

Watershed Upd

Update

Missisquoi River Basin Association

Fall 2012

River Festival 2012

Another year, another beautiful summer evening, and another fabulous River Festival! With music by the Missisquoi River Band and The Shady Trees, nourishment from The Black Lantern Inn, The Snow Shoe Lodge & Pub, Dave Bott, the Montgomery Conservation Commission and The Belfry, the very popular portage race, paddle toss and hula hoops, there was plenty of entertainment for everyone!



Hula hoops and the portage race attracted River Festival participants of all ages

A huge thanks to our many sponsors for supporting MRBA and our water quality improvement efforts: Champlain Chevrolet, Concept2, Hazen's Notch Association, Little Painters, TJ's Country Store, Vermont Farms & Homes Real Estate, The Abbey Group, Green's Ace Hardware, Missisquoi Construction, Montgomery Properties, Outdoor Gear Exchange, Poulin Grain, and Whitehead Electrical Services. Your support is greatly appreciated, **Thank You**!!

The River Festival is a fundraiser for MRBA to help us raise awareness of water quality issues and recruit volunteers to implement actions which will stabilize streambanks, reduce phosphorus run-off from fields, and control soil erosion.

Field Work

This year has had a great number of workdays ranging from tree planting, invasive plant control, to installation of Compost Filter Socks (CFS) and riparian buffer stewardship. The early arrival of warm weather this past spring led to the earliest start of volunteer workdays for the Missisguoi River Basin Association (MRBA). The first project this year was 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 filled 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 surprise "celebrity" volunteer was VT AAFM Secretary Chuck Ross indicating his personal and his agency's support for water quality and conservation practices.

The second workday was held Saturday, April 21st at Ernest and Rolande Fortin's farm in South Franklin. This CREP and PIW buffer project is on a tributary to the Missisquoi River. A group of 12 volunteers was able to plant about 175 trees. The surprise "celebrity" volunteer of this workday was Vermont Attorney General Bill Sorrell. This 2.5 acre site has a total 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 volunteer workday was held on Saturday, May 5th in the town of Highgate, along a tributary to the Rock River. This workday was also connected to the 350.org climate change initiative and was one of hundreds of volunteer efforts on that day around the globe. This group's efforts center on reducing atmospheric

carbon-dioxide concentrations to below 350 parts per million – the



Chuck Ross, Secretary of the VT Agency of Agriculture, Food & Markets, at MRBA's April 14 workday

forester (and a few other hats), a demonstration plot of cutting and herbicide control measures were implemented to follow up on similar efforts in 2011. These workdays were held on June 30 and September 23. This effort is intended to evaluate this invasive plant control practices and see if a larger-scale approach could be viable. Invasive plants have negative impacts in their shallow root networks that make streambanks less stable, and

level projected to mitigate the worst scenarios possible for temperature and sea level rise. The Highgate site is owned by August Haberstroh, and is immediately downstream and adjacent to the Rowell-owned buffer. The planting filled 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. Even without any celebrity volunteers, the group was able to plant 196 trees.

The following Monday, students from Franklin Elementary School travelled to the Haberstroh site and planted the remaining 134 trees and shrubs along the tributary. We had good weather and the students worked hard – many were ready for lunch by 10 am! Amy Soriano, AmeriCorps volunteer for the Franklin Watershed Committee, helped coordinate with Franklin teachers and helped guide students in proper planting techniques.

The fifth workday was held that Friday, May 11th with students from the Missisquoi Valley Union (MVU) helping to plant additional alder and willow on the Rowell site. Marc Wilde from the Natural Resources Program and Dan Nowlan from the Ladders Program brought students, and an additional 30 large green ash and white cedar trees. These transplants were saved from the MVU grounds where a new student garden was about to be planted. Some of these trees were placed near the road and along the stream of the adjacent Haberstroh site.

The sixth and seventh workdays were the continuation of invasive Japanese Knotweed plant control in Montgomery. Organized and led by Charlie Hancock, MRBA Board member, Montgomery Conservation Commission chair, the crowding out of other native, deeper rooting species – a loss for both streambank stability and for food sources for birds and other wildlife. (See Knotweed article in this newsletter)

The eighth workday, held on October 12, was the installation of Compost Filter Socks (CFS) as sediment control measures along the Cassidy Road in the Town of Highgate. CFS are woody mulchfilled nylon tubes, 9" in diameter, that are used in settings sometimes addressed by stone check dams or silt fences. At other points of runoff, often no practices are in place. The mulch filling is composted or aged to provide more surface area and filtering capacity for fine sediment and nutrients. These demonstration sites are intended to evaluate the effectiveness and efficiency of capturing sediment and nutrients in agricultural and municipal ditch networks, including at the points of runoff from crop fields. CFS have been used in many other states but are still relatively new to VT. The ability to capture more fine sediment than other practices (such as coarse stone check dams) is important as phosphorus (P) is attached to and able to be transported by clay soils suspended in runoff and carried into tributaries. This demonstration project is led by the Composting Association of Vermont (CAV) with funding from Green Mountain Coffee Roasters. MRBA and the Better Back Roads Program are among the project partners.

