



Friends of Green River Reservoir, Inc.
 PO Box 359, Hyde Park, VT 05655 FGRRVT.org Email: fgrr@pshift.com

Board of Directors: Sally Laughlin, President (644-5651); Milford Cushman, Vice President (888-3362); Bill Bartlett, Secretary (888-5591); Michael Wickenden, Treasurer (888-3365); Terri Gregory (888-3362); Dave Hallquist (888-6877); Ron Kelley (888-7466); Emma Marvin (888-9339); Danielle Owczarski (413-652-4946).

Insects on Water: Part II

– Dragonflies and Damselflies *Text and photographs by Ron Kelly*

SPRING 2011
NEWSLETTER



A blue damselfly.

These flying jewels, dragonflies and damselflies, are both in the insect Order Odonata. Since their immature forms live in water, some of the more sensitive species are easily observed indicators of water quality. They are unusual among insects in having only tiny antennae, leaving them reliant on their superb vision. Their remarkable heads are largely a giant pair of eyes that they are able to rotate almost 360 degrees. They cannot fold out

their primitive wings like most other insects, instead the wings work independently of one another. Perhaps you have seen dragonflies take off vertically and hover like a helicopter. They can also fly backwards and hit speeds of 45 mph. Dragonflies and damselflies can often be seen flying in tandem while having sex "on the wing."

Damselflies are delicate and narrow-winged. Most of them hold their clear wings clasped parallel to the abdomen, except for a few species in the spread-winged family. Damselfly adults usually hunt from perches and snatch insect prey off surfaces such as plant stems and leaves. They insert their eggs in plant tissue, most often submerged plants.

Dragonflies are more robust in size than damselflies and are fast flyers with broad outstretched wings. They have big jaws (mandibles) but are no threat to humans despite

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The FGRR Annual Membership Meeting

Please join us to share feedback and ideas for the coming year!

Wednesday, July 6th 2011

7:00 p.m. at Dave's house: 554 Patnoe Farm Drive, Hyde Park, VT

All members are invited to attend - to hear annual reports, elect board members, and make minor revisions to the bylaws (clarifying terms).



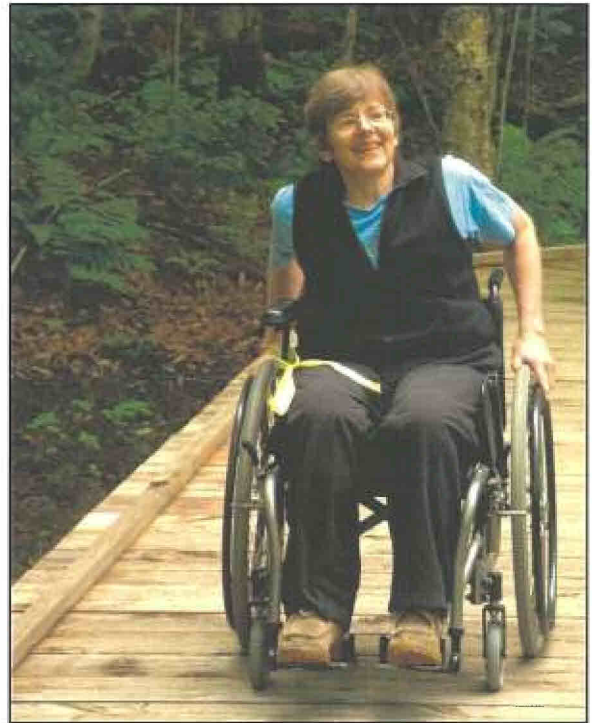
Deshler Photography

Dragonfly nymph skin.



Anne Holmblad - Remembered for her Joy and Vitality *by Milford Cushman*

Anne Holmblad, with whom FGRR board member Milford Cushman conferred at the beginning of the conceptual design of the ADA trail nearly 11 years ago, was killed in late November 2010, in a single car accident in southern Vermont. Together, Anne and Milford's goals were to enable persons with disabilities to gain full access to the waters of the Green River Reservoir. The durable, "green built" winding trail and boardwalk begins at the ADA parking area by the information kiosk and winds through uplands and over wetlands down to the waters of the Green River Reservoir. Anne graced the June 20, 2009 dedication ceremony of the ADA trail by joyfully and proudly wheeling down and up the trail several times that afternoon. Pictures of the dedication and Anne can be seen in the Fall 2009 FGRR Newsletter. Anne's death is a real loss for the folks she spent her life being an advocate for. May the ADA trail at the GRRSP be a lasting testimony and tribute to her commitment, dedication, and joy in assisting persons with and without disabilities to learn about "accessibility" in every sense of the word.



Deshler Photography

Exotic Invasive Species and Green River Reservoir *by Emma Marvin*

In October we were fortunate to have a wonderful presentation from Ron Kelly and Leslie Matthews about the potential threat of exotic invasive species to Green River Reservoir.

Ron Kelly, an entomologist, FGRR Board Member, and former Forest Health Specialist with the Vermont Department of Forest Parks and Recreation, highlighted the potential threats to forests surrounding the Reservoir. Threats include: the Hemlock Woolly Adelgid, a small insect from East Asia that feeds on young twigs, causing the needles to dry out and drop off prematurely; the Emerald Ash Borer, a wood-boring insect introduced from Asia that feeds primarily on our native ash species; and the Asian Longhorned Bee-

tle, a wood boring insect that feeds on numerous native hardwood species, most notably maples. Each of these insects has the potential to dramatically alter the composition and nature of our forests and have been identified in locations in or near Vermont – Worcester, Ma (Asian Longhorned Beetle 2008), Quebec and the Hudson Valley (Emerald Ash Borer 2008 & 2010), and Windham County (Hemlock Woolly Adelgid 2007).

