



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.

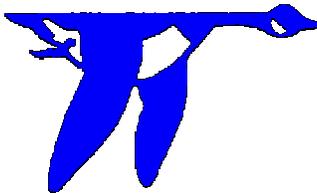
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Newsletter edited by Ken Copenhaver

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MNWR Visitor Center hours
are Monday thru Friday
8:00am – 4:30pm

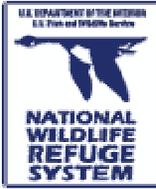
Manager's Update – February 2017

by Ken Sturm, Refuge Manager, Missisquoi NWR

By the time you are reading this newsletter, World Wetlands Day (February 2) will have come and gone. World Wetlands Day is an international celebration of wetlands sponsored by the Ramsar organization and honors the signing of the Ramsar Convention on Wetlands in Iran on February 2, 1972. This convention works with countries all over the world to provide a framework for the conservation and wise use of wetlands. As many of you probably know, Missisquoi National Wildlife Refuge along with three adjacent State Wildlife Management Areas was designated a Ramsar site in 2013. This put Missisquoi on the international map for wetlands of high biological significance and was the 38th Ramsar site designated in the United States.

World Wetlands Day is a great time for celebrating the Missisquoi National Wildlife Refuge as a Ramsar site as well as an incredible resource for Vermont and indeed the Northeast Region. Missisquoi's wetlands provide habitat for 14 state listed threatened and endangered animal species, providing incredibly important resting and feeding habitat for migratory waterfowl, song birds, and a variety of other wildlife species. These wetlands also support 9 natural communities listed as rare in the state of Vermont including the unique pitch pine woodland in the Maquam Bog. Missisquoi's wetlands also were the focal point of Native American life for thousands of years.

To this point the refuge recently contracted with the University of Vermont (UVM) consulting archaeology program to investigate newly exposed archaeological sites on the delta. These sites, typically under water, became exposed due to the exceptionally low water levels last summer and fall. The refuge, working with UVM, quickly mobilized a crew to conduct emergency archaeological surveys of the sites before they were once again inundated by the rising lake level. Interestingly, these sites showed a persistent occupation of the area. It is interesting in that these sites tell us of a time when the lake level was much lower, thus allowing for such an occupation to exist on the delta. One can only imagine what the landscape looked like during the time these sites were being used for daily life. It was important for the refuge to conduct these investigations to continue to gather the incredibly rich history of this place and add pieces to the puzzle that tells the story of the Missisquoi Delta and our National Wildlife Refuge. It truly is a wetland to be celebrated, not only on World Wetlands Day, but for us here in Vermont, every day.



Spring 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.

Owl Prowl

Friday, March 10, 6:00 to 9:00 PM

Join refuge volunteer and Friends Board member, Ken Copenhaver for an evening walk to watch and listen for some of our resident birds who operate during the night shift. An Owl Prowl will start at the Stephen Young Marsh Trail area. Meet at the parking lot for the trail located on Tabor Road, about one mile past the refuge Visitor Center. Look for roadside signage "Refuge Trails Parking." Dress appropriately and bring a low intensity flashlight.

Please call 802-868-4781 to register for this activity.

Vernal Pool Walk

Friday, April 14, 6:00 to 8:00 PM

Join Park Ranger, David Frisque for a look at the life and activity in a vernal pool early in the spring. Vernal pools are important breeding areas for some of the more reclusive and seldom seen amphibians such as wood frogs, and salamanders. Because these temporary wetlands often dry up completely by late summer or early fall, egg laying and early development of juvenile salamanders and frogs must begin early in the spring. The Vernal Pool walk will be at the Stephen Young Trail area. Meet at the parking lot for the trail located on Tabor Road, about one mile past the refuge Visitor Center. Look for roadside signage "Refuge Trails Parking." Bring a small flashlight and wear waterproof footwear.

Please call 802-868-4781 to register for this activity.

