

**Missisquoi Matters**

is the quarterly newsletter of the Friends of Missisquoi National Wildlife Refuge, Inc., a non-profit 501(c)(3) organization, dedicated to promoting a better awareness, appreciation, conservation, and responsible utilization of the Missisquoi National Wildlife Refuge.

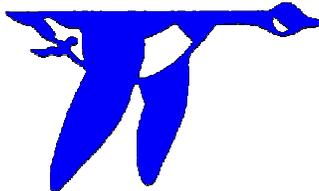
29 Tabor Road, Swanton, VT 05488
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www.friendsofmissisquoi.org

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Newsletter edited by Ken Copenhaver

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MNWR HQ hours are
 Monday thru Friday
 8:00am – 4:30pm
 Saturdays
 10:00 am – 2:00 pm

Riparian Forest Restoration on the Refuge

by Ken Sturm, Refuge Manager, Missisquoi NWR

The Missisquoi National Wildlife Refuge worked with the Friends of Missisquoi NWR, the Missisquoi River Basin Association, the University of Vermont student chapter of The Wildlife Society, and the Intervale Conservation Nursery to apply for a Vermont State Watershed Grant in 2013. The grant was awarded for \$3,500.00 with a \$500.00 contribution from the Friends of Missisquoi NWR. The project will begin the reforestation of 20 acres of old field along the river, reducing forest fragmentation and stabilizing eroding river banks.

The purpose of the grant was to re-establish riparian forest vegetation along previously hayed fields the refuge owned along the Missisquoi River. These fields had been previously identified in the refuge's 15 year planning document (Comprehensive Conservation Plan) for conversion into shrub and forested habitat to reduce forest fragmentation, improve riparian forest connectivity, and to more effectively manage for targeted migratory bird populations.

The fields along the river are too small for grassland bird species and would play a larger biological role for successional shrub land birds such as American Woodcock, Chestnut-sided Warbler, Willow Flycatcher, and Eastern Towhee. Ultimately the future forest cover will provide habitat for riparian forest birds such as Eastern Wood-Pewee and Black-billed Cuckoo and create an intact forest corridor along the Missisquoi River providing critical nesting habitat and movement corridors for refuge wildlife.

Planning for the planting activities included an analysis of soil types, wetland/upland habitat, published and unpublished plant community data, and personal observations to develop the list of native tree and shrub species that should be re-established on these fields. The refuge worked with the Intervale Conservation Nursery to ensure that bare root and tube stock plant materials would be available in the desired quantities to conduct spring and fall plantings.

An Earth Day planting event on April 20th this year brought 31 volunteers out to plant trees on the kick-off planting event for this project. Follow up plantings will occur during the early summer when shrubs will be planted along eroding river banks, and a fall planting when another 500 trees will be planted. The fall planting is scheduled for September 28th, National Public Lands Day. We hope to see you there!

Friends News

Friends Present Photography Workshop

By Mark Batchelder, Friends board member

The Friends of Missisquoi National Wildlife Refuge presented a Photography Workshop at the Refuge Visitors Center on Saturday, May 11, 2013. A total of 14 photographers attended to receive comprehensive instruction on how to select cameras and settings to improve their photography skills. Presenters Robert Chaperon Jr, Dave Schmoll, and Mark Batchelder explored a wide variety of camera settings and how best to use them to accommodate the ever-changing conditions encountered in outdoor nature and wildlife photography. Instruction included a live demonstration of depth of field and the effects of shutter speed.

Along with the technical aspects of photography, the workshop also covered principles of composition. Photos were used to illustrate how best to compose a scene in order to create a pleasing and balanced effect. For example, the photographic principles of using leading lines and the "rule of thirds" were presented.

For anyone who could not make it to this class, another presentation is being planned for a later date. Other topics that may be explored include an in depth look at filters and lenses and their use for creative effects.

The refuge is a fantastic place to bring your camera and capture special moments in time. The goal of this project is to encourage more people to get out and enjoy the trails and capture some of the beauty of this unique place to share with others. Please join us on the first Saturday of each month at 9:00 AM for a guided Nature and Photography walk where one or more leaders will be available to provide guidance and answer your photography questions. Our next outing is Saturday, June 1 -- so mark your calendars and bring a friend. Hope to see you there!

