that lawn and garden runoff can pollute waterways. It is quite likely that the existing fertilizer use is creating a significant local impact on waterways. Outreach is clearly needed to encourage the public to switch to no-P fertilizer.



Metro Watershed Partners

Look for the Middle Number! The three numbers on fertilizer bags show the N-P-K nutrient analysis. The middle number is the phosphate (phosphorus) content. A “zero” means it is phosphorus-free. Lawns rarely need extra potassium (K), but adding some does not affect water quality.

To protect surface waters, extension experts recommend that homeowners assume their lawn has plenty of phosphorus if they want to fertilize. Only one annual application of phosphorus-free fertilizer (indicated by zero as the middle number of the N-P-K ratio) is recommended, preferably around Labor Day. This zero-number guidance should be followed whether the fertilizer is conventional, organic, or manure-based. The annual



Metro Watershed Partners

Don’t feed phosphorus to algae!

application prepares the lawn for winter and is also at a time when there is typically less rainfall to produce runoff.

Where to Buy?

Although phosphorus-free fertilizer products can be hard to find, more companies are beginning to offer them in response to phosphorus fertilizer bans in Minnesota and several municipalities. In 2006, the Chesapeake Bay Program signed an agreement with the Scotts Corporation and other fertilizer suppliers to reduce phosphorus in fertilizers. The state of Maine is also considering a ban.

“The St. Albans Area Watershed Association is encouraging retailers in that area to carry P-free fertilizer,” said Karen Bates of the VT Department of Environmental Conservation. “So far the response has been positive; three St. Albans retailers will carry it this year. With the help of VT Clean and Clear funds, the Association is also offering \$5 rebates towards the purchase of P-free fertilizer to generate even more public demand.”

P-free fertilizers are also available from several companies, including the Vermont-based North Country Organics. Other brands include Bio Builder, Bradfield Organics, Renaissance Fertilizers, and American Green. For a list of places

Continued from page 4.

to buy P-free fertilizers, go to www.lcbp.org/lawn.htm or contact the LCBP.

Next Steps

In Vermont, legislation was introduced in 2006 requiring that homeowners test their soils before applying fertilizer. Instead of passing the law, the Legislature provided the Agency of Agriculture with \$25,000 for education about low-impact lawn care. The Agency is currently working with this collaborative group and others on outreach for the fall of 2007 that will promote switching to no-P fertilizer.

Lake Champlain Sea Grant / UVM Extension recently completed a "Business Friends of Englesby Brook" pilot program that promoted low input/no-P lawn care for businesses in the watershed. Englesby Brook is a tributary in Burlington that flows directly to Lake Champlain. Of 35 priority properties contacted by the program, 10 adopted low input/no-P lawn care techniques.

Based on the range of commercial phosphorus application practices in the area, an estimated 0.45 – 0.93 metric tons of phosphorus was reduced by the program. This program will continue, as will another New England-wide lawn care outreach program by Sea Grant.

As of publication, this collaboration has produced the brochure, "Don't 'P' on Your Lawn" and distributed it through several outlets, including the Vermont Flower Show, Gardeners Supply, Cornell Cooperative Extension Master Gardeners, Wyeth Pharmaceuticals, and through ECHO and Lake Champlain Committee newsletters. This summer's work will focus on creating PSAs, outreach to local media, and further distribution of the brochure through local utility bills. The groups will also contact retailers to encourage them to stock no-P brands and post the no-P brochure information at the point of sale.

Switching to phosphorus-free fertilizers is one of many simple changes local residents and businesses can make to benefit Lake Champlain. For other lake-friendly tips, such as switching to phosphorus-free automatic dish detergents, check out the LCBP's website at www.lcbp.org/action.htm or take the Lake Champlain Committee's "Lake Champlain Protection Pledge" at www.lakechamplaincommittee.org.

U. of Wisconsin Extension



Healthy Lawn Tips for a Green Lawn *not* a Green Lake

FERTILIZE...

- Only with phosphorus-free fertilizers. Most northeastern lawns and 75% of Chittenden County lawns tested by UVM had enough phosphorus (P) and only need nitrogen (N)!
- Apply fertilizer only once/year. The best time for this region is early fall.
- Sweep up fertilizer from sidewalks and driveways. Don't fertilize before heavy rain.