Ron recommends that using only local firewood is the best course of action to protect the forests around Green River Reservoir and elsewhere. It is hard to imagine such a seemingly simple action such as transporting firewood could have a significantly negative impact, but firewood

has the potential to be a harborage for these and other pests. As a result, transporting wood, especially from more than 50 miles away or from areas that already have outbreaks, has the potential to infest new areas. Nearly 80% of new Emerald Ash Borer infestations, for example, have been linked to the movement of firewood. So, share this message with friends, family, and folks you know whom may be visiting the park from away and encourage them to purchase local firewood to use at the park.

Leslie Matthews, an environmental Scientist with the Vermont Agency of Natural Resources, offered infor-

(Continued on page 6)

Loon Nesting Update from 2010 *Text and photograph by Ron Kelley*



Loons feeding and transporting their chicks at Green River Reservoir.

Two loon pairs successfully raised four chicks last summer. I believe that this is the first time we've had four chicks on the reservoir surviving into late August. The northern loon pair nested on their usual island while the southern loon pair chose a tiny island not far from the dam. High waters hampered early nesting attempts but they nested again.

In late June, rising water levels from rain events again threatened the nests. On June 28, the southern nest was three inches above water. The northern nest was only one inch above water so Eric Hanson moved the eggs a bit higher and reinforced the nest bowl to make it 3-4 inches above water. After that, Morrisville Water and Light engineers prevented the water lev-

els from getting any higher and all eggs hatched. The northern loon chicks were first spotted on June 12 while the first southern chick was seen on June 15.

The Key to State Park Sustainability *by Bill Bartlett*

Although the Vermont State Park system is far from self sufficient, revenue from fees provides a major funding source for covering operation and maintenance costs. Day use fees, account for about 25% of State Park revenue and are charged at all staffed state park day use areas. Beginning last July, day use fees were collected at Green River Reservoir.

Current economic conditions have resulted in shrinking Vermont State General Fund revenues and there is now a heightened need to rely on nontaxpayer sources for maintaining services wherever possible. Since 1999, when Green River Reservoir began operating as a state park, there has been a significant gap between revenues collected and operating expenses. From July to October, 2010, a total of \$10,805 were collected at GRRSP for day use fees.

Day use fees at Green River Reservoir State Park are the same as at all other Vermont State Parks. Here is a quick summary of your options to minimize the cost of day use fees. Purchases can be made at GRRSP or on-line at www.vtstateparks.com/html/fees.htm. For those who are eligible, the Green Mountain Passport is clearly the "best deal."

State Park Fee Rundown

Basic day use fees: \$3 per day per person for those 14 and older, \$2 per day per person for those 4 to 13 years of age and free for those 3 and younger.

Vehicle pass: \$80 per season, \$40 for additional vehicles registered to the same person(s). Provides unlimited day use entry to any State Park, all season, for up to 8 people in one vehicle.

Individual pass: \$25 per season. Provides unlimited day use entry to any State Park, all season for one individual.

Punch card: \$20 for ten visits, never expires.

Green Mountain Passport: \$2 Available only at your local Town Clerk's office only. Provides free day use pass for life if you are:

- Totally disabled due to military service, or
- 62 years of age or older.



Furthering the FGGR Mission with a Park Steward *by Emma Marvin*

Friends of Green River Reservoir, in conjunction with the State Department of Forests and Parks are developing a new post at the Park - Green River Reservoir State Park Steward. The Park Steward's focus

will be to educate and inform visitors about steps they can take to help minimize their impact and improve their experience. The development of this position is exciting because it offers a new way to further the mis-

sion of the Friends. The next time you are at the Park, please take a moment to introduce yourself to our new Park Steward.



cont. **Insects on Water: Part II**



A spreadwing damselfly.

(Insects on Water: Part II Continued from page 1)

names like "horse stingers" and "devils darning needles." I remember my grandmother telling me that they were darning needles and would sew up my mouth if I told a lie! They normally scoop up their prey, including many mosquitos and black flies, while in flight. Some dragonflies insert their eggs into plant material while others drop them into the water. A few species, such as the Wandering Glider, migrate south for the winter.

Odonata nymphs live in the water, most spending a year there. Eventually, they climb out of the water and the nymphal skin splits along the back, allowing the new soft adult to emerge. You can sometimes find these cast skins left where this transformation took place (see photo on page 1). Dragonfly nymphs are typically greenish or brownish bottom dwellers that prey on other insects. When a dragonfly nymph breathes, it draws water into the rectum

through the anus and then expels it, often appearing to move by "jet propulsion." In contrast damselfly nymphs move by body undulations.

Some of the most commonly seen damselflies are called bluets because most males are bright blue. Notice the wing orientation on these compared to the spreadwing damselfly. Bluets are by far the most common damselflies to be seen at the reservoir, being abundant in early to mid summer. But there are numerous species of dragonflies at different times over the summer. The Uhlers Sundragon is an uncommon species that was seen by the reservoir one June day.

It is not unusual to have a dragonfly land on your watercraft or even your body for a brief respite while paddling along. The next time this happens, take a closer look at the bulbous eyes and markings of this beautiful creature and thank it for helping to reduce the number of biting insects.



Uhler's Sundragon dragonfly.

What's Abuzz at Green River Reservoir *by Milford Cushman*

Returning Rangers

Jason will once again be returning for his 10th consecutive year as Park Ranger. We also welcome Charlotte and Luke back for their multi-year tenure. According to Susan Bulmer, Parks Regional Manager, there will be two new staff to give the GRRSP five rangers for the summer. On Saturday, June 18th, beginning at 10 AM at the Visitor Contact Station, the Board of the FGRR will meet with all the rangers to introduce ourselves to new rangers, to learn about each ranger's individual goals and aspirations for the summer, and to review the goals of the FGRR.