Volunteers Work with Refuge on Green Up Day.

by Robert Chaperon, Friends board member

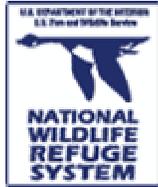
Twelve volunteers together with refuge staff filled a dumpster with accumulated trash along the Missisquoi River Delta. Green Up Day is an annual event at Missisquoi NWR. Volunteers from IBM and Green Mountain Coffee Roasters helped refuge staff by foot and by boat along the Missisquoi River picking up trash. The refuge's location at the very end of a large watershed results in an abundance of trash each spring. Thanks to these hard-working volunteers we are able to keep up with the accumulated debris each year and improve the refuge.

Refuge and Friends Hold Successful IMBD Celebration

by Ken Copenhaver, Friends board member

On Saturday, May 18, the Refuge and The Friends held another successful International Migratory Bird Day celebration. The weather was perfect, turnout was good, and birds were in abundance. Participants split up into two boat trips and two bird walks. After several hours of counting every bird they could see or hear, the groups returned for a lunch of pizza and tallied their sightings into a record 101 species!

Dr. Rosalind Renfrew then presented a fascinating program on bird migration in general, and on her ground-breaking Bobolink research in particular. Through her research, she has documented the migration paths of Bobolinks and has identified threats to their habitats in their breeding territories, in their migration stop-overs, and in their wintering territories. Her topic was of particular interest to the audience because of the thriving Bobolink population on the refuge.



Summer Activities Schedule at Missisquoi National Wildlife Refuge

29 Tabor Rd.
Swanton, VT 05488

All programs and tours are free, but registration is required where noted.

Kids Fishing Derby

Saturday June 22, 8:00 AM to 1:00 PM

The annual Kids Fishing Derby is scheduled for Saturday, June 22, 2013. The derby will take place along Macs Bend Road beginning at Louie's Landing boat launch located approximately 3 miles from Swanton Village on RT. 78. There is no fee to participate. Night crawlers will be provided. All participants are advised to bring a lawn chair, blanket, pail, or something similar to sit on because the riverbank is well vegetated, and while most areas will be mowed, stubble, sticks, cut grass, and similar scattered materials will remain along the riverbank. Food and prizes will be provided by many generous sponsors.

Youngsters ages 15 years and younger are asked to pre-register by calling the refuge office at 802-868-4781. All children must be accompanied by an adult.

Ditch Pickle Classic

Saturday & Sunday June 29 & 30

The Ditch Pickle Classic is Lake Champlain's exclusive "catch-photo-release" bass tournament specifically for fly anglers. Fish caught by DPC anglers are measured, photographed, and promptly returned to the same waters where they were caught, drastically reducing any chances of immediate or delayed mortality.

This is a not-for-profit event intended to shed positive light on the tremendous resource that is Lake Champlain. The DPC is open to all ages and skill levels. Individual entry fees are \$30 per person or \$60 per team of two. All competitors will take home an official DPC T-shirt and further proceeds will help initiate a monofilament recycling program at select Lake Champlain access areas.

A post-event BBQ/Awards Ceremony will be held at the Missisquoi National Wildlife Refuge Visitor Snetter on Tabor Rd. in Swanton. Prizes are awarded for several categories thanks to our sponsors including Green Mountain Troutfitters, Vermont Fly Guys, Fly Fish Journal, Rock River Rods, Applegate Farms, Jackson Kayaks, and many more!

Details about the 2013 Ditch Pickle Classic can be found at www.DPCVT.com and on the DPC Facebook page at <http://www.facebook.com/#!/DitchPickleClassic?ref=ts>

Junior Waterfowl Hunter Training Program

Saturday August 17, 8:00 AM to 4:00 PM

The Junior Waterfowl Hunter Training Program is offered to youngsters 12 to 15 years of age who have an adult waterfowl hunter to serve as a mentor. The program is a joint educational effort of the U.S. Fish and Wildlife Service, the Vermont Fish and Wildlife Department, the Vermont Chapter of Ducks Unlimited, the Sportsman's Club of Franklin County, and volunteers. The program instructs beginning hunters in the knowledge and skills to become responsible, respected individuals who strive to learn about the species being hunted and to become knowledgeable in firearms safety, hunter ethics, and wildlife conservation. Those who complete the training will be eligible for blind sites on the refuge during waterfowl season.

Instruction will begin at 8:00 AM at the Franklin County Sportsman's Club on Route 36 (Maquam Shore Road) in St. Albans. The training session will be held rain or shine, so please dress appropriately.

To register for this year's program, please call the refuge headquarters at 802-868-4781.