TAKE A SOIL TEST...

- If you are seeding a new lawn, or want to learn more about your lawn's nutrient content, pH level and organic content.

WATER...

- If desired, in early morning, when there is less than 1 inch/week of rain. Grass will survive droughts without watering by going dormant.

PLANT GRASS SEED...

- On existing lawns in the fall and spring to out-compete weeds.
- Use a grass mixture that does well in the setting (soil, light, activity).
- Leave legumes, such as common white clover, among the grass to add nitrogen, which will naturally fertilize your lawn.

MOW...

- To maintain a height of 3 to 4 inches and cut off no more than 1/3 of grass blade. Leave clippings on lawn to add nutrients and organic matter, but be sure to sweep the clippings off pavement.

WEEDS...

- Will be discouraged by following these healthy lawn tips! Just pull any that are left by hand.

New Map Shows Urban Land Increasing

An updated land use map for the Lake Champlain Basin has been created, thanks to a University of Vermont research team led by Dr. Austin Troy and funded by the Vermont Agency of Natural Resources Clean and Clear Program through the LCBP. Accurate land use data is critical to quantify the amount of phosphorus runoff to Lake Champlain. The updated digital map was created using the 2001 National Land Cover Dataset along with GIS datasets and satellite imagery from the same time period. The updated map provides a measure of land use change between 1993 and 2002. Changes occurred primarily in three areas: urban (and suburban) areas increased by nearly 2%, agricultural lands decreased by over 5%, and land in brush (often found after fields are left to revert to forest) increased by over 4%.

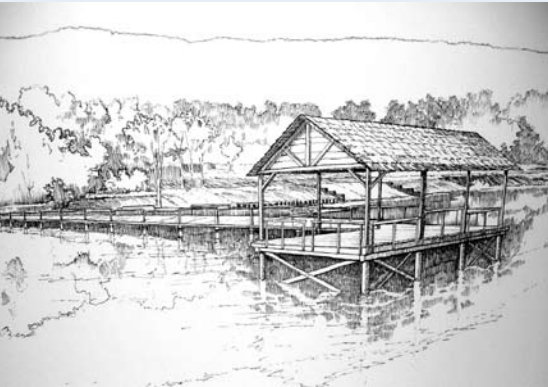
The study also estimated non-point source phosphorus loads from each major land use. Preliminary findings suggest that land use changes have increased phosphorus runoff. Because urban and suburban landscapes have a disproportionately large impact on phosphorus loading, even a small increase in these areas can result in a relatively large increase in phosphorus loads. This new data will assist planners and managers in understanding how land use conversion affects the movement of phosphorus across the landscape and to the Lake.

The final report will be published as part of the LCBP technical report series during summer 2007. A copy of the GIS data will be provided to the Vermont Center for Geographic Information and summary data by watershed will be viewable on Google Earth.

New Lake Access in NY!

Two new water accesses will be coming soon in New York. In Plattsburgh, a boat launch is anticipated for 2008, thanks to \$700,000 in funding from the New York State DEC's Environmental Protection Fund. Preliminary plans call for a three-lane ramp, boarding docks and a traffic pattern that will blend with other waterfront improvements. A universally accessible fishing pier on the South Bay of Lake Champlain, in Dresden, is expected to be constructed beginning in 2007. The fishing pier will provide seniors, families, people with disabilities, and others barrier free access from the parking area to the fishing rail. It will be constructed near the existing NYSDEC boat launch on South Bay. For more information about either project, contact the NYSDEC at (518) 897-1200.

NYSDEC



A new fishing pier in Dresden, New York will provide more access to the South Lake.

Schooner *Lois McClure* Heads West!

This summer the Lake Champlain Maritime Museum's replica canal boat will follow the path of settlers west along New York's Erie Canal—all the way to Buffalo—and back. For three months, the boat will travel the canal with stops at local communities to present exhibits and interpretation free of charge. The journey is made possible through a partnership with the Erie Canalway National Heritage Corridor and the New York State Canal Corporation. The Lake Champlain Basin Program is also supporting this journey and Resource Room Specialist Laura Hollowell will be onboard for a week to interpret Lake Champlain's natural history. Learn more and see the schedule at www.lcmm.org/our_fleet/lois_mcclure_schedule.htm or call (802) 475-2022.