Woodcock Walk

Friday, April 21, 6:30 to 8:30 PM

Join refuge volunteer, Greg Simard on a Woodcock Walk at the Stephen Young Marsh area. Woodcock have a unique courtship display that incorporates an aerial display and a ground level calling display that occurs near sunset and into the early evening hours. Join Greg for an enjoyable early evening walk to witness this unique spring time behavior. Meet at the parking lot for the trail located on Tabor Road, about one mile past the refuge Visitor Center.

Please call 802-868-4781 to register for this activity.

Woodcock Walk

Friday, May 5, 7:30 to 9:00 PM

Join Park Ranger, David Frisque for another Woodcock Walk at the Stephen Young Marsh area. Meet at the parking lot for the trail located on Tabor Road, about one mile past the refuge Visitor Center.

Please call 802-868-4781 to register for this activity.

Refuge Green Up Day

Friday, May 5, 9:00 AM to approx 12:00 PM

The Missisquoi NWR will conduct a Refuge Green Up Day. The refuge will concentrate its efforts on river cleanup activities using refuge boats. Refuge staff will monitor river water levels and flows. Should floodplain water levels be excessively high or if flow rates in the river channel are too strong due to snow melt and spring rains, this event may be postponed or canceled. Participants will meet at the Louie's Landing Parking Lot on Rte 78, about 3.5 miles west of Swanton village.

Please call 802-868-4781 to register for this activity.

International Migratory Bird Day**Saturday, May 20, 7:30 AM to approx 2:00 PM**

The Refuge will celebrate the 24th anniversary of International Migratory Bird Day on Saturday, May 20, 2017. The 2017 IMBD theme is *"Helping Birds Along the Way."* The theme highlights the importance of stopover sites such as parks, refuges, and other locations where birds pause to feed and rest en route to breeding and wintering areas.

Activities will begin at 7:30 AM with an orientation at the refuge Visitor Center. Participants will split up into several boat trips and bird walks, during which we will record all bird species and as many individuals within those species as we can identify. All birding participants will return to the Visitor Center by 11:30 AM to tally results over a light lunch.

At approximately 1:00 PM, a speaker (to be announced) will follow the lunch with a natural resource presentation on a topic related to the International Migratory Bird Day celebration.

Also, throughout the day an exhibit of artworks from local artists will be on display at the Visitor Center. The exhibit will run through mid-July. Further information on entering works in the exhibit will be available on the Friends website (www.friendsofmissisquoi.org) in the near future.

Please call 802-868-4781 to register for this activity. Also please check back closer to the event date for any changes/additions to the schedule. We will probably also be doing an "Early Bird" bird walk like we did for the first time last year. Check the Friends website calendar for further information and updates: <http://friendsofmissisquoi.org/calendar/>

Kids Fishing Clinic**Saturday, June 3, 8:00 AM to approx 1:00 PM**

The annual Kids Fishing Clinic will take place along the Macs Bend Road from Louie's Landing parking lot down to the Macs Bend boat launch site, a distance of about 1 mile. Fishing will occur along the banks of the Missisquoi River. Numerous educational and informational venues will be operating near the Macs Bend Building while the fishing is on-going. These include fly casting, fly tying, spincasting, watershed models and demonstrations, a fish ID aquarium, lure making, and an aquatic invasive species display. Children are encouraged to participate in these activities at some time while they are fishing. A light lunch will be served, and a limited number of random drawing prizes will be given away at the end of the event.

Please call 802-868-4781 to register for this popular annual event.

Monthly Nature/Photography Walks**1st Saturday of each month, 9:00 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:

March 4: Jeep Trail. Meet at the Louie's Landing boat access area on Rte 78. We will drive in to the trail head at Mac's Bend.

April 1: Maquam/Black Creek Trail. Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton village.

May 6: Railroad Trail. Meet at the parking lot on Tabor Rd, about a mile past the refuge Visitor Center and across the road from the marsh.

Monthly Bird Monitoring Walks**3rd Saturday of each month, 8:00 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 are 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 birders of all skill levels and provide a wonderful opportunity to learn about birds throughout the seasons. **After 82 months of walks we have recorded 145 species of birds.*** Registration for the March and April walks is not required. The schedule for the next three months is:

March 18: Railroad Trail. Meet at the parking lot on Tabor Rd, about a mile past the refuge Visitor Center and across the road from the marsh.

