



**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  
(802) 868-4781 ext 121

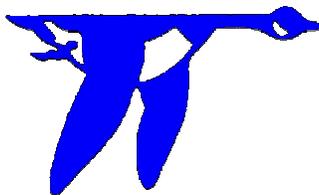
[www.friendsofmissisquoi.org](http://www.friendsofmissisquoi.org)

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Newsletter edited by Ken Copenhaver

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- Dave Frisque *Park Ranger*
- Judy Edwards *Wildlife Biologist*
- Eddie Edwards *Zone Enforcement Officer*
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- Joe Bertrand *Maintenance Mechanic*

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

**2013 Friends of MNWR Schedule at a Glance:  
Nature Walks, Bird Walks, and Board Meetings**

	Nature Walk 9 – 11 AM	Board Mtg 6:30 – 8:30 PM	Bird Walk 8 – 10 AM
<b>JAN</b>	5 – JEEP	9	19 – MAQ
<b>FEB</b>	2 – SYM		16 – SYM
<b>MAR</b>	2 – JEEP	13	16 – RR
<b>APR</b>	6 – MAQ		20 – MAQ
<b>MAY</b>	4 – RR	8	18 – SYM
<b>JUNE</b>	1 – SYM		15 – RR
<b>JULY</b>	6 – MAQ	10	20 – MAQ
<b>AUG</b>	3 – RR		17 – JEEP
<b>SEPT</b>	7 – JEEP	11	21 – SYM
<b>OCT</b>	5 – SYM		19 – RR
<b>NOV</b>	2 – MAQ	13	16 – MAQ
<b>DEC</b>	7 – MAQ		21 – JEEP

MAQ = Maquam/Black Creek Trail  
SYM = Stephen Young Marsh Trail  
RR = Old Railroad Passage Trail  
JEEP = Jeep Trail

Note that walk locations are subject to change due to trail conditions, hunting seasons, etc. Check future newsletters and the Friends website Events Calendar for changes. Go to [www.friendsofmissisquoi.org](http://www.friendsofmissisquoi.org)

**FRIENDS OF MISSISQUOI NATIONAL WILDLIFE REFUGE**

**Bi-monthly Board Meeting**

**Wednesday, January 9, 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.

## **Manager's Musings: Winter Update 2012**

*by Ken Sturm, Refuge Manager, Missisquoi NWR*

As fall winds down and early winter approaches, refuge work changes along with the seasons. In many ways that is one of the real benefits of working on a National Wildlife Refuge. Seasonal changes bring different species of wildlife to the refuge or shift the needs of resident species and require refuge priorities to refocus. As these changes occur in nature they are reflected in how people use the refuge as well, which also alters our work priorities on the Refuge. These seasonal changes are often overlooked by people who live and work in areas disconnected from nature. But it's these changes that can be so gratifying when you can take time to notice.

So much of environmental education can be boiled down to ensuring that people just take this time to notice what is going on around them. For many, the changes are limited to the foliage we all appreciate and the flocks of geese that materialize in the sky in September and October. But as you become more tuned in to the natural world, nuances of change become apparent – like seeing the last mourning cloak butterflies still hanging on after all others seem to have disappeared. Or subtle changes in the calls and behavior of woodland birds that are suddenly more muted and often found hanging out in “mobs” rather than spending much of their time alone or in pairs. It is these things that make living through the seasonal change so much richer and also make spending time on a National Wildlife Refuge so much more rewarding.

On the refuge we are moving through the waterfowl season, which is a busy one for us at Missisquoi. Due to the low water conditions

this summer, which exposed much mudflat in our wetlands, we had a bumper wild rice production, a favorite food for our migrating waterfowl. Thanks to some late rain, this valuable food resource has become more accessible to dabbling ducks that rely on the refuge to rest and fatten up before moving south for the winter. Although low water made accessing many of the refuge's hunting blinds challenging this year, many favorable reports have come in over the last month of successful hunts thanks to the abundant waterfowl use of the Refuge. We have received several notes from parents taking their children out to hunt on the refuge for the first time and having a great experience just seeing the multitude of ducks flying overhead.