Monthly Nature/Photography Walks 1st Saturday of each month, 9:00 am to 11:00 am

Join Friends of Missisquoi NWR members Joe Belanger, Mark Batchelder, and Bob Chaperon for nature/photography walks on various refuge trails, held the first Saturday of each month. Registration is not required. The schedule for the next three months is:

- June 1: Stephen Young Marsh Trail.** Meet at the parking lot on Tabor Rd, about a mile past the refuge headquarters and across the road from the marsh.
- July 6: Maquam/Black Creek Trail.** Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton.
- August 3: Old Railroad Passage Trail.** Meet at the parking lot on Tabor Rd, about a mile past the refuge headquarters and across the road from the Stephen Young Marsh.

Monthly Bird Monitoring Walks 3rd Saturday of each month, 8:00 am to 10:00 am

Friends of MNWR members Ken Copenhaver and Julie Filiberti will lead bird monitoring walks year-round on various refuge trails on the third Saturday of each month. The purpose of the walks is to gather long-term data on the presence of birds, their abundance, and changes in populations. Observations will be entered into the Vermont eBird database where data is stored by the Cornell Lab of Ornithology and the National Audubon Society. These walks are appropriate for all levels of birders and provide a wonderful opportunity to learn about birds throughout the seasons. **After 39 months of walks we have recorded 127 species of birds.** Registration is not required. The schedule for the next three months is:

- June 15: Old Railroad Passage Trail.** Meet at the parking lot on Tabor Rd, about a mile past the refuge headquarters and across the road from the Stephen Young Marsh.
- July 20: Maquam/Black Creek Trail.** Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton.
- August 17: Jeep Trail.** Meet at the Louie's Landing boat access area. We will drive in to the trail head at Mac's Bend.

To check for any schedule changes or additions, visit the Friends website at www.friendsofmissisquoi.org and click on the "Calendar."

FRIENDS OF MISSISQUOI NATIONAL WILDLIFE REFUGE**Bi-monthly Board Meeting****Wednesday, July 10, 2013 at 6:30 pm****At the Refuge Headquarters**

Members are always welcome to attend.

Come and see what the board is planning and contribute your ideas.

Next meeting: September 11, 2013 at 6:30 pm

Manager's Musings: Spring Report

by Ken Sturm, Refuge Manager, Missisquoi NWR

It is once again spring on the Missisquoi National Wildlife Refuge and we are enjoying the abundance and magic that spring brings after the slow and quiet winter months. We are happy to report that the Great Blue Heron rookery on Shad Island is back up and running full tilt after a complete abandonment of the site in the middle of the nesting season last summer, likely due to the presence of a Bald Eagle nest. Although the Shad Island site was slow to be colonized this spring, we now have a robust population of nesting Great Blue Herons again.

And speaking of eagles, we once again find that Missisquoi is becoming a favorite spot for Bald Eagles in Vermont. While it has been common to see juveniles along the river and fishing in the wetlands over the years, the refuge has been a nesting location for eagles since 2011. This year the refuge has two nesting pairs that appear to be doing very well and are hopefully located far enough from the heron rookery to prevent excessive disturbance this year. As always please respect the nesting birds on the refuge and observe all "closed area" signs the refuge installs. These birds are sensitive to disturbance, especially during the nesting season. Linger briefly to take photos or watch their behavior through binoculars and enjoy these amazing birds, but also be aware that your presence never goes unnoticed!

As the refuge staff gears up for another busy field season, we also have to find ways to reduce our activities to save staff time and money. Refuge budgets are reduced again from last year, which affects the number and extent of resource management and public use projects the refuge can complete. Additionally, sequestration has tightened the belt a bit more this year by eliminating any extra hours by refuge staff. These extra hours have often enabled refuge staff offer weekend walks and presentations and attend evening meetings and other public events. To date we have found creative ways to adjust our schedule to avoid canceling popular

public events like the fishing derby and the junior waterfowl training program. We hope that we can continue to offer these events and more in the future. Time will tell.

Difficult budget times also require the refuge staff to become increasingly creative about how to achieve management goals with reduced funding. Two great examples of this are happening this year thanks to the Friends of the Missisquoi NWR. The refuge has worked with the Friends to receive two state grants. One grant will help the refuge begin a reforestation project in refuge fields along the Missisquoi River and route 78. Another grant will help the refuge increase our efforts to manage aquatic invasive species, especially water chestnut, this year. Without the support and hard work of the Friends Board, these opportunities would slip through our fingers and prevent the refuge from moving forward on important management projects during lean federal budgets. We look forward to continuing our work with the Friends group to manage grants for these types of projects in the future.

