



# Watershed Update

Missisquoi River Basin Association

Spring 2012

## Important Dates!

**Sat., Apr. 14** – workday  
in Highgate

**Sat., Apr. 21** – workday  
in Franklin

**Sat., May 5** – workday  
in Highgate

**Sat., June 2** – river  
clean-up, Berkshire

**Sat., Aug. 25** – River  
Festival in Montgomery  
Center

**Sat., Sept. 8** – paddle in  
Highgate

*Additional workdays to  
be announced later.*

*For more info, contact  
MRBA at 933-9009,  
[mrba@pshift.com](mailto:mrba@pshift.com) or  
visit our website*

## 2012 Field Work

The early arrival of spring weather is leading to the earliest start to volunteer workdays for the Missisquoi River Basin Association (MRBA). The first project this year will be on Saturday, April 14 in the Town of Highgate at the Parent Road farm land owned by Brian and Bill Rowell of Green Mountain Dairy. This is the third planting at this Rock River watershed site, and volunteers using speckled alder and live willow stakes will fill in portions of this 3.4 acre Conservation Reserve Enhancement Program (CREP) and Partners in Wildlife (PIW) Program buffer. These programs from the

USDA Natural Resource Conservation Service (NRCS), Vermont Agency of Agriculture, Food and Markets (VT AAFM) and US Fish and Wildlife Service (USF&WS) support many of the tree and shrub plantings in riparian areas.

The second workday is scheduled for Saturday, April 21<sup>st</sup> at Ernest Fortin's farm in South Franklin. This CREP and PIW buffer project is on a tributary to the Missisquoi River. This 2.5 acre site will have 750 trees and shrubs planted by a mix of volunteers and private contractors.

Tree and shrub species include speckled alder, silky dogwood, northern white cedar, tamarack

(larch), and red maple. These trees come from the Intervale Conservation Nursery in Burlington as well as a Michigan-based nursery, Cold Stream Farm.

The third planned volunteer workday is on Saturday, May 5<sup>th</sup> in the town of Highgate, along a tributary to the Rock River. This site is owned by August Haberstroh, and is immediately downstream and adjacent to the Rowell-owned buffer. The planting will fill in sections of this 11+ acre buffer that was first planted in 2010. This site also has a section of restored wetlands that was supported by VT Agency of Natural Resources and its River Management Program and designed by a team of consultants led by Vermont Wetland Plant Supply.

MRBA is also working to coordinate project days with students from Fairfield Elementary, Franklin Elementary, Missisquoi Valley Union High School and other schools. These workdays are likely to be held during the week and will complement efforts at the sites listed above or help implement other projects such as critical area seedings, livestock exclusion, and buffer stewardship/ maintenance.



MRBA volunteers are ready to start a tree planting workday in Troy

If you have project ideas and/or have volunteers interested in participating in these conservation projects, please contact Cynthia or myself to discuss the details. See you on the streambanks!

*Brian Jerosé, MRBA Technical Advisor*

## River Festival 2012

On August 25, 2012 the Missisquoi River Basin Association will hold its third annual River Festival at the Montgomery Recreation Field. This event is a fundraiser for the organization and is filled with music, food and fun activities.



Once again this year there will be a Portage Race through an obstacle course. The food provided by local vendors is delicious and as in the past two years there will be a beer tent!

Come enjoy great music, food, fun and enjoy a great time with your neighbors and friends from all along the watershed of the Missisquoi River.

*Wendy Scott*

## Sincere Thanks!

and our deep gratitude go to residents of the Towns of Bakersfield, Enosburg, Montgomery, Richford, Sheldon, Swanton, and Westfield for approving an appropriation to MRBA at their recent Town Meeting.

We are also extremely grateful to the Vermont Community Foundation for a Lake Champlain and Tributaries Restoration Fund grant, and to Ben & Jerry's for a Community Action Grant. These funds will enable us to hold workdays, water sampling, and Bugworks this year.

A huge thanks as well to all our members who have so generously made donations to support our grassroots efforts.

We very much appreciate all of your help and enthusiasm for our programs and work to improve water quality in the Missisquoi watershed.

## Bugworks

Once again we will be offering the Bugworks program to elementary schools in the watershed! Thanks to funding from Ben & Jerry's St. Albans Community Action Team and donations from so many of our members, MRBA's education consultant Jane Williams of Fairfield will be able to offer 2 free sessions to Grades 5 and 6 teachers.