B a s i n B

An eye on what's new on a



Randy Kruger

This July's "Regatta for Lake Champlain" will be fun for sailors and non-sailors of all ages and abilities.

Sailors Help Lake Champlain

On Saturday, July 21st sailors will take to the Lake to benefit lake-related nonprofits. This year's "Regatta for Lake Champlain" will be a pursuit race, which is perfect for sailors of all ability levels and all types of boats, from day sailors and cruisers to performance yachts. It will also include events for non-sailors, such as a barbecue, benefit auction, and party at ECHO. Since the race's inception in 2004, \$24,000 has been raised for local groups, including the Lake Champlain Committee, ECHO, and the Lake Champlain Maritime Museum. For more information, visit www.regattaforlakechamplain.org, or call Jamie Leopold at (802) 658-3023.



LCBP E-News Launched!

Delivered three times/year, this free service delivers the latest news from the LCBP and its partners to your e-mail. E-news is more cost-effective than the existing paper newsletter, timelier, and will save paper and waste. All existing LCBP partners and committee members (for whom we have emails) will be added to the service, but if you want to ensure you're on the list, sign up today at www.lcbp.org. (Note: your email will never be sold or exchanged and you can easily unsubscribe from the service.) If you do not have email, the LCBP will mail you a printed version if you contact the LCBP office.



Adirondack Council

LCBP Manager, Bill Howland (right) accepts an award from Brian Houseal, Executive Director of the Adirondack Council.

Adirondack Council Honors LCBP

Last summer, the LCBP was honored by the Adirondack Council at its annual meeting in Essex, New York. The LCBP was noted for its oversight of vital research and environmental programs in one of the Adirondack Park's largest and most diverse watersheds. LCBP Program Manager, Bill Howland, was on-hand to receive a lovely framed print from the Council Executive Director, Brian Houseal, which we now proudly hang in our office. Thank you, Adirondack Council—the LCBP greatly appreciates the recognition of our continued work with our New York partners.

u l l e t i n and around Lake Champlain!

ECHO



This red-eyed tree frog is one of several new froggy animal ambassadors at ECHO.

FrogWorld Opens at ECHO!

More than 600 people attended FrogWorld's opening day February 24th, to welcome ECHO's new permanent exhibit and the first in a new series emphasizing the Lake Champlain Basin's connection with the rest of the globe. Visitors were treated to nine different frog species, including the poison dart, malayan leaf and Vietnamese mossy, and new interactive exhibits.

About 120 guests also visited the LCBP's Resource Room, looking up facts in the Vermont Reptile & Amphibian Atlas and checking out the insides of frogs using a virtual dissection website.

While FrogWorld is sure to entertain, it will also encourage critical thinking about human impact on the planet, which is part of ECHO at the Leahy Center's stewardship mission. According to the Amphibian Conservation Summit in 2005, one-third of amphibian species are threatened with extinction and at least 122 species have been lost altogether. For more information, visit www.echovermont.org or call (877) ECHO-FUN.



NY Takes Emergency Action to Prevent Spread of Fish Pathogen

In March, the New York State Department of Environmental Conservation (DEC) announced new emergency regulations to help prevent the spread of Viral Hemorrhagic Septicemia (VHS) to additional state waters. The new regulations limit the possession, sale, transfer, taking, and release of certain baitfish and other live fish, and replace previous emergency regulations and incorporate public comments.

VHS is a serious fresh and saltwater fish pathogen that is causing disease in the Great Lakes region of the United States and Canada, but does not pose any public health threat. While not all the methods of spread are known, VHS pathogen is known to spread through the movement of fish, including bait fish. The DEC has proposed adopting the new emergency regulations permanently. To read the regulations, visit <http://www.dec.state.ny.us/website/dfwmr/propregs/#10e>. Additional information on VHS is at <http://www.dec.state.ny.us/website/dfwmr/fish/vhsv.html>.