April 15: Maquam/Black Creek Trail. Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton village.

May 20: Stephen Young Marsh Trail. See International Migratory Bird Day info above.

***During the past 3 months we added 1 new species to the list: Rough-legged Hawk.**

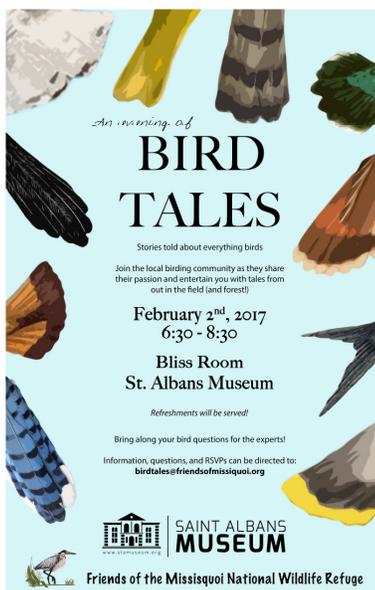
Other Spring events will be posted on the Friends website as soon as dates are known.

To check for any schedule changes or additions, visit the Friends website at

www.friendsofmissisquoi.org and click on “Calendar.”

For more information about the refuge, visit www.fws.gov/refuge/missisquoi/

Friends Present “Bird Tales” Program



On the evening of February 2, the Friends of Missisquoi NWR presented a program at the St. Albans Museum billed as “Bird Tales.” The concept was to have local birders tell personal stories about their birding experiences. The event was a great success with 77 people signing into the guest book, and probably a few more who didn’t.

The heart of the program consisted of the stories told by nine local birders, each sharing their enthusiasm for birding, each from a unique perspective. Some examples: Charlotte and Hal Bill told about repeated sightings of rare Golden Eagles in Franklin County, which helped spark their interest in birds. Julie Filiberti recounted doing a personal “big day” last May during which she recorded 101 species in a 20-hour period. Jim Osborn told about some of the interesting and diverse birders he met while leading birding trips for Audubon. Bill Mayville, a volunteer at the Birds of Vermont Museum, told about Robert Spear, Jr’s, life-long passion for carving the birds on display at the museum. There were also light refreshments available and a raffle at the end with some nice give-aways.

This was the first event of its kind presented by the Friends. Much of the credit for the program’s success goes to David Southwick, who provided the impetus to get the project started and suggested the Bird Tales theme. He also made the arrangements with the museum as the venue, and he promoted the event in many ways. Alex Lehning, Executive Director of the Saint Albans Museum, said “it was certainly one of the most successful programs we have hosted at SAM!” The Friends very much appreciate the offer to use the museum. Thanks also is due to Hanna Filiberti, daughter of Friends board member Julie Filiberti, who designed the beautiful poster used to promote the event. And the Friends very much appreciate the support of the three refuge staff members, Dave Frisque, Judy Sefchick Edwards, and Eddy Edwards, who each gave presentations.

The Bees Need

by Judy Sefchick Edwards, Wildlife Biologist, Missisquoi NWR

It's a grey winter day, cold and snowy; but instead of thinking about snow fleas, my thoughts are of bumble bees. Why am I dreaming of sunshine, fields of flowers, and fuzzy, buzzy bees? The answer may not be what you'd expect. For the *first time ever*, in 2017, a bumble bee—the Rusty Patched Bumble Bee, to be exact—will be listed as a Federally Endangered Species. Considered one of the most common and widespread bumble bee species in the eastern U.S. and upper Midwest, Rusty Patched now show population declines of 95%, and occur only in isolated pockets.



The news is flabbergasting to say the least. For many generations of Americans, this ever-present buzzing bee was just a natural part of the landscape. After all, bumble bees used to be synonymous with magical childhood summers spent playing outside in fields and forests. I remember these bees as constant, common companions; creatures that I took for granted—never once considering their uniqueness, or realizing their valuable role, let alone imagining a world without them!

