



MISSISQUOI MATTERS

NEWSLETTER OF THE FRIENDS OF
MISSISQUOI NATIONAL WILDLIFE REFUGE

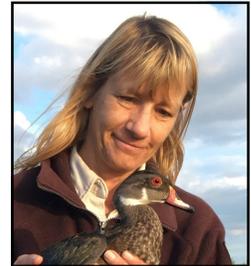
Winter, 2021-2022



Winter Activities Schedule at Missisquoi NWR *29 Tabor Road, Swanton, VT 05488*

"Missisquoi National Wildlife Refuge: A Tour of Habitats and Species" Thursday, January 13, 6:30 pm via Zoom

Please join the Green Mountain Audubon Society and the Friends of Missisquoi NWR as they welcome Missisquoi staff biologist, Judy Sefchick. Judy will share her vast knowledge of the habitats and species of Missisquoi NWR. She will be highlighting the unique habitats of the refuge and showcasing the species that either use these habitats as a resting spot during their migration or call these habitats their home. Visit the Friends website <https://friendsofmissisquoi.org/calendar/> to register for the event. Registration opens on December 1st.



"Bird Tales" Thursday, February 3rd, 6:30 pm via Zoom

Bird Tales has become one of the Friends of Missisquoi NWR's most popular events. Get set for the 6th Annual Evening of Bird Tales and find out why! This year's collection of stories will be coming from a handful of excellent photographers of Vermont's avian wonders. Join us as we hear just what goes into getting those shots to be proud of. Please register for this virtual presentation at <https://friendsofmissisquoi.org/calendar/> Registration will open on December 1st.

"Timberdoodles" Thursday, April 21st, 6:30 pm via Zoom

How well do you know the Timberdoodle? Join the Friends of Missisquoi and Green Mountain Audubon as they welcome University of Maine PhD student, Liam Berigan, to share the fascinating work he has been doing tracking the American Woodcock. In this informative presentation Liam will cover the ecology of this forest-dwelling shorebird and then delve into the evolving understanding of woodcock migration. We will take a look at the migration patterns of some of Vermont's tagged birds. Please register for this virtual presentation at <https://friendsofmissisquoi.org/calendar/> Registration will open on March 1st.



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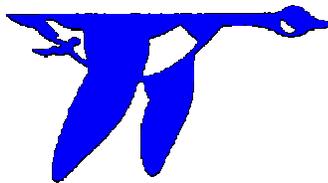
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Monthly Bird Monitoring Walks- 3rd Saturday of each month, 8 to 10 am

We are pleased to announce that we are resuming our monthly bird monitoring walks after being suspended for over a year due to COVID. Ken Copenhaver and Julie Filiberti will lead the walks 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 139 months of walks, we have recorded 160 species of birds. Registration for the walks is not required.

COVID Notice: We will be following Vermont state COVID-19 protocols for outdoor activities. We ask that you stay home if you are feeling ill and wear a mask if you are unvaccinated and when you can't maintain a safe social distance.

The schedule for the next three months is:

December 18: Jeep Trail. Meet at the Louie's Landing parking lot located on Rte. 78, approx 3½ miles west of Swanton village. From there we will drive to the trail head at Mac's Landing.

January 15: 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.

February 19: Maquam/Black Creek Trail. Meet at the parking lot located on Rte. 78, approx. 2½ miles west of Swanton village.

If and when new Refuge events are scheduled, they 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 www.friendsofmissisquoi.org and click on "Calendar".

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

Refuge Manager's Update - November, 2021

by Ken Sturm, Refuge Manager, Missisquoi NWR



While this fall in the Champlain Valley was quite beautiful – plenty of sunny warm days with little rain – the refuge staff were watching with trepidation as wetlands began drying up and mudflats

appeared around the delta. Positioned at lake level, the refuge's wetlands are entirely influenced by the lake and to a lesser extent by rainfall. With already low lake levels through winter and spring, things only got worse as we progressed through summer and into fall with exceptionally dry weather. As a result, stands of wild rice and smartweed, important food for waterfowl, were left high and dry and unavailable to the thousands of waterfowl staged to migrate through the refuge this fall.