Lead Fishing Sinker Laws

On January 1st 2007, a Vermont law banning the use of lead fishing sinkers less than one-half ounce went into effect. New York has banned the sale of lead sinkers under one-half ounce since 2004. Anglers are asked to use alternatives such as steel, ceramic, and plastic. Lead sinkers and loons are a deadly mix. When loons and other birds mistake sinkers for pebbles (used for digestion) they are poisoned. A ten-year study found that more than half of loon deaths in Vermont were attributed to lead. For more information contact the VT Fish and Wildlife Department at (802) 241-3700.



Molly McFaun, Senator Jim Jeffords, Bill Howland and Tom Berry, at the LCBP's 15th Anniversary Open House last October.

LCBP Marks 15 Years of Progress

More than 100 people attended an open house at the LCBP's Grand Isle office last October 20th to celebrate 15 years of partnerships to benefit Lake Champlain. The year 2006 marked the 15th anniversary of the creation of the LCBP and the 10th anniversary of the signing of the management plan, *Opportunities for Action*.

Guests included the public, current and former LCBP committee members and staff, agency partners, and representatives from the many organizations who have received local grants over the years. Senator Jeffords and Senator Leahy were presented with photos of the Lake to thank them for their longstanding program support. LCBP Program Manager, Bill Howland, cleverly summarized the LCBP's past 15 years with his engaging poem, "A Day with Sam."

Although attendees agreed that much work still needs to be done, it was inspiring to celebrate the successful partnerships of the past 15 years. For a summary of projects to date, read the LCBP *Progress 2006* report on www.lcbp.org or contact the office for copies.

Lake Champlain Live!

Experience hands-on science on Lake Champlain on-board the UVM research vessel, *Melosira!* New programs sponsored by the Leahy Center for Lake Champlain are underway for students and the public. Learn more at www.echovermont.org/education/melosira.html.



Sea Grant

Lake Champlain NEWS

Lake Champlain Sea Grant (LCSG) staff continue to assist with aquatic nuisance spread prevention efforts in the Adirondacks. In April, Mark Malchoff represented Dr. Susan Spissinger (LCSG co-Director) at a signing of the Adirondack Park Aquatic Nuisance Species Committee Cooperative Agreement. The event brought together 16 partners from a cross-section of state and non-government organizations. Since 2005, the partners have worked to develop and implement the *Adirondack Park Aquatic Nuisance Species Management Plan*. Mark served as a co-author and continues to work with plan partners to develop and implement education strategies to limit aquatic nuisance species spread.

LCSG also continues its outreach to both the public and students. Last winter, LCSG produced two new CD format publications. The *Fisheries Habitat and Aquatic Nuisance Species* modules provide both introductory and reference information to improve public understanding of aquatic biology, sport fisheries and related issues in Lake Champlain.

Dr. Jurij Homziak of LCSG was an invited speaker and panelist at the 2007 Maine Water Conference in March. The session brought together educators from throughout New England to discuss linkages between water resource science and K-12 education. Dr. Homziak profiled watershed and water quality education programs in the Lake Champlain Basin and discussed successes and challenges encountered in designing evaluation tools. Conference attendees were particularly interested in efforts to measure how students transmitted water quality and watershed protection information to their households, and how to measure that change at the household level.

For more information about LCSG programs visit www.uvm.edu/~seagrant. Or, contact Mark Malchoff at (518) 564-3037 or Jurij Homziak at (802) 656-0682.

NUISANCE SPECIES NEWS



Dave Tilton, USFWS

A volunteer pulls water chestnuts as part of last summer's "rapid response" to an infestation in the Missisquoi National Wildlife Refuge.

Boat Launch Stewards

The LCBP is working with its partners on a pilot project to station 6-8 stewards at Lake Champlain boat launches this summer. Stewards will be trained to answer questions about aquatic nuisance species (ANS)—from alewife to zebra mussels—and will have outreach materials to share. Several partnerships aimed at preventing the introduction and spread of ANS are also supported by the LCBP. Recent activities to keep these invaders in check include:

- The ANS Subcommittee is focusing on rapid response (to new invasions) and spread prevention, and is partnering with the NY Canal Corporation to address invasive species concerns with the Champlain Canal.
- The Rapid Response Workgroup is working with technical experts from New York, Vermont, and Quebec to develop a basin-wide protocol to address new invasions and prevent the spread of new invasive species between local water bodies.
- An ANS identification guide for enforcement officers, watershed stewards, and the public was developed by the Spread Prevention Workgroup. The workgroup is also creating public service announcements targeted to pro bass fishing tournaments.