If you know of a school or teacher who might be interested in having their students learn more about water bugs and their relationship to water quality, please contact MRBA at [mrba@pshift.com](mailto:mrba@pshift.com) or Jane Williams at [janiewilliams@surfglobal.net](mailto:janiewilliams@surfglobal.net)

## Water Sampling

Last summer MRBA volunteers collected water samples bi-weekly at 21 sites between May and Aug. (the season was shortened due to Tropical Storm Irene). In a public presentation held March 5 in Enosburg Falls, Jeremy Deeds showed that samples taken in Orleans Co. at Burgess Branch, Loop Rd., Jay Branch, and Big Falls, and at Franklin Co. sites E. Richford, Trout River, The Branch, and Tyler Branch at Boston Post Rd. all had good water quality (ie. phosphorus levels that are within water quality standards) – see map. The figures for each site are averages over the season; the range of values within each average may be considerable.

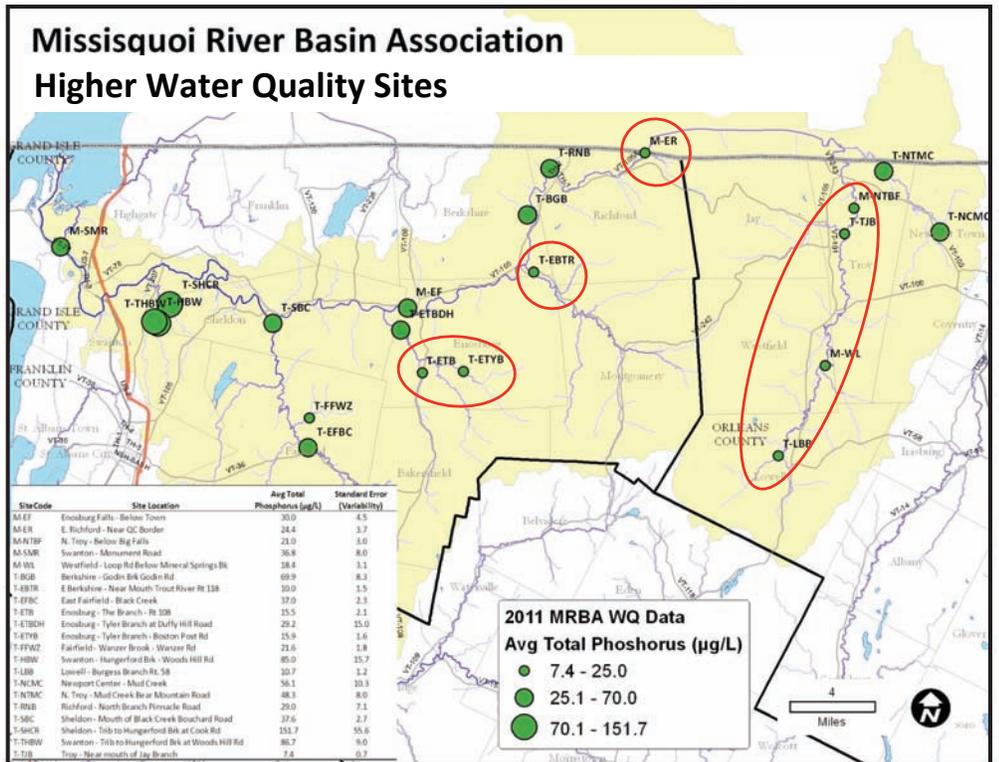
The Vermont Water Quality Standards set a limit of 25ug/L phosphorus in the Missisquoi Bay of Lake Champlain (State of Vermont, 2008). Only 9 of the 21 sites sampled in 2011 did not exceed this average limit over the season (see Table 1).

It should be noted that 2011's phosphorus data compares with 2006-2010 average phosphorus data inferred by Table 1.

In addition to testing for phosphorus, our samples were analyzed for turbidity and nitrogen. There is no water quality standard for total nitrogen, only for nitrates, so comparing our nitrogen data to established criteria is not possible.

The turbidity standard for cold water fisheries is 10NTU and warm water fisheries 25NTU in the Missisquoi watershed. Only 3 sites, all located in Hungerford Brook or its tributaries, exceeded the cold water standard on average.

Many thanks to Shana Stewart Deeds and Jeremy Deeds for analyzing our data, to all our volunteer samplers for being so reliable in collecting and delivering water samples, to the LaRosa lab for the sampling supplies and lab



services, and to the Lake Champlain Basin Program for awarding us funding to implement this program in 2011.

We have submitted an application to the LaRosa

Table 1: List of mainstem and tributary sample sites with identifying code and sampling years.