Whew – whoa wait! More workdays are still to come! There are supplemental tree plantings and buffer stewardship workdays still being planned for later this November, 3 or 4 workdays are possible. Fairfield School and community volunteers recruited through the Wild and Scenic Study Committee's efforts are planning plantings in Fairfield, Montgomery, North Troy and Highgate. Some of this work involves removing tree tubes (rodent protection) from trees planted in the past few years. Let's hope the weather holds up to get in some more productive field time. Thanks again to all for your hours in the soil and feel free to share other project ideas.

Brian Jerose, MRBA Technical Advisor

Cover Crop Report

Many changes have evolved over the past five years with Cover Crops in the Missisquoi River Basin (MRB). Cover crops have been used for many generations and are defined as a secondary crop (winter rye) to a primary crop (corn). The secondary crop in most cases provides no feed value, however, is vital in providing soil tilthe, reduced soil erosion, and plant nutrients to the primary crop.

The cover crop is typically planted after the fall corn harvest. This creates a very late planting for the winter rye and if fall weather conditions are not conducive to germination of the winter rye seed, then its purpose diminishes.

A procedure of planting a corn variety that matures earlier in the growing season has been tried in the MRB with very little implementation. An earlier maturing corn variety does not yield in tonnage as well as a later maturing corn and producers are reluctant to choose these hybrids for their corn crop.

Inter-seeding is one change that has been worked with to try and get the cover crop established before corn harvest. This seeding is done the end of June to mid-July when the corn is from 12" to 24" high. This gives the cover crop a chance to establish prior to corn harvest. Some of the challenges to this procedure is the variety of cover crop and what is used for weed control on the corn crop. Trials have been done with clover, winter rye and annual rye grass. The annual rye has done the best out of these three seed varieties and provides erosion protection during and immediately after harvest.

Helicopter seeding of winter rye prior to harvest is another procedure that has worked very well. This is done the end of September just prior to corn harvest with a helicopter, equipped with seed application capabilities, applying the seed while flying over the corn. This has proven very effective by getting the winter rye seed applied for germination prior to harvest. This earlier start provides more cover for reduced soil erosion, such as the inter-seeding. This process is somewhat expensive and very labor intensive with seed having to be handled manually.

The return on investment with cover cropping is quite minimal when the nutrient value is considered alone. It is very hard for producers to see these economic benefits of soil tilthe, reduced soil erosion, and plant nutrients. This is why it is imperative to continue the cost share programs managed by watershed groups and the State of Vermont Agency of Agriculture for cover crops. The environmental benefits of less phosphorus leaching potential and soil erosion makes this a very good public investment to provide cost share to the producer for cover crops.

Management changes on our dairy farms in the past years have contributed to less organic matter for our soils, especially on continuous corn. These changes involve free stall housing, where less bedding is used and much more water used in cleaning parlors and milking equipment. Sawdust bedding has become very expensive in the last ten years and dairy producers have cut back on use of sawdust bedding to sand as one alternative. Methane digesters have come on to the scene in the last five years. These systems dry manure down to the point where it can be used as bedding, thus eliminating the need for imported bedding to the dairy.

All of the above management changes reduce the amount of organic matter going onto corn land. This reduction has impacts on the nutrient uptake, soil erosion and phosphorus leaching potential. Cover crops will replace this loss in organic matter, increase crop yield and decrease environmental impact dramatically. It is very difficult to get producers to see these benefits to cover crops in the short term. If we let things go as we have, the long term economic impacts in yields and the environment is staggering. We all need to keep pounding the drum for change in all water quality arenas to secure a future for our generations to come.



Left: Picture showing germinated Winter Rye applied by helicopter

Below: Picture showing Annual Rye Grass inter seeding at harvest



Paul Stanley, Crop Management Services

Water Sampling

This is the 8th consecutive year that MRBA has conducted water sampling in the Missisquoi River basin. This year, samples were taken by 14 individuals at 21 sites on a biweekly basis, from June 13 to October 17. Each site was tested for phosphorus, nitrogen and turbidity at the LaRosa laboratory, temporarily relocated, thanks to Irene, from Waterbury to the University of Vermont in Burlington. With the hot and dry summer that we had, water levels were extremely low with little or no flushing of systems. Then, in fall, we had so much water that testing was difficult on 3 of 4 testing days, so much so that sampling at some sites was not completed due to risks to personal safety. Because of the unusual weather, test results this year should be interesting and could be different. Results and analysis compared to past years should be available to the public later this winter.