Water Chestnut Found in Missisquoi Refuge!

Thanks to an astute eighth grader, a rapid response to water chestnut in the Missisquoi National Wildlife Refuge (MNWR) was launched in July, 2006. Sam Shambaugh of Berlin, VT spotted the nonnative plant while monitoring black tern nests with his father and reported it to the refuge. The LCBP partnered with MNWR staff, the Lake Champlain Fish and Wildlife Resources Office, and the Vermont Department of Environmental Conservation to enlist volunteers and agency partners to hand-pull the infested areas. In just two days, nearly 12,000 plants were pulled from Cranberry Pool, Big Marsh Slough, and Long Marsh Channel. Air boat surveys checked surrounding waters to ensure that all plants were found. Biologists at MNWR will monitor and organize hand-pulling if any more plants are found in 2007. If established, water chestnut could severely degrade waterfowl habitat and impede the recreational use of MNWR and Missisquoi Bay.

~ Thanks to Meg Modley, LCBP ANS Coordinator for compiling this news and staffing the workgroups.

Alewife Report Available

A summary of technical presentations from the 2006 LCBP / Lake Champlain Sea Grant sponsored Alewife Workshop can be downloaded at: www.lcbp.org/PDFs/Alewife_Impacts_2006workshopssummary.pdf.

EDUCATION NEWS

Lake Champlain Teacher Training

The Champlain Basin Education Initiative (CBEI) is launching an 11 day professional development series, *A Watershed for Every Classroom*, for New York, Vermont and Québec educators. Teacher teams will attend multi-day sessions between July 2007 and May 2008 to explore natural resource and economic connections, paddle and sample tributaries, explore cultural heritage sites, and visit wildlife reserves and farms throughout the watershed. Their goal is to develop a sustainable curriculum unit designed to immerse students in hands-on watershed programs. This series is modeled after the *Forest for Every Classroom* led by Shelburne Farms and other educational partners. For further info, contact Colleen Hickey at the LCBP (800) 372-3213 or chickey@lcbp.org.



Porthos is the "Clean Water Musketeer" for the first level of the Missisquoi Bay education program.

Quebec Launches Missisquoi Bay Education Program

The Corporation Bassin Versant Baie Missisquoi taught students in more than 10 schools, from grades 1-8 last spring and fall, helping them understand basic watershed concepts. The *Clear Water Musketeers* curricula is designed to increase student understanding of pollution issues and encourage them to become watershed "Musketeer" stewards for the Bay. Phase Two of the program is underway. Workbooks are produced in both French and English.

Spotlight on Local Grants

The LCBP has awarded more than 600 grants to local organizations since 1992. Below are few highlights of recent projects. To read abstracts of all LCBP grants, search our database at www.lcbp.org/grant_search.aspx.

Important Bird Areas DVD: Audubon Vermont recently released a DVD featuring five important bird areas of Lake Champlain including Four Brothers Islands, Dead Creek WMA, Crown Point, Missisquoi National Wildlife Refuge, and common tern nesting islands. Beautiful footage of heron rookeries, endangered common terns and migrating songbirds allow viewers to appreciate the importance of these sites to Lake Champlain's ecosystem. The DVD is free for educators and other bird watchers. For more information, contact Mark LaBarr at (802) 434-3068. Both the National Wildlife Federation magazine and Audubon magazine have featured Lake Champlain as a top-ten U.S. birding trail.

UVM Extension and North Lake Farmers Reduce Pollution: Up to 25 farmers from the Franklin-Grand Isle Farmers Watershed Alliance will be working with UVM Extension to identify on-farm environmental risks and solutions. UVM will also provide farmers with technical assistance on nutrient management plans. Ultimately, 90% of participants will implement one pollution reduction practice within six months of developing their plans and 80% will reduce phosphorus fertilizers. For further information contact Dr. Heather Darby, UVM Extension at (802) 524-6501. This initiative is funded through the LCBP's technical program.