As winter approaches, the refuge staff spends increasing amounts of time indoors as the cold weather drives many of our migratory birds south and our fields and other habitats go dormant for the winter. This is a time for making sense of the previous field season and planning for the next. We will spend much time evaluating survey data and contemplating the strides we have made in invasive species control and bringing school groups to the refuge. In many ways it's a time to catch our collective breath. But the beauty of Refuge work is that we are always looking towards the next seasonal change as this directs so much of our work. I hope that many of you can experience these subtle changes on the refuge this fall and winter. But I especially hope that you are able to follow up throughout the seasons to see the remarkable changes nature brings to the Missisquoi.

## Flexing Our Mussels at Missisquoi National Wildlife Refuge

by Judy Sefchick Edwards. Wildlife Biologist, Missisquoi NWR

What has a foot but barely moves? What has teeth but doesn't chew? It's the native freshwater mussels that we're surveying and relocating at Missisquoi National Wildlife Refuge. Make no mistake about it—these are NOT your zebra's mussels! With colorful names like “pink heelsplitter, fragile papershell, and giant floater,” these native mussels are the “good guys” that spend their lives filtering particles and pollutants out of the water in order to make the Missisquoi River a better place for all!



**Pink Heelsplitter**

Why move mussels? It all started when staff realized that the refuge's barge (used to transport equipment and supplies across the river) was silted in and couldn't be moved. Before the necessary permits could be approved, and dredging the river to free the barge could begin, surveying and relocating mussels was required. After all, 7 state endangered and threatened mussel species, as well as other native mussels, live in the Missisquoi River. That's all the Missisquoi staff needed to know...without hesitation, we became mussel-bound!

Realizing that we couldn't do this alone, the refuge enlisted the help of U.S. Fish and Wildlife Service divers from the Ohio River Islands NWR, as well as biologists from the New England Field Office, Champlain Fisheries Office, and Vermont Department of Environmental Conservation. Some were

mussel experts, a few were mussel nerds, and still others, like me, were mussel novices. Brains and brawn, we were all needed—let the mussel mania at Missisquoi begin!



**Fragile Papershell**

First things first: transects were set up with weighted lines and buoys to depict the sections of river where mussel surveys would occur—either within the immediate project area, or in potentially impacted upstream or downstream locations. Then the real fun began. Armed with mesh bags to collect every mussel found, we started the surveys. Expert divers were left to investigate the deep water areas with snorkels and SCUBA gear, while the nerds and novices headed for the shallows.



**Giant Floater**

I'm used to being in the water—in my uniform and hip boots, or in a kayak, canoe, or motorboat, doing surveys, pulling invasive plants, or doing other work. But this week, I was literally IN the water. Armed with my new “uniform” components of quick dry shirts, shorts and water sandals, I spent the days down

on all fours, shoulder-to-shoulder with 5 or 6 others, crawling at a snails' pace to locate any and all mussels. The water was murky, so the only way to find mussels was to blindly reach into the river and slowly feel all around the muddy bottom. I was elated—after all, it's not often that a grown woman has a legitimate excuse to play in the mud all day!

With two divers and a line of mussel seekers that extended from the shoreline to a water depth of about two-and-a-half-feet (or whatever depth would still allow you to breathe), each area was surveyed 3 times to make sure no mussels were missed. Once a survey was completed, we'd take a break from the water, identify each mussel by species, and record its length in millimeters.

Before we could go any further, all threatened and endangered mussels needed to be marked. That way, they could be identified in future surveys, to make sure they were doing well in their new environment. This is where the experts came in again (only this time, they needed tweezers). After all, who knew that carefully placed superglue could be used to affix a tiny, bright green, uniquely numbered, shellfish tag on the lower portion of a mussels' shell without disaster?