Contact Station Solar Power Update

At the June 18th Ranger meeting, David Palumbo of Independent Power will be offering a training session to all the rangers regarding the use and conservation management of the photo voltaic (PV) collection and battery storage system at the Contact Station. Included in his training will be the proper use of a 3000 watt Honda generator that the FGRR are assisting the Park with the purchase of this year. According to David, even with the most conservative, conservation management of the battery storage system that is installed at the Contact Station, there are enough prolonged periods of overcast days that will drawn down the battery storage to the point of requiring mechanical recharging. David has been a local pioneer of PV off grid and grid tied systems since 1989 and will donate his personal and professional knowledge to the GRRSP rangers.

Red Worm Mouldering Campsite Toilets

The Park Rangers intend on constructing another 4 or 5 red worm mouldering toilets for campsite locations. These composting toilets get recharged each spring with red worms that do the job of breaking down solid human waste (and solid dog waste when placed into the toilet) into earth like compost. Each toilet has two sides for the seat to be placed over allowing the piles of waste a chance to compost. By the end of the 2012 operating season each campsite at the GRRSP will have one of these very successful and beneficial toilet facilities.

Clivus Multrum Trail Head Composting Toilets

Last fall we reported that Kelley Osgood of the Cushman Design Group designed the award winning privy that will sit upon Clivus Multrum's Trail Head Composter. There are two of these units proposed for the GRRSP where they will be located near the lower and ADA parking areas. Funding for this project is currently in the VT Legislator. A prototype of the privy will be constructed by Tell Gregory, a local contractor and will be installed at the Kettle Pond State Park in Marshfield, VT. We're keeping our fingers crossed for the possibility of eliminating the Port-a-let toilets that have been the standard for ten years at the GRRSP.

Handcarts To Assist With Gear

This season there will be several hand carts provided for visitor use. These wheeled carts can be used to assist visitors in bringing their gear to and from the water's edge.

Interpretive Signage At The Kiosk and Along The ADA Trail

Former summer Ranger, current FGRR board member and current Field Naturalist Master's student, Danielle Owczarski is part of the FGRR education committee which has taken on the task of proposing and designing educational and interpretive displays, signs and handouts for the Informational Kiosk and signage along the ADA trail. Along with Sally Laughlin and Emma Marvin, Danielle will be presenting their ideas and concepts to Susan Bulmer, Parks Regional Manager this June for her review and comment.

Access Road and Re-gravel Project

This spring the State will clean the access road swales and ditches, install new water bars, clean and repair the culverts and re-grade the road and portions of the parking areas. This work will re-establish road stability and allow for clear drainage of surface water runoff.

Ranger Boat Storage Rack

Designed last year, Susan Bulmer is presenting a site and

(Continued on page 6)

cont. Exotic Invasive Species and Green River Reservoir

(Continued from page 2)

mation about aquatic threats to the reservoir, which include watermilfoil, purple loosestrife, water chestnut and others. These plants, if introduced, have the potential to change the character of the reservoir by altering water quality and aggressively competing with native species.

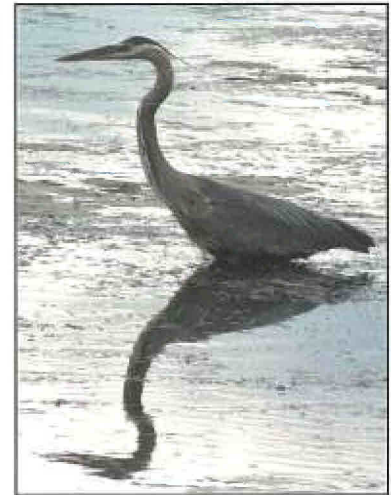
As individuals, we can take actions to reduce the potential introduction of these aquatic invasive plants including: inspection of boats and paddles after each outing for plant matter (plant matter should be removed and be placed in a trash receptacle or high dry ground where there is no danger of it washing into a water body), all water should be drained from boats, exterior of boats should

be rinsed, preferably with hot water and sun dried (ideally 5 days before entering a new body of water). These simple precautions reduce the likelihood of plant matter being transported from one water body to another.

As a community we can take action too. The State of Vermont has initiated the Vermont Invasive Patroller (VIP) program to monitor local water bodies for new introduction of invasive species. Patrollers visit their lake or pond at least twice a summer to survey for invasive species. They then report results and provide samples of suspicious species to the State Department of Environmental Conservation for further evaluation. Patrollers are provided with a four hour train-

ing workshop on native and invasive aquatic plant identification. If this is something you would be interested in doing at Green River Reservoir please contact me:

emma@vermontmaplesugarcompany.com
and/or: leslie.matthews@state.vt.us.



Ron Kelley

cont. What's Abuzz at Green River Reservoir

(Continued from page 5)

rack plan to the Army Corp of Engineers and to Shannon Morrison of the Wetland Division of the Agency of Natural Resources for their review and comment. The FGRR and GRRSP's goal is to move the current boat rack back 40 feet and to create a simple, stable, handsome structure to hold up to six canoes and/or kayaks.

Firewood at GRRSP

All visitors are discouraged from bringing their own firewood into the GRRSP.



Deshler Photography

The issue is critical as invasive species are making their way north and their threat to the forests in and around the GRRSP is significant. Visitors who bring their own firewood must know that the firewood was harvested from forests within Elmore, Morrisville, Stowe, Johnson and Eden. The State is contemplating offering locally, sustainably harvested firewood for sale at the Park.