Mainstem Sites	Code	Years
Westfield - Loop Rd - Below Mineral Springs Brook	M-WL	2005, 2006, 2007, 2008, 2009, 2010, 2011
Troy - Citizens Dam	M-TCD	2005, 2006, 2007
North Troy - Below Big Falls	M-NTBF	2005, 2006, 2007, 2008, 2009, 2010, 2011
East Richford - Near QC Border	M-ER	2005, 2006, 2007, 2008, 2009, 2010, 2011
Richford - below town, Davis Park	M-RDP	2005
Richford - Below North Branch Marvin Rd	M-RM	2006, 2007
East Berkshire - Below Trout River	M-EB	2005, 2006, 2007
Enosburg Falls - Lawyers Landing	M-ELL	2005
Enosburg Falls - Below Town	M-EF	2005, 2006, 2007, 2008, 2009, 2010, 2011
N. Sheldon - Above Black Creek - Kane Road	M-NS	2005, 2006, 2007
Sheldon Junction - Bridge	M-SJ	2005
Highgate - Dam at Highgate Falls	M-HD	2005, 2006, 2007
Swanton - above town Johns Bridge	M-SJB	2005
Swanton - Marble Mill - Below Dam	M-SMM	2005
Swanton - Monument Road	M-SMR	2005, 2006, 2007, 2008, 2009, 2010, 2011

Tributary Sites	Code	Years
Lowell - Burgess Branch Route 58	T-LBB	2005, 2006, 2007, 2008, 2009, 2010, 2011
Troy - Jay Branch - Vielleux Road	T-TJB	2006, 2007, 2008, 2009, 2010, 2011
Newport Center - Mud Creek - Route 105	T-NCMC	2006, 2007, 2008, 2009, 2010, 2011
Newport Center - trib. to Mud Creek	T-NCTM	2008, 2009, 2010
North Troy - Mud Creek - Bear Mountain Road	T-NTMC	2005, 2006, 2007, 2008, 2009, 2010, 2011
Richford - North Branch - Pinnacle Road	T-RNB	2006, 2007, 2008, 2009, 2010, 2011
East Berkshire - Trout River - Near Mouth - Route 118	T-EBTR	2005, 2006, 2007, 2008, 2009, 2010, 2011
Enosburg - Tyler Branch, Duffy Hill Road	T-ETBDH	2006, 2007, 2008, 2009, 2010, 2011
Enosburg - Tyler Branch, Boston Post Rd.	T-ETBY	2008, 2009, 2010, 2011
Enosburg - below Tyler Branch	T-ETB	2005
Enosburg - The Branch (Rt. 108)	T-ETB	2008, 2009, 2010, 2011
East Fairfield - Black Creek Ryan Rd.	T-EFBC	2007, 2008, 2009, 2010, 2011
Fairfield - Wanzel Brook	T-FFWZ	2008, 2009, 2010, 2011
Sheldon - Mouth of Black Creek - Bouchard Road	T-SBC	2005, 2006, 2007, 2008, 2009, 2010, 2011
Highgate - Hungerford Brook Route 207	T-HHB	2006, 2007
Sheldon - trib to Hungerford Bk Cook Rd.	T-SHCR	2008, 2009, 2010, 2011
Swanton - trib to Hungerford Woods Hill Rd.	T-THBW	2008, 2009, 2010, 2011
Swanton - Hungerford Bk Woods Hill Rd.	T-HBW	2008, 2009, 2010
Berkshire - Godin Bk Godin Rd	T-BGB	2011

Lower Levels of Nutrients/Turbidity  
Higher Levels of Nutrients/Turbidity

Lab to continue sampling in 2012. Awards are expected to be announced in mid-April.

Mike Manahan

## River Front Land Conservation in Enosburg Falls

Over the past year the MRBA has been working with the Vermont River Conservancy (VRC), the Enosburg Falls Conservation Commission and other local residents to provide permanent public access to the Missisquoi River just below the Bridge of Flowers and Light. A nine acre parcel, including over 1500 feet of rivershore, is planned for purchase by the VRC with eventual transfer of five of the nine acres to the Village of Enosburg Falls as a public park and the creation of two building sites for Habitat for Humanity.

75% of the necessary funding has been secured through grants from the Vermont Housing and Conservation Board and many generous contributions. All contributions, large and small, are very welcome and can be made to the Vermont River Conservancy, 29 Main Street, Suite 11, Montpelier, Vermont, 05602 or on our secure website. All donations are fully

deductible.