Next, it was time for the relocation. We selected an area that had similar river features

and habitat characteristics to the barge site, hoping that the mussels would immediately feel right at home. But this time, we're acting in reverse: now the divers are taking mesh bags filled with mussels to the river bottom and gently placing them one-by-one in the bottom substrate, before saying goodbye and wishing them well.

By the end of the week, a total of 807 mussels were collected, with 392 being from the immediate project area footprint, 297 from the potentially impacted upstream area, and 118 from the downstream area—talk about mussel fatigue! Of the seven different species of mussels found, three (cylindrical papershell, fragile papershell, pocketbook) were state endangered, and one species (giant floater) was state threatened. We're happy to report that forty-nine mussels were tagged, and all mussels were successfully relocated to their new home.

Despite the sun, the rain, and the long hours, this muddy, methodical, and somewhat meditative search for mussels left me wanting for more knowledge about these mysterious and often overlooked creatures. If you'd like more information too, stay tuned for the next edition of *Missisquoi Matters*!

*TO BE CONTINUED!*

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## **Salazar Announces Fee-Free Days at National Parks and Public Lands for 2013**

*From U.S. Department of the Interior Press Release*

Secretary of the Interior Ken Salazar recently announced dates in 2013 when more than 2,000 national parks, national forests, national wildlife refuges, and other federal lands will offer free admittance to everyone.

“Our national parks, wildlife refuges, forests and other public lands offer every American a place to get outdoors, learn about our nation’s history and culture, and restore our spirits,” Salazar said. “By providing free admission, we are rolling out the welcome mat for Americans to visit and enjoy these extraordinary treasures that belong to all of us.”

*Continued →*

Tourism and outdoor recreation tied to public lands are powerful economic engines in communities across the country. Recreation on federal lands provided 440,000 jobs and contributed \$55 billion to the economy in 2009. Each year, over 280 million national park visitors pump \$31 billion into local economies, supporting 258,000 jobs.

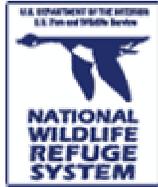
“We have a fantastic network of public lands that provides world class recreational opportunities, showcases our nation’s rich and diverse history, and features some of the most incredible scenery around,” said National Park Service Director Jonathan B. Jarvis. “The fee free days will give both first time and repeat visitors a good reason to spend time exploring these remarkable places.”

The 13 Fee Free Days in 2013 include Martin Luther King Jr. Day (Jan. 21), National Public Lands Day (Sept. 28), and Veterans Day Weekend (Nov. 9-11). A full list of dates and participating agencies is listed below. The fee waiver does not cover expanded amenity or user fees for things such as camping, boat launches, transportation, or special tours.

Additionally, active duty military members and their dependents are eligible for a [free annual pass](#) that provides entrance to lands managed by the National Park Service, U.S. Fish & Wildlife Service, Bureau of Land Management, Bureau of Reclamation, and the U.S. Forest Service. The America the Beautiful National Parks and Federal Recreational Lands Pass Program also offers a free lifetime pass for people with disabilities, a \$10 lifetime senior pass for those age 62 and over, and a \$80 annual pass for the general public.

<b>Dates</b>	<b>Event</b>	<b>Participating Agency</b>
<b>January 21</b>	Martin Luther King Jr. Day	National Park Service Fish & Wildlife Service Bureau of Land Management US Forest Service
<b>April 22 - 26</b>	National Park Week	National Park Service
<b>June 8</b>	Great Outdoors Day	US Forest Service
<b>August 25</b>	National Park Service Birthday	National Park Service
<b>September 28</b>	National Public Lands Day	National Park Service Fish & Wildlife Service Bureau of Land Management Bureau of Reclamation US Forest Service
<b>October 13</b>	National Wildlife Refuge Day	Fish & Wildlife Service
<b>November 9 - 11</b>	Veterans Day weekend	National Park Service Fish & Wildlife Service Bureau of Land Management Bureau of Reclamation US Forest Service

Passes are available at the refuge Visitors Center. Some need to be purchased and others are free (access pass).