2011 MEMBERSHIP RENEWAL NOTICE

Friends of Green River Reservoir Memberships run from January 1 through December 31 Each Year. Your membership is due now - Please renew! Members of Friends of Green River State Park share enthusiasm for 'Friends' projects and provide financial support to ensure that these programs continue. Thank you for your membership support last year!

We want update our records and keep you informed!

The Friends would like to have your email to more efficiently inform you of our events.

Name: _____

Address: _____ State _____ Zip _____

Email address: _____

FGRR will use your email address to send only event and meeting notices, and the newsletter if you check the adjacent box. It will never be shared.

Check box if you would like to receive your newsletter by email only (this will prevent us from mailing you the newsletter).

Help us Grow our Membership

The Friends are continuing an effort to grow our membership to give us a larger base to call on when opportunities to protect and provide for the park arise. Please consider who you know that might be candidates for new members of the Friends. We will contact them once by post and only for this reason.

Possible new members: _____ Address (or at least Town) _____

Yes, I will renew at:

- | | | |
|--------------------------|----------------------------|---------|
| <input type="checkbox"/> | Noble Loon | \$1000 |
| <input type="checkbox"/> | Patron | \$500 |
| <input type="checkbox"/> | Associate | \$100 |
| <input type="checkbox"/> | Sustaining | \$50 |
| <input type="checkbox"/> | Supporting | \$25 |
| <input type="checkbox"/> | Basic Membership | \$15 |
| <input type="checkbox"/> | Other | \$_____ |
| <input type="checkbox"/> | Additional contribution of | \$_____ |

Contributions to the FGRR are tax deductible. FGRR is a 501 (c) (3) organization.



Mail to: Friends of Green River Reservoir Inc.
P. O. Box 359
Hyde Park, VT 05655



Visit us on the web: www.FGRRVT.org
Join us on Facebook by typing Friends of Green River Reservoir
in the search box of your Facebook page.

Friends of Green River Reservoir Merchandise



Item:	Price:	Quantity:	Total:
Nature Field Guide	\$6	_____	_____
T-Shirt (list quantity for each size) Small ___ Medium ___ Large ___ XL ___ XXL ___	\$25	_____	_____
Hat (one size fits all - adjustable)	\$25	_____	_____
Medium Tote (11" x 5" x 12")	\$25	_____	_____
Large Tote (14" x 7" x 14")	\$30	_____	_____

Please make check to and mail order to:
Friends of Green River Reservoir, Inc.
 P.O. Box 359
 Hyde Park, VT 05655



Total: _____



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Zack Woods Pond and Stewardship Position

Written by Bill Bartlett and Sally Laughlin

The conservation of Zack Woods Pond and the area around it is a high priority for the FGRR. Zack Woods Pond is a natural pond with a totally undeveloped shoreline and a surface area of over 100 acres. A pair of loons has successfully nested here for years. The area is popular for canoeing, fishing, and camping. It has been somewhat overused in a few areas by campers in the past; fortunately, such limited problems have been addressed by the efforts of the Friends of Zack Woods Pond.

Morrisville Water and Light owns much of the land around the Pond, but there are also a couple of private holdings, in the area that are being sought for purchase on a willing seller basis. Over 300 acres in Hyde Park and Wolcott are potentially involved.

Through the leadership efforts of the Trust for Public Lands, the funding to buy most of these lands has been obtained from the federal government through the Forest Legacy Program and from the State of

Vermont (Clean and Clear Program and the Vermont Housing and Conservation Board). Currently the acquisition from Morrisville Water and Light is working its way through the normal property sale paperwork; surveys, title searches, etc. The sale of the 300+ acres to the State of Vermont is expected to be complete in early 2012.

The lands in question are contiguous to GRRSP and it is expected that the lands will be added to and administered by the Park. Management of these new lands would not be substantively changed until after the Vermont Department of Forests, Parks and Recreation (DFP&R) completes a long-range management planning process. During that process, the Department has indicated that there will be ample opportunity for public input.

In anticipation of the need for additional staff for the Park, the FGRR have been asked to provide funding for a Stewardship/

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FALL 2011 NEWSLETTER

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FGRR Merchandise

'Tis the season to give a gift that gives on multiple levels. The proceeds support the park.



FGRR: News from the Board

The FGRR Board thanks Dave Hallquist for his long service on the Board as he steps down after more than a decade. Among his many contributions, is using his technological expertise to set up a FGRR website and get us into the electronic age. Thanks Dave, and see you on the Reservoir fishing or paddling!



Receive Your Newsletters by Email!

Help us save natural resources and funds by requesting your newsletter be sent in PDF form by emailing us at fgrr@pshift.com.

Park Steward - Harry Dunn-Davenport *by Emma Marvin*

We want to express our sincere thanks and gratitude to Harry Dunn-Davenport for his service to Green River Reservoir State Park and the Friends of Green River Reservoir as our first Park Steward.

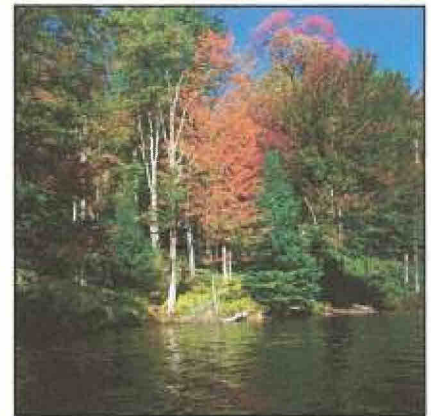
Harry spent numerous hours paddling around the reservoir, cleaning up campsites, checking on the loons, conducting water quality tests for the VT Lay Water Monitoring Program, helping park users unload and load their boats, and talking to park users about various topics including providing information about the loons, natural history, and paddling and camping etiquette.