Mike Manahan

weeds the country.

Knotweed Project in Montgomery

Japanese knotweed is one of the most high profile and damaging invasive weeds in the country. Found in 39 out of the 50 states, the plant is considered a nonnative invasive species. We've all seen the bamboo like stalks, heart shaped leaves and lacy white flowers along our rivers and streams, in our back yards and even finding its way into the garden. Non-native, because it

was originally introduced here from eastern Asia, and invasive because once established, the plant takes over an area and out competes native herbaceous plants, ferns and shrubs. This greatly reduces the overall biodiversity in an ecosystem—which is at the foundation of environmental health—and can have significant wide ranging impacts on wildlife populations. While invasive species do often produce food (or mast) for wildlife, the nutritional benefits are usually much lower than those offered by our native plants that an invasive species replaces. It's like replacing meat and potatoes with potato chips and soda, which can make a big difference if you're a song bird bulking up for your annual migration south. Invasive species also limit the long term development of native ecosystems.

The Montgomery Conservation Commission, in partnership with the Missisquoi River Basin Association, has just wrapped up the second year of a multi-year project tackling Japanese knotweed along West Hill Brook, a tributary of the Trout River. The plan, developed with input from the Nature Conservancy and other conservation groups facing this problem, involves two annual cuts: the first cut done late in the spring, once the plant has put out new vegetation and used up the energy resources stored in the root system over winter, and the second cut in the fall before the plant can pull resources back into the root system for its winter

dormancy. The timing of these two cuts is designed to hit the plant where and when it hurts the most and limit resprouting to the greatest extent possible. This is the basic control strategy when combating this pest, cut, cut, cut, and then cut again, and over time you can greatly reduce the productivity of the plant and its ability to spread, however simply cutting the plant will rarely kill it. Digging the entire root system out is also an option in smaller, younger infestations, but impractical in larger more established cohorts. Because of this, the Montgomery Conservation Commission has included another strategy recommended by the Nature Conservancy: an application of an herbicide called Glyphosate, which when applied to the cut stem travels to the root system and stops the plant from re-sprouting. The herbicide formulation used is approved for use around streams and water bodies as it becomes inert in water, and is applied by a state licensed applicator in a direct application to the cut stem, so that any potential non-target drift is limited to the greatest extent possible. The use of an herbicide was something that the Conservation Commission discussed guite a bit, and there are certainly mixed feelings about using a chemical

> control, however the conclusion was reached by looking at past projects in our region that simply cutting the plant back repeatedly results in more limited success on a much longer time line. The Conservation Commission is not recommending that an herbicide treatment is for everyone, everywhere, and as part of the project they hope

to discuss other non-chemical options that landowners in our area have.

As part of this pilot project in Montgomery, the system has been applied to a portion of the brook for the past two years. While Hurricane Irene caused significant disturbance to the site (the significant stream bank erosion from the storm and subsequent impact of work by the town) we have seen a positive impact from the work, and look forward to the 'hurricane free' response next spring. The plan is to continue to monitor the results over the coming years, and tweak our strategy going forward based on the results-hopefully expanding our effort with greater support from the community and other conservation organizations like the MRBA. While we realize that completely eradicating the plant from the watershed will likely never happen, the project has already been a success by spreading awareness in the community and encouraging landowners to tackle the plant on their own properties. Questions, comments and discussion on the Commission's project are all welcome. You can contact the Montgomery Conservation Commission at 802.326.2093, or attend one of the monthly Commission meetings the first Wednesday of every month at 5:30pm at the Town Office in Montgomery Center.

Charlie Hancock, Chair, Montgomery Conservation Commission



Paddling in the north... just over the border!

With a forecast of severe thunderstorms and high winds, a group of intrepid paddlers made the trek to Canada to paddle on the Missisquoi River from the town of Highwater to Glen Sutton, QC on Saturday September 8th, 2012. Recent rains had brought the water level up high enough to paddle the meandering stretch of river. It was just the right height and as it turned out, a beautiful day to paddle. The storm never materialized; in fact it was a sunny day. The tail wind gently pushed us down river to our destination and the air and water were warm. We stopped on a gravel bar at the bottom of a small riffle and enjoyed each other's company, a bite to eat, and the beauty of the river. We had hoped to have an "international" paddle, but ended up with all Americans. Next time we venture north we hope to entice many more people from both sides of the border.