Spring is always a great time to visit the refuge. For one, the black flies aren't out yet! But also we are now seeing all of our migratory songbirds return and start establishing nesting territories. This week yellow warblers and warbling vireos returned with a vengeance, and it's virtually impossible to go on any refuge trail and not hear their songs from the trees and shrubs all around. Take time to explore all the refuge trails (remembering that the Jeep Trail is closed from April 1 to July 31 to protect nesting birds). The refuge trails offer different habitats and different opportunities to observe the diversity of migratory birds nesting in the area. Tag along on one of the monthly bird walks or take advantage of the new nature photography classes being offered by the Friends Group this summer! The refuge is a great place to spend time in all seasons and we look forward to seeing you in the visitor's center and out on the trails!

Marveling at Mussels

by Judy Sefchick Edwards, Wildlife Biologist, Missisquoi NWR

If you think mussels are passive purifiers that live with their shells buried in the sand, then you're not alone. But don't let the outward appearance of these shiny shells fool you. Living submerged beneath the waters of the mighty Missisquoi is not for the faint of heart. In order to accomplish their mission in life, mussels have become silent masters of masquerade—never revealing the nonstop action, feats of trickery, or high-speed travel that makes their lives anything but boring!

It's true that adult mussels don't usually move much. For the most part, mussels stay in one spot, bury their anterior end in the river bottom, and leave their posterior end, with 2 siphons, exposed. A muscular "foot" helps them burrow in the mud, and allows them to travel limited distances when disturbances occur, like floods or drought, poor water quality, or predators. But just because mussels aren't moving, doesn't mean they're putting their "foot" up and relaxing! Much to the contrary, these freshwater filters are always working—continuously pumping water in and out of their bodies, sifting out algae, bacteria, and other fine organic matter to improve water quality for themselves and others. Talk about taking a job seriously—some mussels can filter more than a gallon of water a day! That's water purification at its best, and it's all done free of charge.

As if their work ethic wasn't admirable enough, what mussels go through to reproduce is nothing short of amazing. The role of male mussels is pretty straightforward—they release sperm in the water, hoping it will be carried by currents and siphoned in

by female mussels. If it is, the fertilized eggs develop into larvae and remain safely in the gills of the female for two to five weeks. Here's where the story gets fishy: because the larvae are parasitic and need to develop further, they must attach themselves

to a host fish species in order to survive. Not just any old fish will do—for some mussels, the host is limited to just a few species!

With all of the complications in a baby mussel's life, it's a good thing that mother mussels have a few tricks up their shells. Not only do female mussels wait until water

temperature and currents are just right, but some even "go fishing" before they broadcast their brooded larvae into the water column. These maternal mussels display specially-adapted tissues that look like fish prey in order to lure the right fish in. (You can always count on moms to go the extra mile!) Even with this sneaky scheme, the odds are against them. Only 1% of the 30,000 to 2,000,000 larvae released by each female will attach to a suitable host.

If the right fish swims by, lucky larvae clamp onto its gills to begin life anew. What an adventure! Hitchhiking on a fish may be the most exciting time of a mussel's life. Not only are the larvae growing and developing, but it's their one opportunity to travel the underwater world before settling into the sediment as adults. After a few weeks of transformation and exploration, the young microscopic mussels drop off their fish host to begin their independent lives on the river bottom. For some species, that can last up to 50 years or more!

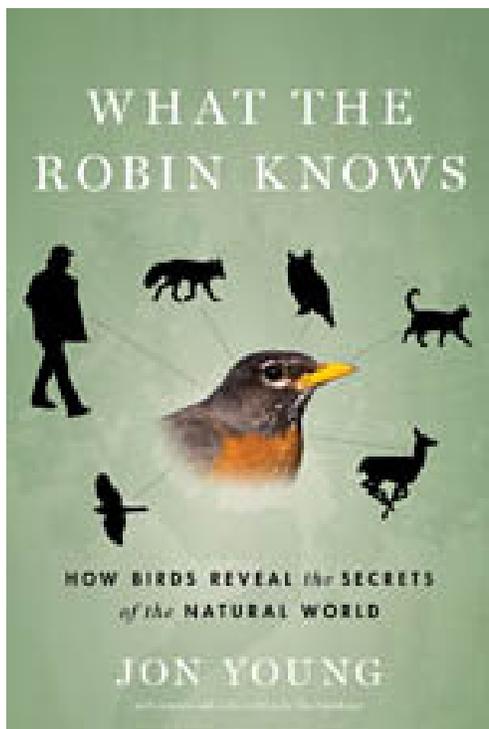


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What the Robin Knows

How Birds Reveal the Secrets of the Natural World

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