In addition to these efforts, Harry also spear headed several programs at the Reservoir, including: the development of a natural history library, which is now housed at the park ranger station; the procurement and installation of an onsite rain gauge; and a summer green-up day – during which 700lbs of trash were removed from Reservoir Road.

The position of Park Steward was established in the spring of 2011 in order to educate visitors on how to minimize their impacts at the Reservoir and provide information about the natural and cultural history of the Park. The position is managed by the Vermont Department of

Forest, Parks and Recreation and funded by the Friends of Green River Reservoir.

An extra note thanks to Emma Marvin and Susan Bulmer for being instrumental in making this stewardship position a reality.



Shoreline Plants of the Reservoir *Photographs and Text by Ron Kelley*

Green River Reservoir is surrounded by forests that are typical of Lamoille County. Northern hardwoods predominate but conifers such as hemlock, red spruce and balsam fir are also common. There are some scattered white pines and paper birch trees near the southern end of the reservoir. Birches are favored by beavers and paper birch needs openings to regenerate, so is becoming scarce. **Tropical Storm Irene** knocked over a few trees around the reservoir, but was no more damaging than the smaller storms that have occurred in the past.

In addition to trees, there are many small plants and shrubs that occupy

shoreline areas, taking advantage of the abundant sunlight and water available there. Some of these are much less abundant or don't occur deeper into the forest. Are you one of those people who likes to follow the development of plants in the flower garden and beyond, especially after a long winter? I admit that I am and I extend this to the reservoir. It is the flowering plants that most grab our attention. Here are five of my favorite ones to observe while paddling near shore:

One of the first to flower, usually by early June, is **bunchberry**, *Cornus canadensis*. It is also called bunch-

A patch of bunchberries in bloom.



berry dogwood, as it is actually a low shrub related to dogwood. Its individual flowers look much like those on flowering dogwood. It is common throughout the forest but is often thick enough to form a ground cover in spots near the water.

The next flowers likely to capture

(Continued on page 6)

Loon Update *Photographs and Text by Ron Kelley*

Loon nesting was delayed by high water in many places throughout the state this year, including Green River Reservoir. The southern pair of loons nested on the tiny island near the dam the first week in June. This is the same island that was used in 2010, except that this time the nest was placed near the highest point on the island in response to high water. The pair's one chick hatched around June 27.

The northern pair chose the floating raft next to Loon Island this year, but nested about two weeks later than the southern pair and hatched two chicks about July 11. All three juveniles were observed through August and beyond.

Statewide, chick productivity was lower than in previous years according to Eric Hanson, averaging 0.61 chicks per territorial pair compared to the 30-year average of 0.71. So at 1.5 chicks per pair this year and 2.0 last year, our loons appear to be doing very well. The annual loon count recorded 9 adults on the reservoir this year compared to 6 in 2009 and 2006, 7 in 2008 and 5 or fewer in previous years.



Loon chick opens up for a treat from mom.

GRRSP 2011 Season Wrap-up and Facilities Update *by Susan Bulmer and Milford Cushman*

As part of an annual tradition, to share seasonal goals and expectations and introduce new employees, the entire Park Staff met with the FGRR Board at the beginning of the park operating season. The Green River Reservoir State Park staff was hard at it again this season. There were no major weather-related issues or damage due to the number of early season and late season storms and most of July and August brought spectacular weather with the fall being busier than ever on the weekends.

Red Worm Composting Toilets

During the summer months, staff built six new composting toilets to complete the change over from the old pit toilets. There are now 28 red worm composting toilets *servicing all campsites.*

These composting toilets get recharged each spring with red worms that do the job of breaking down solid human waste (and solid dog waste when placed into the

toilet) into soil-like compost. Each toilet has two sides so the seat can be moved to allow the piles of waste to have ample time to compost. For the composters to work correctly, staff purchased about 40 pounds of red worms from a local vendor to assist in the composting process.

Clivus Multrum Trail Head Composting Toilets

Last year we reported that Kelley Osgood of the Cushman Design Group designed the award winning privy that will sit upon Clivus Multrum's Trail Head Composter. There are two of these units proposed for the GRRSP where they will be located near the lower and ADA parking areas. Funding for this project has been approved by the VT Legislature.

A prototype of the privy has been constructed by Tell Gregory, a local contractor, and is installed at the Kettle Pond State Park in Marshfield, VT. We're keeping our

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cont. Zach Woods Pond and Stewardship Position

(Continued from page 1)

Intern position for the next three summers. In reviewing our annual income in memberships and donations, the Board has decided that we can take on that commitment. Vermont Depart-

ment of Forests, Parks, and Recreation will hire and supervise the staff person. The FGRR will, in collaboration with the Department, develop an enhanced "job description/ list of expectations that focuses on stewardship". The

Friends are committed to funding the Stewardship position at 40 hours per week for the 14-week camping season (Memorial Day through Labor Day) an amount not to exceed \$6700 (adjusted for inflation) annually.

Overview of FGRR Membership - 2011 by Bill Bartlett

Early in 2010 the FGRR Board decided to make the effort to expand our membership from around 100 individuals and families to 150 members. While we have no interest in getting bigger for no reason, this goal was decided upon in recognition that with a larger membership base we would be able to better meet our mission of protecting Green River Reservoir State Park. As shown below, we have achieved this goal in 2011, thank you!