Some helpful links:

<http://www.vermontriverconservancy.org/>

<http://www.vermontriverconservancy.org/news/help-us-protect-our-river-access-in-enosburg-falls>

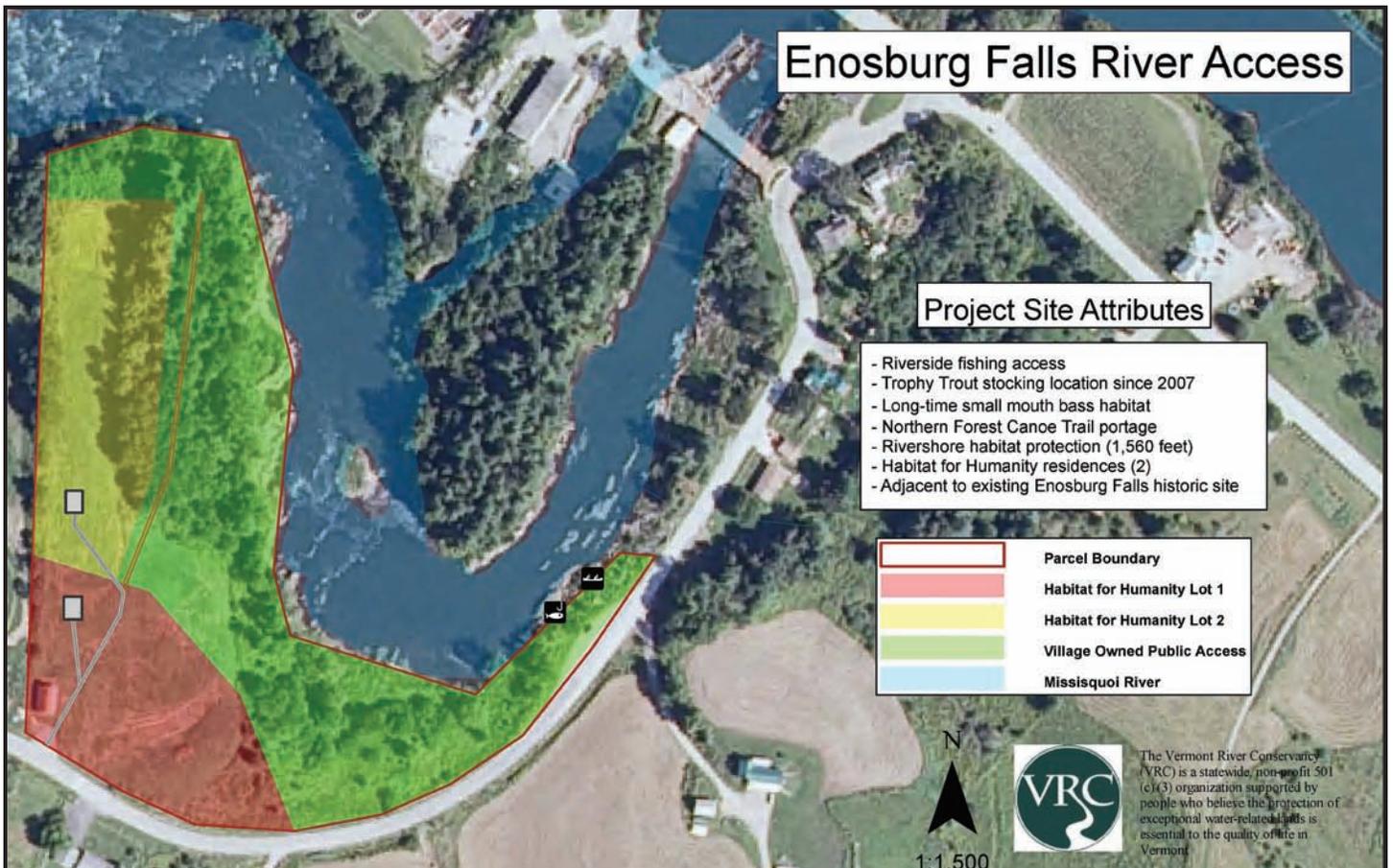
<http://www.vermontriverconservancy.org/support-the-vermont-river/online-donation>

Lydia Menendez  
Vermont River Conservancy

## River Clean-up



Join us for our annual river clean-up! This year MRBA will partner with the Wild & Scenic Rivers Study Committee to clean-up the Missisquoi River between Berkshire and Enosburg Falls on Sat., June 2. Bring your canoe or kayak, no experience needed!