Common terns are one of the many species covered in Audubon Vermont's new "Important Bird Areas" DVD.

Volunteers Tackle Milfoil on Lake Colby:

The Lake Colby Association in Saranac Lake, NY has made great strides towards reducing Eurasian watermilfoil. As of last September, volunteers reported that the Lake is virtually free of milfoil beds. In coordination with stewards from Upper Saranac Lake, Lake Colby was picked by divers and volunteers three times in 2006. Over just two months, 1,500 bags of milfoil were collected and composted. By 2008, the Association hopes that remaining harvesting needs will be sustained by local residents and the community. For more information, email info@lakecolby.org.

Got Lake Questions?

The LCBP's Resource Room staff at ECHO at the Leahy Center for Lake Champlain has welcomed more than 78,000 guests since opening three years ago. ECHO guests stop by the Resource Room with questions, students complete research projects, and families spend quality time exploring maps, books and watershed activities. Stop by for a visit! The Resource Room is open during ECHO's regular hours and is free to the public if you make an appointment first by calling (802) 864-1848 ext. 109.

Mark Your Calendars:

Saturday, June 9

Vermont Clean Water Day: Community events will focus on cleaning up Vermont waters. For more info: www.vermont.gov/cleanandclear

Saturday, July 14

Adirondack Waterfest: Ticonderoga, NY. This day is filled with water information and fun activities. For more info: Bob Dedrick (518) 585-6265

MORE EVENTS!

Looking to entertain your out-of-town guests this summer? The LCBP hosts an on-line calendar filled with watershed things to do, such as river clean-ups, water chestnut pulling, bird watching, and paddling tours. Check it out at www.lcbp.org.

CULTURAL HERITAGE & RECREATION UPDATE

Boating in the Champlain Valley

A new interpretative brochure guides boaters to the natural and cultural treasures of the “narrows” of Lake Champlain. Boaters can learn about the lighthouses, shipwrecks and sea monsters of this geologically significant and beautiful part of the Lake. Available at www.lcbp.org/recsum.htm.



Audio Interpretation on Lake Champlain's Ferries

Passengers can hear about Lake Champlain's important history, rich culture, natural diversity, and environmental challenges while they enjoy the spectacular scenery of the Port Kent–Burlington ferry crossing. Utilizing National Scenic Byway funding, the LCBP, Lake Champlain Byway Council, Big Heavy World Foundation, Inc., Lake Champlain Islands Chamber of Commerce, and the Lake Champlain Transportation Company developed an audio interpretation program for the thousands of visitors and residents that cross the broadest section of Lake Champlain.

Short messages are interspersed with original Vermont music broadcast over limited-range FM radio. The program is hosted by Rusty Dewees, AKA “The Logger.” Passengers can listen with free headphones provided by the LCT or on car radios. The Port Kent–Burlington ferry runs from May to October. Visit www.ferries.com for crossing information.

400th Anniversary Update

Preparations for the upcoming 400th anniversary of Samuel de Champlain's arrival to the Lake are in full swing in New York, Vermont and Québec. The Vermont Lake Champlain Quadricentennial Commission recently published its strategic plan for 2009. Copies are available at www.celebratechamplain.org. The New York Hudson-Fulton-Champlain Quadricentennial Commission (HFCQ) is coordinating activities on the western shores of the Lake. Learn more at www.exploreny400.com. Québec communities are planning for the commemoration of Champlain's 1609 travels along the Richelieu River. A copy of their preliminary plan is available online: www.monteregie-est.org.

A bill establishing a federal commission for the Lake Champlain Quadricentennial has been introduced in Congress. The Hudson-Fulton-Champlain Quadricentennial Commemoration Act of 2007 will establish two commissions; one for Lake Champlain commemoration and one for the Hudson River anniversary.

Save the Date!