However, with the challenges that will come with the expansion of GRRSP (see article on Zack Woods Pond acquisition on the front page) we need your help in maintaining and growing this organization. About 15% of our membership in any one-year, elect not to renew, so a steady flow of new members is always needed. For that reason, please renew in 2012 when you get our renewal letter and consider recruiting a friend or two to join us via our website www.fgrrvt.org

Membership growth

2007	2008	2009	2010	2011
108	93	96	101	157

Membership profile

Vermont members – 87%

- From 45 towns mostly in northern and central VT
- Includes members from Dummerston, Chester, and Tunbridge (home of the World's Fair).

Out of state members – 13%

- Includes members in California, North Carolina and Virginia, and even a hardy member from Canada, eh!



The Staying Connected Initiative comes to Lamoille County by Neahga Leonard

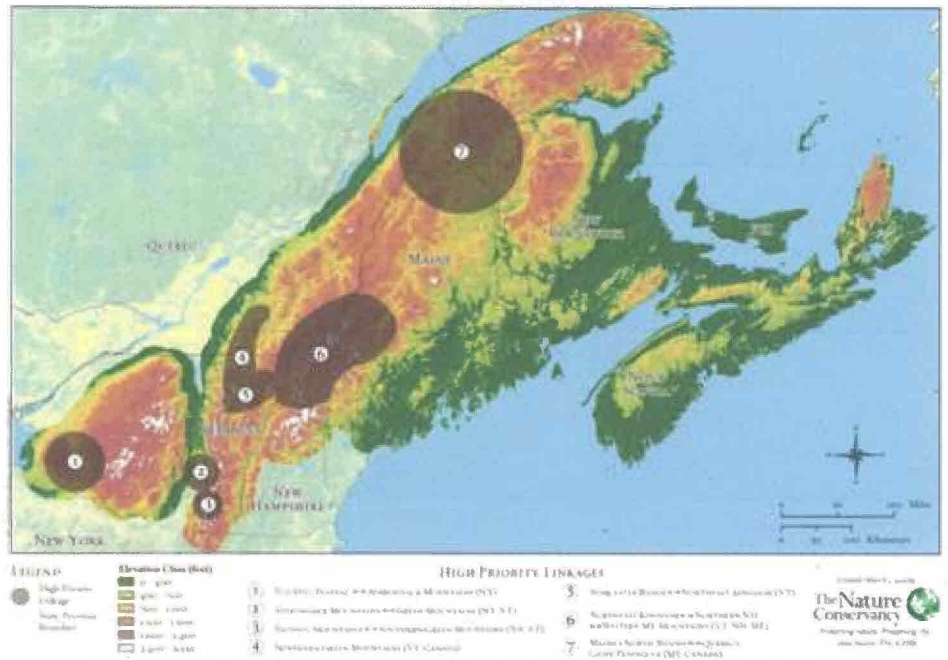
The Staying Connected Initiative is a coalition of agencies concerned with wildlife connectivity in New England. The aim is to maintain connectivity amongst the large core habitat blocks from Tug Hill west of the Adirondacks in upstate New York through Vermont, New Hampshire, and Maine, with links across the border into Canada.

Of seven priority linkage areas, five fall at least partially within Vermont, making it the keystone state in this linkage model. In Vermont, we operate via regionally placed Linkage Coordinators. The role of these coordinators is to work with local stakeholders; town planning commissions, land owners, businesses, outdoor activity groups, land trusts, and other non-profits to promote locally directed long-term land management planning that takes into account the needs of wildlife and humans.

We want to see people connecting with each other, their communities, and their landscape.

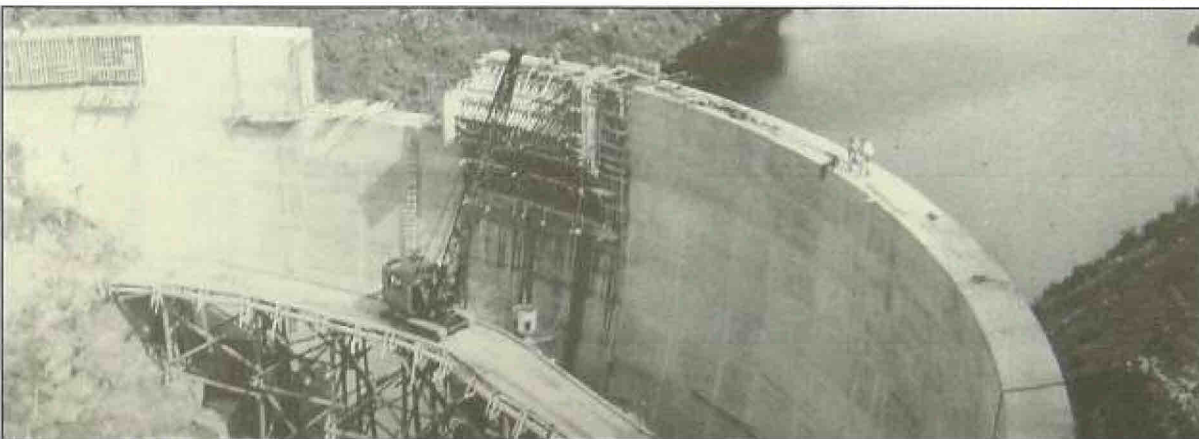
The coordinator works toward this goal by providing local support for people and organizations seeking more information on wildlife and land management issues. This support includes technical assistance for developing management plans to organizing presentations, hosting educational events, leading field-walks, and more.

STAYING CONNECTED IN THE NORTHERN APPALACHIANS
HIGH PRIORITY LINKAGE AREAS



For more information contact your local Linkage Coordinator:

The Linkage Coordinator for the Worcester – Northeast Kingdom region is Neahga Leonard. He may be contacted at Neahga.Leonard@gmail.com or via phone at: 802-595-1107.