Indeed, the wetlands were drier than I think I've ever seen them in the 11 seasons I've worked at Missisquoi. Confirmation of the lack of habitat came from the waterfowl hunting reports for the month of October. Harvest was down just over 50% on the refuge and most blind sites were unused due to the dry habitat. More importantly, the areas which are part of the refuge's closed areas, the Sanctuary Units of the refuge, fared almost as badly and provided greatly reduced habitat for migratory waterfowl. Fortunately two of these areas hold water back through levees, which allowed some habitat to be available and productive for waterfowl.

Now that November is here we have seen more rain and a rising lake level. However, many areas of the refuge as still drier than typical, or at least what we used to think was "typical". See the Vermont Climate Assessment regarding the science of climate change and its impact across Vermont-

(<https://site.uvm.edu/vtclimateassessment/>).

Missisquoi NWR is a large wetland complex which is at the mouth of a 767,000 acre watershed and which is almost completely influenced by lake levels. The refuge is therefore highly vulnerable to changes brought on by climate change including drought, floods, and winter thaws/ice jams.

According to the Vermont Climate Assessment, increases in precipitation are expected, and it is likely the average lake level will increase over time. Given that Missisquoi's wetland habitats have evolved over time with a balance of both high and low water, it seems inevitable that changes in refuge wetland habitat and diversity will occur. This of course affects the wildlife tied to this habitat and may ultimately affect the purpose for which the refuge was established. In a quick GIS project, a UVM student recently mapped the refuge's floodplain forest as it was in 1941 and compared it to the forested area in 2018. Shockingly, this project revealed that during this timeframe the refuge's floodplain forest was reduced by 41%. We have yet to tie this into climate change, lake level, and precipitation changes, but it's clear that the statement "the more things change the more they stay the same" does not apply anymore.

While this newsletter offering may not be that upbeat, it is impossible to ignore these issues. Anyone enjoying the refuge this summer and fall surely noted that things were not "normal". So, in order to leave this topic on an optimistic note, I provide a quote from one of the most inspirational scientists alive today, Dr. Jane Goodall : "You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make."

Big Sit Wrap-up

Team “Missisquoi Marsh Mellows” took to the field on a beautiful Saturday, October 9th. The team took control of the observation platform at Stephen J. Young Marsh at Missisquoi NWR. Here is Ken Copenhaver’s report:

“We ended up with 36 species, beating the 33 species from last year. It was a nice day, weather-wise, though there was just enough wind most of the day to make it hard to hear birds. We started with a single hoot from a Barred Owl at 6:00 am. We had a good showing of other raptors, including 3 Bald Eagles, 3 Northern Harriers, 3 Cooper's Hawks, a Sharp-shinned Hawk, a Red-tailed Hawk, and a Merlin. We got all 6 possible woodpeckers: Downy, Hairy, Pileated, Red-bellied, Yellow-bellied Sapsucker, and Northern Flicker. We had many flocks of Canada Geese fly over, totaling 350 throughout the day. In just one hour, from 7 to 8 am, we had several large flocks of Double-crested Cormorants flying north, totaling an estimated 360. We saw several Rusty Blackbirds, which are always a treat. Otherwise, it was pretty much the common birds expected in early October. There was essentially no open water in the marsh this year, so we had no ducks or shorebirds.”

“Rich Kelly and I were there for the entire 12 hours. Jim Osborn arrived around 10:30 and stayed the rest of the day. 11 other birders stopped in and stayed for varying lengths of time. A few groups of hikers stopped by to see what we were doing, but didn't stay.”

New this year was a Yellow-bellied Sapsucker. Dropping off the “every-year” list were Grackles and Wood Ducks. Here are the results:

- | | | |
|---------------------------|------------------------------|------------------------------|
| 1. American Crow | 13. Dark-eyed Junco | 25. Pileated Woodpecker |
| 2. American Goldfinch | 14. Double-crested Cormorant | 26. Red-bellied Woodpecker |
| 3. American Robin | 15. Downy Woodpecker | 27. Red-tailed Hawk |
| 4. American Woodcock | 16. Eastern Phoebe | 28. Red-winger Blackbird |
| 5. Bald Eagle | 17. European Starling | 29. Rusty Blackbird |
| 6. Barred Owl | 18. Gray Catbird | 30. Sharp-shinned Hawk |
| 7. Black-capped Chickadee | 19. Great Blue Heron | 31. Song Sparrow |
| 8. Blue Jay | 20. Hairy Woodpecker | 32. Swamp Sparrow |
| 9. Canada Goose | 21. Merlin | 33. Turkey Vulture |
| 10. Cedar Waxwing | 22. Northern Cardinal | 34. White-throated Sparrow |
| 11. Common Raven | 23. Northern Flicker | 35. Yellow-bellied Sapsucker |
| 12. Cooper’s Hawk | 24. Northern Harrier | 36. Yellow-rumped Warbler |



Also, visit <https://www.facebook.com/friendsofmissisquoi> to learn more about the refuge and coming events. You can also look at, comment on, and share your own photos.

You do not need to have a Facebook account to view the page. Please stop by and let us know what you think!



Friends Receive Donation From “100 Women Who Care”

In late October, the Franklin County branch of “100 Women Who Care” presented Friends of Missisquoi a check for \$3,150. Ken Sturm, refuge manager, accepted the check for Friends. “It was the “second ‘big check’ photo of my career (you have to have milestones!)”. Established in 2018, the Franklin County branch consists of a group of local women interested in making a difference in Franklin County. The organization’s mission is to provide financial assistance to non-profit organizations that have a strong presence in, and that serve the residents of, Franklin County, Vermont.

Since the loss of Park Ranger David Frisque, the refuge has been unable to provide meaningful programming and interpretive walks for school groups, camps, and for the public. Thanks to “100 Women Who Care”, the Friends will be able to help fund educational programming and field trips to the Refuge for schools in Franklin and Grand Isle counties.

Many thanks to “100 Women Who Care”!



Invasive Species Control -

A “Friends” & Missisquoi NWR Strategic Partnership

Control of of invasive plant species on the refuge is a seemingly never ending battle. Due to the refuge’s location along a major state highway, and as the terminus of the drainage area of the Missisquoi River, seeds of invasive species have a lot of opportunities to end up in the refuge. Ken Sturm, refuge manager, lists five invasive species as the most troublesome and most difficult to control. They are European Water Chestnut (*Trapa natans*), Common Reed (*Phragmites australis*), Japanese Knotweed (*Fallopia japonica*), Yellow Iris (*Iris pseudacorus*), and Purple Loosestrife (*Lythrum salicaria*). If left uncontrolled they often smother and outcompete native plant species and offer little in the way of value for native insects, birds, and mammals.

Due to the constraints of both staffing and funding, the refuge found itself falling behind on control of these aggressive invaders. There just wasn’t enough money in the budget, or refuge employees to keep up. Water Chestnut is probably the biggest threat and challenge. It is an annual aquatic plant that forms dense, nearly impenetrable mats of floating vegetation. It colonizes shallow areas of lakes, ponds, and slow moving streams and rivers. It shades out the native plants that provide food and shelter for insects, birds, and mammals. Many areas of the refuge offer ideal habitat for Water Chestnut.



Water Chestnut mat

Efforts by refuge staff from 2007 to 2011 were quite successful in reducing the number of Chestnut rosettes in the refuge. However, in 2012, record high water levels and flooding from Hurricane Irene resulted in a 10-fold increase in rosettes found in just one year. Enter the “Friends”.



Water Chestnut rosette

Beginning in 2013, the Friends began to apply for and receive grants from private organizations to be used almost exclusively for the control of invasive species in Missisquoi NWR. The biggest grantor over the years has been the Lake Champlain Basin Program, headquartered in Grand Isle. Since 2013, the Friends have received slightly over \$56,000 in grants, including a whopping \$10,000 grant in 2021. This year the Friends also contributed \$200 in cash and over \$2,200 worth of volunteer labor.