Unfortunately, Rusty Patched Bumble Bees are not alone. In North America, one-third of all bumble bee species are declining, with similar losses reported in Europe, South America, and Asia. This trend holds true in Vermont as well. Within the past decade, five of Vermont's fifteen species have declined or disappeared, with the Rusty Patched, Ashton Cuckoo, and Yellow-Banded Bumble Bees being listed as *state threatened and endangered species* in 2015.

What do bumble bees have that other bees don't? This may come as a surprise, but they are

exceptional, irreplaceable pollinators. Being bulky-bodied, a bumble bee can generate heat, allowing it to fly earlier and later in the day, and in colder weather. By holding a flower in its jaws and vibrating its muscles, it can “buzz pollinate” to forcibly expel pollen. If you see a bumbling bee, and hear prolonged droning (somewhat akin to a dentists' drill), consider yourself a buzz pollination bystander! Remarkably, even plants that self-pollinate produce bigger and better fruits when bumble bees are involved.

For such a tiny creature, there's more to a bumble bee than meets the eye. Did you know it's the only truly social, native, North American bee? Or that it gets all of its food from flowers? That cold bumble bees shiver to warm up their flight muscles? That their wings beat 130 times or more per second? How about the fact that they prefer purple, blue, or yellow flowers? That they have to *learn* how to get nectar from various shaped flowers, and tend to focus on one or two species at a time? Did you know that they scent-mark flowers visited, so they and other bees can avoid them? While non-native honey bees buzz around large (>10,000 individuals) perennial hives, our humble bumble constructs an annual colony with far fewer (50-500) individuals. With lots to do and only one year to do it, bumble bees give new meaning to the phrase, “Busy as a bee!”

It all begins in April, when queens emerge from the ground, find suitable nest sites, collect food, and lay eggs that were fertilized in fall. As the only adult, the queen does *not* live like royalty! For the next 4-5 weeks, her highness works tirelessly—making countless flights back and forth to flowers, collecting pollen for developing larvae, and laying

eggs—all to get the colony started. Since eggs and larvae need constant temperature of 85-90 degrees F, the queen broods them, and uses her wings to fan air in or out. With only 50% of eggs maturing into adults, it's a good thing the queen's had all winter to rest! Once the larvae mature, the queen can breathe a sigh of relief. With an all-female staff to collect food, defend the colony, and care for the young, the queen can just focus on laying eggs and resting—a role more worthy of her royal status!

Female workers aren't so lucky. With a lifespan of only one or two months, these bees-turned-body-builders can forage 3 or more miles from the nest, while carrying half of their weight in pollen or nectar. Busily buzzing about, these black-and-yellow balls of energy do whatever it takes to make the colony grow and thrive. By late July, the colony is nearing its completion. With future generations in mind, the queen starts producing males, that will disperse and mate with queens from other colonies. She also produces females that will become next year's queens. Come September, all bees in the colony die, except the new fertilized queens. Life goes on for them—hibernating in winter, repeating the cycle in spring, and doing all they can to ensure the survival of their species, during their year of life.

Since the 1990s, bumble bee populations have experienced drastic declines. Habitat loss and degradation have contributed to losses, but that's

not the entire story. The propagation of American bumble bees for greenhouse pollination brought foreign parasites that infected wild, local populations. If that wasn't enough, the widespread use of highly toxic neonicotinoid insecticides on agricultural crops, lawns, gardens, orchards, and forests meant the indiscriminate killing of insects, including bumble bees. In addition, bumble bee radio tag research has shown that long-term pesticide exposure prevents them from learning essential skills, like pollen collection and knowing which flowers to visit. Listing the Rusty Patched Bumble Bee as an Endangered Species is only the first step in saving it.

This spring, take some time to look and listen for bumble bees. If we could understand their buzzing, we may hear a plea: "To be a free bee, I need: habitats of grasslands, fields, and forests for native flowers, shrubs, and trees; unkempt natural areas—not mowed or raked—with leaf litter, logs, and necessities for nesting and hibernating; pesticide-free places to forage; flowering plants from April to September, to sustain all life stages in the colony. But most importantly, I need you—allies of citizens and scientists—to collect data, inform the public, and help shape policies for my protection."

Threatened and Endangered means there's still time...it's up to us.