Historical Perspective: This photograph was taken during the construction of the Green River Reservoir Dam.

cont. Shoreline Plants of the Reservoir

(Continued from page 2)



Nannyberry
flowers and
berries.

one's attention are on **nannyberry**, *Viburnum lentago*. It is also called sheepberry because crushed twigs are supposed to smell like sheep. It is a medium to large shrub that produces upright clusters of creamy white flowers in mid June that turn into red and then blue-black edible berries by fall. It prefers moist areas with ample sunshine so can be found in scattered shoreline locations. The berries are eaten by numerous birds, chipmunks and squirrels.

Probably the most obvious flowers to paddlers are those of the blue irises called **blue flag**, *Iris versicolor*, that grow along the edge of shore. These beautiful flowers appear in mid to late June and are unique in that fertilization can only occur with pollen from another flower, usually spread by bees.

My favorite flowering shrub is a small one called **sheep laurel**, *Kalmia angustifolia*, also called lambkill. It is so-named because it is very poisonous to sheep, although deer love it. Sheep laurel has beautiful pink flowers and is related to mountain laurel, a larger shrub with pink-white flowers that is often abundant in many

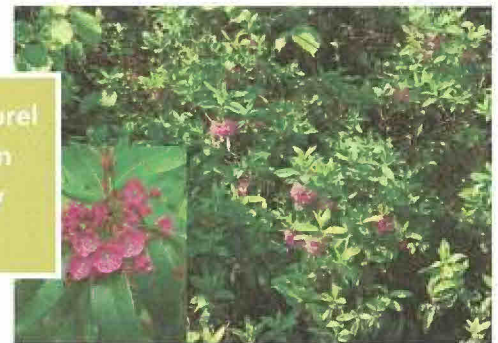


Blue
flag iris
flower.

forests of the eastern U.S., but occurs naturally in only a few warmer locations in Vermont. Sheep laurel can be found in abundance on Blueberry Island but only in a few other spots next to the water around the reservoir. When it blooms in mid to late June, it is worth a paddle around Blueberry Island to see it.

The most common shoreline shrub is **mountain holly**, *Ilex mucronata*, sometimes called catberry. The name mountain holly is sometimes used for the related winterberry. Mountain holly requires high moisture and can tolerate standing water, so is often seen with some of its stems in the water. Those around the reservoir are mostly 4-9 feet high.

Sheep laurel
flowers on
Blueberry
Island.



It produces small inconspicuous greenish-yellow flowers in late May, but comes into its glory when the berries on female plants turn bright red in late July-August and persist into October. The berries have long $\frac{3}{4}$ " stems and are toxic to humans. They are not as favored by wildlife as nannyberries, but are eaten by some birds. I observed a pair of cedar waxwings eating them in mid-August. Mountain holly drops its leaves in autumn and was once called false holly. It was considered not to be a true holly, but DNA testing has shown that it is. It and the other shrubs are most commonly seen along the west and south facing shores.



Mountain
holly shrub
and mature
fruit.

cont. GRRSP 2011 Season Wrap-up and Facilities Update

(Continued from page 3)

fingers crossed for the possibility of eliminating the Port-a-let toilets that have been the standard for ten years at the GRRSP.

Interpretive Signage at the Kiosk and along the ADA Trail

Former summer Ranger, current FGRR board member and current UVM Field Naturalist master's candidate, Danielle Owczarski, is a member of FGRR education committee which has taken on the task of proposing and designing educational and interpretive displays, signs and handouts for the Informational Kiosk and signage along the ADA trail.

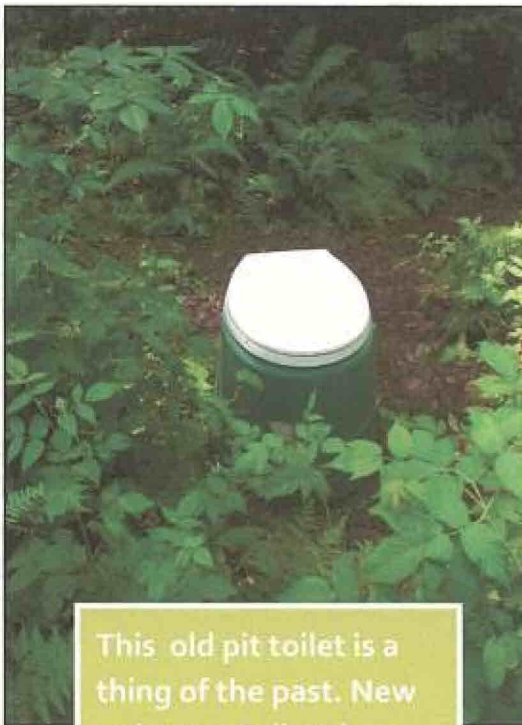
Along with Sally Laughlin and Emma Marvin, Danielle has presented the committee's ideas and concepts to Susan Bulmer, Parks Regional Manager for 2012 implementation.

Firewood at GRRSP

All visitors are discouraged from bringing their own firewood into the GRRSP. This issue is critical, as invasive species are making their way north and the threat to the forests in and around the GRRSP is significant. Visitors who bring their own firewood must

know that the firewood was harvested from forests within Elmore, Morrisville, Stowe, Johnson and Eden.

The State is contemplating offering locally, sustainably harvested firewood for sale at the Park for the 2012 operating season.



This old pit toilet is a thing of the past. New red worm toilets have replaced them all.

GRRSP User Stats Over the Years

Day use at the Park has been on the decline for a number of years, but overall, camping has increased. Below are the statistics from the past four years. Over the years, the attendance figures have shown that over 80% of the Park's campers and day users were from Vermont. This year, 80% of the campers and 90% of the day users were from Vermont.