## MRBA's Annual Public Forum

### Boots on ground needed to address watershed issues

ENOSBURGH — Members of the Missisquoi River Basin Association and its staff now know which areas of the watershed contribute most heavily to pollution of the rivers and lake.

Thursday night they met with representatives of the Agency of Natural Resources and discussed how to make the best use of that information.

Kari Dolan of the Ecosystem Restoration Program presented a study from Stone Environmental showing which areas of the Missisquoi basin are the largest sources of phosphorous and other nutrients found in the Missisquoi Bay.

Excess nutrients, particularly phosphorous and nitrogen, cause blooms of blue-green

algae, some of which are toxic to humans and animals.

Sixty percent of phosphorous in the Missisquoi Bay is coming from the land; the remaining 40 percent from stream bank erosion.

Just 20 percent of the land contributes 74 percent of the phosphorous found in the bay. Ten percent of the land alone contributes 57 percent.

The study, which drew on multiple sources and types of data to create a computer model of the Missisquoi watershed, can identify down to the subfield level where nutrients entering the rivers, and ultimately Lake Champlain, are coming from.

The question now becomes how to use that data.

"We've got to find a way to get to these landowners with these critical areas," said Paul Stanley, an MRBA member and an agriculture consultant.

The most likely response when contacting farmers who aren't already engaged in reducing nutrient run-off is likely to be, "Well, I don't believe your data," said Stanley.

"There needs to be 10 times the amount of people on the ground," said Brian Jerose, who is working with two farmers with land identified as critical source areas for nutrients. There are, he pointed out, hundreds of farms in the watershed.

David Mears, commissioner of the Vermont Dept. of Environmental Conservation, acknowledged the difficulty, saying there needed to be a variety of approaches, incorporating both carrots and sticks. His agency, Mears said, is working with the Agency of Agriculture and the National

Resource Conservation Service (NRCS) to make certain they send the "right person to the farm at the right time." NRCS is part of the U.S. Dept. of Agriculture and administers many of the programs, such as buffer programs, that provide financial incentives for farmers to reduce runoff.



VT DEC staff Kari Dolan (left) and Commissioner David Mears (right) join MRBA Chair John Little at the MRBA March 29 public forum

They also want to reduce duplication of effort, according to Mears. A farmer willing to take part in efforts to reduce nutrient run-off will often have staff from multiple agencies visiting working with the farmer, while another farmer won't get a single visit from any of the agencies. This is something the three agencies want to change, according to Mears.

"We may need a different set of strategies," suggested Dolan, adding that outreach should come not just from government agencies, but from other farmers and from groups like MRBA.

"You have to have people out there talking to the farmers ... and you have to whack the laggards," said Paul Madden of the Friends of Northern Lake Champlain. Others concurred with the need to "whack the laggards."

Farmers who are voluntarily complying with accepted agricultural practices on their farms become frustrated and discouraged when there is no penalty for neighbors who aren't complying, suggested Stanley.

Chris O'Shea, of Franklin, described a "parade of manure trucks" which coat fields with manure

every two weeks during the summer, because a large farmer needs to get rid of the manure. Some of the fields being coated have steep slopes and abut rivers that feed into the lake. "You may as well have taken that manure and dumped it straight into the lake," said O'Shea.

Mears said DEC and the Agency of Agriculture are working on an enforcement program with the attorney general's office. "It doesn't take a lot of enforcement to make a big difference," said Mears.

The rising cost of corn, whose price has tripled since 2006, is also a factor.

"The real land conversion we've seen in Franklin County is we change hay land into corn," said Russ Ford.

In addition, cows have been bred to be larger and produce more milk. The cows themselves need more energy, and also generate more manure, explained Stanley.

"We've got to raise the corn so we don't have to buy that energy," said Stanley.

One of the uses of the study data, which drew on detailed contour maps of the land, is to hopefully help farmers identify which fields can be used for corn with a minimum impact on water quality, suggested Dolan.

She also made a suggestion that land conservation, such as the sale of development rights, be tied to use of best management practices to preserve water quality.

Farmers are also using less bedding for cattle, said Stanley. Used bedding gets incorporated back into the soil, providing organic matter that improves the quality of the soil overall. Better quality soils are better able to absorb water and manure, reducing runoff.

The reduced amount of animal bedding is leading to poorer quality soils, which are leading to poorer quality corn, explained Stanley.

"This is about good, quality watersheds for all of us," said Mears.

*Michelle Monroe, Messenger Staff Writer  
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