The Lake Champlain Basin Program will host a special “Quadricentennial Workshop” at 1:30 p.m. on Wednesday, June 13, 2007 at Saint Michael's College in Colchester, Vermont. The workshop will inform and engage participants on planning efforts in Vermont, New York and Québec in preparation for the 400th anniversary of Samuel de Champlain's 1609 arrival to the lake.

In addition to state and provincial presentations, workshop participants are invited to participate in roundtable discussions and breakout sessions. Contact Jim Brangan at jbrangan@lcbp.org or 802-372-3213 ext. 13 for details.

LCBP Presents at the 4th International World Water Forum

In March 2006, the LCBP's Michaela Stickney and Meg Modley traveled to the 4th World Water Forum (WWF4) in Mexico City to share challenges and successes with other watersheds from around the world. It was an honor to attend since among 1,147 paper submissions, only 480 full presentations and 40 posters were selected.

The theme of the WWF4, “Local Actions for a Global Challenge,” supported five major tracks: water for growth and development; integrated water resources management; water supply and sanitation; water for food and the environment; and risk management. Focusing on local actions and people was a departure from previous forums that featured larger, global initiatives.

Michaela was invited by the Mexican Ministry of Public Works and Environment to represent North America in their session on governance and water management resources. Her presentation focused on the use of incremental, non-binding, renewable agreements in the Lake Champlain Basin as a mechanism to achieve watershed clean-up goals more quickly than regulatory or legislative approaches. During the discussion, every question referenced Lake Champlain's success with consensus and voluntary measures as a model to follow.

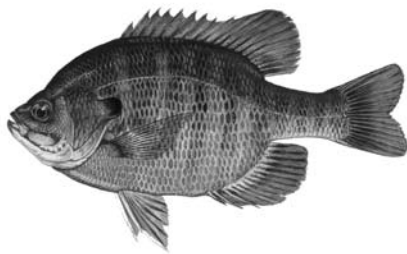
Meg presented a poster outlining Lake Champlain Basin partnerships and key issues, and shared LCBP publications. Water use rights were a major issue. Fortunately, in the Lake Champlain Basin, our focus is on water quality, not availability.

Michaela and Meg also met with partners from the UNESCO HELP (Hydrology for the Environment, Life and Policy Program) to discuss common issues, goals, and basin “twinning” opportunities. HELP is a joint initiative of UNESCO and the World Meteorological Organization. The Lake Champlain Basin is one of 67 HELP basins worldwide and one of only two demonstration watersheds in North America (and seven worldwide). The LCBP is one of only a few organizations from the Northern Hemisphere invited to attend HELP's 2007 Southern Symposium in South Africa.

LCBP



Andrew Fenemor, Landcare Research, New Zealand; Michaela Stickney and Meg Modley of the LCBP; Henrique Chaves, PhD, University of Brazil; Mike Bonell International HELP Program Director for UNESCO; and Zhang Jiebin, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, China gather after a UNESCO session.



Thanks to Our Terrific Resource Room Volunteers:

Dave Hathaway
Rich Graham
Jolynn Goff
Emily Howland

Volunteers are especially needed for one 2-4 hour shift/week on busy summer days. Please call Laura Hollowell at (802) 864-1848 ext. 19 for details. An interest in Lake Champlain and working with the public are all that's needed.

Staff Update



Mac Lynch interned with LCBP's education and outreach staff last summer and assisted with creating the online grant database. Mac also helped in the Resource Room, participated in pulling water chestnuts, and updated the website, fact sheets, and publications database. Mac was born and raised in rural Vermont, spending many days on and in the Lake. He graduated in 2006 from Hamilton College with a major in Environmental Studies and Communications, having completed a thesis on the necessity of a shift towards alternative energies in the United States. Mac also spent semesters in Italy and New Zealand studying natural resource management. Following a trip around the world, Mac is planning to attend graduate school in either Environmental Policy or Management with a public service career in mind.



Kris Joppe-Mercure began as the Technical Associate at the LCBP last November. Kris coordinates technical issues, assists in the development of the ecosystem indicators scorecard, and facilitates the Toxics Management Workgroup to develop the Lake Champlain Toxics Management Strategy and toxics related indicators. Kris has a Bachelors degree in biology from Drew University and a Masters degree in oceanography from the University of Rhode Island. Prior to her position with the LCBP, Kris worked as a fisheries scientist conducting research on gear and technical solutions to reduce by-catch in the Northeast groundfish fishery. She grew up in South Burlington and is excited to be back working to preserve and manage Lake Champlain.