## Winter 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.

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

Join Friends of Missisquoi NWR board member Joe Belanger for nature walks on various refuge trails, held the first Saturday of each month. Registration is not required. The schedule for the next three months is:

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

**January 5: Jeep Trail.** Meet at the Louie's Landing boat access area. We will drive in to the trail head at Mac's Bend.

**February 2: 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.

### Monthly Bird Monitoring Walks 3<sup>rd</sup> Saturday of each month, 8:00 am to 10:00 am

Friends board members Bridget Butler and Ken Copenhaver 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. Registration is not required. **After 30 months of walks we have recorded 120 species of birds.** The schedule for the next three months is:

**December 15: Jeep Trail.** Meet at the Louie's Landing boat access area. We will drive in to the trail head at Mac's Bend.

**January 19: Maquam/Black Creek Trail.** Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton.

**February 16: 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.

### Maquam Bog Walk

**To be announced**

A walk in Maquam Bog is being planned for late January or early February, depending on weather and bog conditions. Please check the Friends website Events Calendar for updates at <http://www.friendsofmissisquoi.org> or contact the refuge at (802) 868-4781.

### Owl Prowl

**To be announced**

One or two Owl Prowls are being planned for late February to mid-March. The walks will start just after dusk. Please check the Friends website Events Calendar for updates at <http://www.friendsofmissisquoi.org> or contact the refuge at (802) 868-4781.

# The Friends' Store

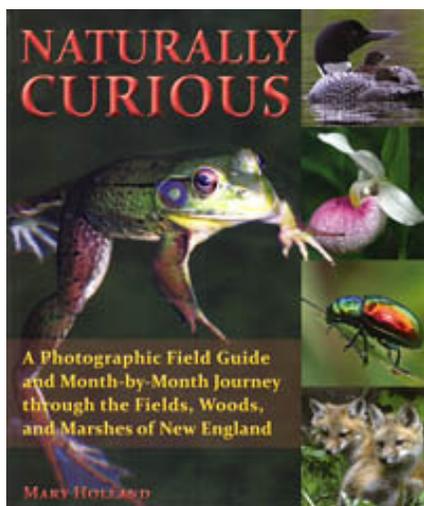
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for people of all ages who love the outdoors

## Naturally Curious

### A Photographic Field Guide and Month-by-Month Journey through the Fields, Woods, and Marshes of New England



by Mary Holland

**\$ 39.95**, paper with flaps, 474 pages, 7 1/2 x 9 1/4, full-color photographs

“What a wonderful book! It’s a guided tour of the noteworthy natural happenings of each month, tying together everything from maples to mayflies to moose.”—David Sibley, author, *The Sibley Guide to Birds* and *The Sibley Guide to Trees*

Part handy field guide, part natural history book, this bountiful reference satisfies curiosities about the flora and fauna of New England. Hundreds of spectacular photographs provide a close look at regional animal and plant life, from tracks, dens, and nests to hunting, breeding, and hibernating. Organized by month to display a variety of wildlife throughout the seasons, this unique nature guide is full of maps, statistics, and quick facts, and also includes in-depth

discussions of some of the most interesting nature events New England has to offer.

About the author: Mary Holland is a naturalist, a nature photographer, the author of *Milkweed Visitors*, and natural history columnist who is a regular contributor to the *Valley News*, the daily newspaper of the Upper Valley of New Hampshire and Vermont. Her work in the field of environmental education has included employment with the Massachusetts Audubon Society and the Vermont Institute of Natural Science, where she directed the statewide Environmental Learning for the Future (ELF) elementary school program for several years. She lives in Hartland, Vermont

### Store Order Form

To order by phone, call 802-868-4781. To order by mail, fill out this order form and send to:  
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