FRIENDS OF MISSISQUOI NATIONAL WILDLIFE REFUGE

Bi-monthly Board Meeting

Wednesday, March 8, 2017 at 6:30 pm

At the Refuge Visitor Center

Members are always welcome to attend. Come and see what the board is planning and contribute your ideas.

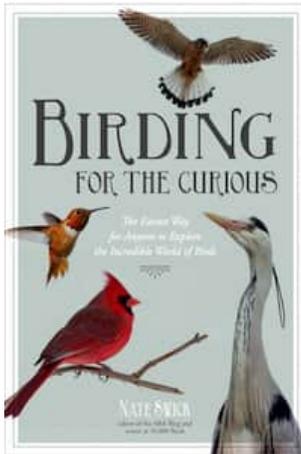
Next meeting: Wednesday, May 10, 2017 at 6:30 pm

The Friends' Store

at the Missisquoi National Wildlife Refuge

BOOKS GAMES GIFTS TEE SHIRTS HATS

for people of all ages who love the outdoors



Birding for the Curious

The Easiest Way for Anyone to Explore the Incredible World of Birds

by Nate Swick

\$ 21.99 hardcover, 176 pages, 6 1/8 x 9 1/4
full-color photographs, full-color illustrations

This book isn't just for birders. It's also for the huge audience of people who hike, maybe have bird feeders, and generally enjoy nature. With this book, the naturalist will discover an incredible and rewarding adventure in the beautiful world of birds.

The book is packed with easy and fun activities and information about birds, how to find them, and their part in the nature around us. The information in this book will not only help you identify and learn more about birds, but you'll have a blast doing it.

Birdology

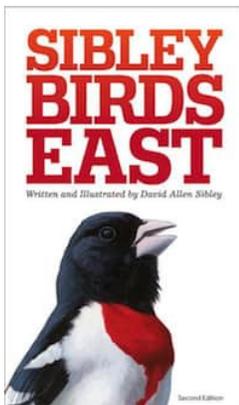
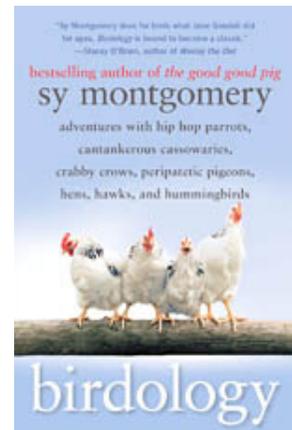
Adventures with Hip Hop Parrots, Cantankerous Cassowaries, Crabby Crows, Peripatetic Pigeons, Hens, Hawks, and Hummingbirds

by Sy Montgomery

\$ 16.00 paper, 260 pages, 5 1/2 x 8 1/2, b&w photographs

Sy Montgomery shows us the essence of birds—by blending popular science with her characteristically entertaining encounters with some very distinctive avian personalities.

Birdology explains just how very "other" birds are: Their hearts look like those of crocodiles. They are covered with modified scales, which are called feathers. Their bones are hollow. Their bodies are permeated with extensive air sacs. They have no hands. They give birth to eggs. Yet despite birds' and humans' disparate evolutionary paths, we share emotional and intellectual abilities that allow us to communicate and even form deep bonds. When we begin to comprehend who birds really are, we deepen our capacity to approach, understand, and love these otherworldly creatures. And this, ultimately, is the priceless lesson of *Birdology*: it communicates a heartfelt fascination and awe for birds and restores our connection to these complex, mysterious fellow creatures.



The Sibley Field Guide to Birds of Eastern North America, Second Edition

by David Allen Sibley

\$ 19.95 flexibound with flaps, 440 pages, 4 7/8 x 7 3/4, full-color illustrations, maps

Now completely revised and updated—the indispensable resource for all birders seeking an authoritative guide to the birds of the East. Compact and comprehensive, this guide features 650 bird species, plus regional populations, found east of the Rocky Mountains. Entries include stunningly accurate illustrations—more than 4,601 in total—with descriptive captions pointing out the most important field marks. Each entry has been updated to include the most current information concerning frequency, nesting, behavior, food and feeding, voice description, and key identification features.