Wendy Scott

Wild & Scenic Rivers Study

The Upper Missisquoi and Trout Rivers Wild and Scenic Study Committee has been hard at work on its (nonregulatory) Management Plan. This plan is a requirement of the Wild and Scenic Study process regardless of whether or not designation is sought.

Our goal is to write this Management Plan with the maximum amount of local input. In this Plan we discuss our findings from the Study, identify the locally important resources, and make voluntary suggestions for managing these resources. Each river designated must have at least one Outstandingly Remarkable Value (ORV); these are water-related resources significant at the regional or national level in categories including scenic, historic, cultural, natural resource, recreational, or water quality. The Montgomery Covered Bridges are an example on the Trout River, while Big Falls is an example on the Missisquoi River. We are excited to share our findings with you!

The information gathered for the Management Plan was discussed at monthly Committee meetings; the information discussed at these meetings was made available on the Committee's website (<u>www.vtwsr.org</u>) through meeting minutes. The Management Plan, written by the Study Committee, will shortly be available to the public for a review period after which comments will be incorporated into the Plan. You may soon access the plan from our website, or via hard copy at various locations in the Study area including Town Clerks' offices.

The long-term goal of the Study Committee is to encourage, through education and outreach, planning at the local, regional and state levels which utilize the information and voluntary recommendations outlined in the Management Plan regardless of the outcome of designation. These actions do not require funding by towns, and typically use federal funds for projects which maintain or improve the outstanding resources for which they were designated.

At Town meeting in 2013, Study area towns will vote on whether they support designation with the understanding that designation would be based on the locallydeveloped rivers Management Plan and would not involve federal acquisition or management of lands. Please contact us with any questions or concerns you may have prior to this vote (info[at]vtwsr[dot]org; 802-393-0076; 2839 VT Route 105, East Berkshire, VT 05447).

Shana Stewart Deeds, Study Coordinator

After Nearly Four Years It Happened!

On a rainy Saturday, September 22nd, a quiet celebration took place on Enosburg's bridge of Flowers and Lights. There were about 2 dozen folks gathered around.

Nearly four years ago, a local gentleman noticed that the shore line downstream from the bridge and falls was posted as NO TRESPASSING. For as long as anyone could remember, this has been a favored place to throw in a line, and spend some quality time with nature and friends or family. The spectacular view of the falls is coupled with great fish habitat both below the falls and all the way around the corner.



'Fishing below the Falls', painted by Jim Foote

The reason for the celebration was three fold. *Firstly*, the Vermont River Conservancy had raised approximately \$180,000.00 to buy the 11 acre property from its previous longtime owner, Mr. Bill Fletcher. *Secondly*, they were donating the majority of the acreage to the Village of Enosburg Falls (in perpetuity). The property will be used as public access for everyone. The majority of people who utilize the property, do so for a few reasons: fishermen, canoeists, and even the Fish and Wildlife Agency (stocking of trophy trout). But there are also folks who go to sunbathe, and even sit quietly to take in the local beauty. *Thirdly*, two parcels were cut off the original acreage to provide for Habitat for Humanity homes in the near future. The reasoning for this might

not be real obvious, but it allowed the River Conservancy to raise the entire sum of money that was required to make this deal happen. Much of the asking price was met thanks to the generosity of the VT Housing and Conservation Board and many donations large and small from the community and far beyond.

The list of folks and organizations represented at the celebration was impressive. They hailed from the Village of Enosburg Falls, Town of Enosburgh, Vermont River Conservancy, Vermont Housing and Conservation Board, the Missisquoi River Basin Association, Enosburg Conservation Commission, Vermont Fish & Wildlife, Habitat for Humanity, Lake Champlain International, and Trout Unlimited.

What this means, is that people of any walk of life may go to this special spot to enjoy its natural splendor. It will not require any fees for access, or special permits. I do hope however, that it will also require very little maintenance. It seems to be a habit of humans to occasionally leave some trash where they have been. It goes without saying that the river will wash up some detritus on a yearly basis, and hopefully those who go down once in a while will pick up a piece of trash on their way out.

John Little

Bugworks

Thanks to funding from Ben & Jerry's Community Action Team in St. Albans and to the Wild & Scenic Rivers Study Committee, MRBA was able to make the Bugworks program available once again to watershed schools. 7 schools signed up this year and our consultant educator, Jane Williams, held 16 hands-on sessions to teach students about the living, natural world of ponds and streams, and how to evaluate stream health by the presence of various insects and waterbugs.

The Bugworks program was developed by science teacher and MRBA's Chair, John Little of Montgomery Center.