This year was the 9th year of intensive Water Chestnut control on the refuge. Control efforts have been successful as shown by a high of 4,808 rosettes removed in 2013 declining to only 315 rosettes removed this year. Contractors were hired for rosette removal until three years ago when refuge staff took over the operation. This has allowed the Friends’ grant money to be used to hire contractors to tackle the control of other problem invasive species. This year >> page 7

Abenaki Trail Signs Exhibit

This fall, temporary trail signs were installed along the Black Creek/Maquam Creek Trail. They provided a nature-based learning experience for all ages that encouraged walking, learning, and mindfulness. The mixed media trail signs incorporated visual art, Abenaki culture, and Abenaki language and included artwork of nature (animals, trees, flowers, birds, etc.) which were identified with both an English word and the Abenaki translation. The project was spearheaded by artist Fellicia Cota of Creative heART Counseling, LLC in partnership with the Abenaki Cultural Center.



The Abenaki have a very long history at Missisquoi and in the general area. Archaeological evidence has established continued occupation by the Abenaki in the area beginning over 7,000 years ago. The word "Missisquoi" is Abenaki meaning roughly "a place of flint" by most definitions and the village near the mouth of the delta of the Missisquoi River was named "Missisiasunk" which translates to "people of the great grassy meadows". Recognizing the tie of the Abenaki to the current refuge is extremely important and very well documented. The refuge, in collaboration of the Vermont Dept. of Historical Preservation, are working together to have the refuge placed on the National Register of Historic Places based upon the significance of the delta to the Abenaki people. The reason the Refuge was established at the Missisquoi River delta is probably very similar to why native peoples lived in the area for many thousands of years: because of the rich biological resources. One of the most spectacular archaeological finds on the refuge was a long house documented during a dig for the expansion of Rt. 78. It is possibly the only long house known from Vermont



Japanese Knotweed

<< **page 6** contractors treated 80 acres of floodplain forest to control Common Reed, Japanese Knotweed, Yellow Iris, and Purple Loosestrife.

The goal of invasive species control on the refuge is not complete eradication, which is really not feasible. It's called invasive species "control" for a very good reason. The actual goal is "control" at a manageable low number, and that will require a significant annual effort every year going forward. And the Friends will be there to provide their valuable support.

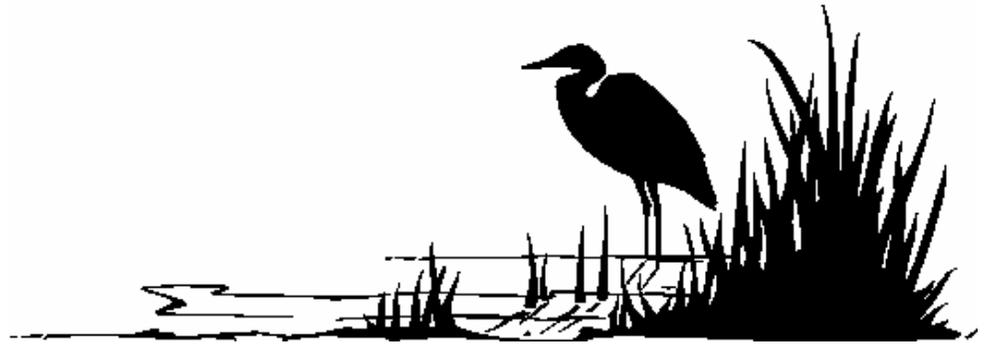
FRIENDS OF MISSISQUOI NATIONAL WILDLIFE REFUGE

BI-MONTHLY BOARD MEETING

Wednesday, January 12th, 2022 at 6:30 pm by Zoom

email info@friendsofmissisquoi.org if you 'd like to attend via Zoom

Members are always welcome & encouraged to attend. Next board meeting is March 9th at 6:30 pm



Please tell us how to serve you better - The Friends of Missisquoi NWR Board is eager to know more about the kind of programs, outings, or activities you would like to have offered on or about the refuge. Please email your suggestions and comments to info@friendsofmissisquoi.org. Thanks!

Yes! I want to support the Friends of Missisquoi National Wildlife Refuge and its programs with my membership. My dues include a subscription to Missisquoi Matters and a 10% discount on items at the Friends Gift Shop. Enclosed is my contribution of:

Membership Level

- \$10 Student
- \$15 Individual
- \$20 Family / Classroom
- \$50 Supporting
- \$100 Steward
- \$250 Life / Business
- \$1000 Patron

Would you like to receive your newsletter by postal mail or by email? Please circle one:

Postal Mail Email

Date: _____ (membership begins the month you join)

Name: _____