Contact the Lake Champlain Basin Program

Our office is centrally located near the Grand Isle, VT ferry landing. Additional staff supporting the program work in New York, Vermont, and Québec and at US EPA offices.

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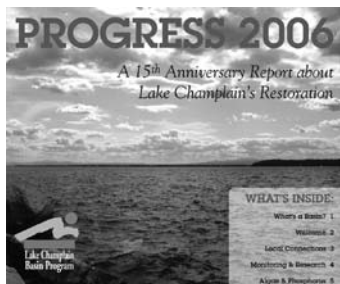
Art Stemp - NY Coordinator, NYS DEC, (518) 897-1216

Michaela Stickney - VT Coordinator, VT ANR, (802) 241-3619

R E S O U R C E S

Progress 2006

The LCBP's *Progress 2006: A 15th Anniversary Report about Lake Champlain's Restoration* highlights key efforts and progress since the LCBP's inception in 1991. The report is free online in both English and French at www.lcbp.org, or call the LCBP for a copy.

**2006 Clean and Clear Annual Report**

The *2006 Clean and Clear Annual Report* highlights Vermont Programs to reduce pollution to Lake Champlain and other state waters. Read the report online at www.vermont.gov/cleanandclear or call Brad Wright at (802) 241-3609 or brad.wright@state.vt.us.

VT CAC 2007 Action Plan

The Vermont Citizens Advisory Committee has completed its *2007 Lake Champlain Action Plan* report to the Vermont State Legislature. Contact Michaela Stickney at (802) 241-3619 for a copy or view it online at www.lcbp.org/PDFs/VTCAC_ActionPlan-2007.pdf

NEW Technical Reports

Distribution and Factors Affecting Survival of Sea Lamprey Eggs In and Out of Nests. Smith S., J.E. Marsden, Rubenstein School of Environment and Natural Resources, University of Vermont. April 2006. LCBP Technical Report #49.

Tributary Contributions to the Parasitic and Spawning Adult Population of Sea Lamprey (Petromyzon marinus) in Lake Champlain Using Elemental Signatures. Howe, E.A., C.P. Hand, J.E. Marsden, S.A. Ludsins, and B.J. Fryer, Rubenstein School of Environment and Natural Resources, University of Vermont; Great Lakes Institute for Environmental Research, University of Windsor; National Oceanic and Atmospheric Administration. March 2006. LCBP Technical Report #48.

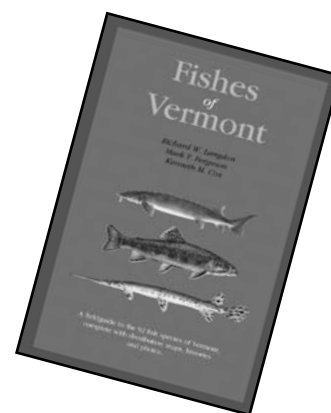
Demonstration of Methods to Reduce Indicator Bacteria Levels in Agricultural Runoff in Vermont. Meals D.W., Ice.Nine Env. Consulting; D.C. Braun, Stone Environmental, Inc. March 2005. LCBP Technical Report #50.

NEW Publications Database!

New Technical Reports and more than 90 other publications are downloadable for free at www.lcbp.org/publication_search.aspx.

NEW Fishes of Vermont Book

Fishes of Vermont was released in 2006 by the Vermont Fish and Wildlife Department. Written by three experienced Agency of Natural Resources biologists, Richard W. Langdon, Mark T. Ferguson and Kenneth M. Cox, this 316-page volume provides an account of the natural history of Vermont's 92 fish species. The price is \$24.95 and proceeds from sales will support Nongame and Natural Heritage Program activities. To order call (800) 515-2475.

**Casin' the Basin Editorial Staff**

Nicole Ballinger, Colleen Hickey (Co-Editors)
Buzz Hoerr, Bill Howland, Anita Deming, Art Stemp, Michaela Stickney

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