As has been done for many years now, the FGRR Board and Susan Bulmer, Northeast Parks Regional Manager, met to review the highlights of the 2011 operating season and to compare notes and talk about the future. This is a valuable opportunity for FGRR and the State of VT to be able to communicate directly with each other about mutual items of interest and to

plan for any new programs and/or projects for the park.

Thank you for a great year!

Year	Campers	Day Use	Total Users	Total Revenue
2008	5906	6496	12,402	Not available
2009	5975	5993	11,968	\$33,400
2010*	6701	3946	10,647	\$52,500
2011	7161	3273	10,434	\$54,193

*On July 1, 2010, day use fees began to be collected at the park.



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in the search box of your Facebook page.

Friends of Green River Reservoir Merchandise



Item:	Price:	Quantity:	Total:
Nature Field Guide	\$6	_____	_____
T-Shirt (list quantity for each size) Small___ Medium___ Large___ XL___ XXL___	\$25	_____	_____
Hat (one size fits all - adjustable)	\$25	_____	_____
Medium Tote (11" x 5" x 12")	\$25	_____	_____
Large Tote (14" x 7" x 14")	\$30	_____	_____

Please make check to and mail order to:
Friends of Green River Reservoir, Inc.
 P.O. Box 359
 Hyde Park, VT 05655



Total: _____



Friends of Green River Reservoir, Inc.

PO Box 359, Hyde Park, VT 05655 FGRRVT.org Email: fgrr@pshift.com

Board of Directors: Sally Laughlin, President (644-5651); Milford Cushman, Vice President (888-3362); Bill Bartlett, Secretary (888-5591); Michael Wickenden, Treasurer (888-3365); Terri Gregory (888-3362); Ron Kelley (888-7466); Emma Marvin (888-9339); Danielle Owczarski (413-652-4946).

Birds and Science at GRRSP

Text by Sally Laughlin and Photographs by Jim Deshler

SPRING 2012
NEWSLETTER

Cut by deep gullies and ridges, a rugged wooded section of Green River Reservoir State Park provides the site for an annual Forest Bird Monitoring Program (FBMP) survey. At the suggestion of the Friends of Green River, when establishing the long term management plan for GRRSP, the Vermont Department of Forests, Parks and Recreation set aside a 100-acre forested section above the reservoir as a permanent nature refuge. Here the forest would remain in its natural state, with the exception of necessary trail or camping site maintenance, for a long term study of neotropical migrant and resident bird populations.



A Hermit Thrush singing from a red maple tree.

Coordinated by the Vermont Center for Ecostudies, the FBMP is a statistically powerful monitoring program that provides habitat-specific information about breeding bird populations in unmanaged, interior forests. Started in 1989 and based on an Ontario program, the FBMP has 30 study sites that are monitored annually in Vermont, providing information to help guide natural resource planning for the conservation of biodiversity. Each

Story Headlines:

Birds and Science at GRRSP	1
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Zach Woods Pond Update	4
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Friends of Green River Reservoir Merchandise	7



Pink Lady's Slipper
(*Cypripedium acaule*)

(Continued on page 5)

The FGRR Annual Membership Meeting, Tour, Potluck, and Talk!
All members please join us on Thursday, July 19, for the Annual Meeting
At Butternut Mountain Farms, 37 Industrial Park Drive, Morrisville, VT
5:30 - Tour of the Butternut Mountain Farms facility by Emma Marvin
6:00 - Potluck supper--bring a dish to share and your own plate & utensils
7:00 - Talk on Zack Woods Pond preservation plans by Kate Wanner of Trust for Public Lands
8:00 - FGRR Annual Meeting--update on the past year, election of board members, and other business

Vermont State Parks Firewood Policy *Text and Photos by Ron Kelley*

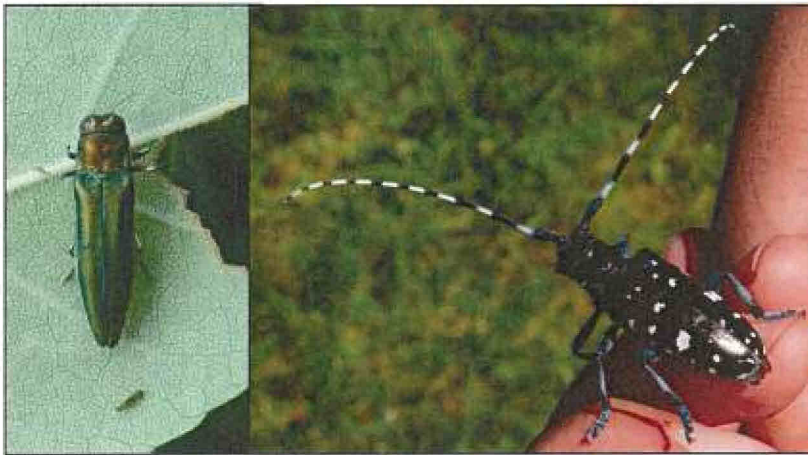
For Vermont State Parks, firewood will not be allowed into any campground if it originated from an area more than 50 miles away. Visitors who arrive at a state park with firewood from outside the 50-mile radius will be asked to exchange their firewood for an equal amount of park firewood. As with national forest campgrounds, campers are allowed to bring locally purchased and kiln-dried packaged firewood to the park.

This policy was established because of the ongoing threat of invasive insects and diseases that are known to "hitchhike" on firewood, moving pests from infested areas to un-infested areas. In most cases, the person moving the wood has no idea that the firewood is infested because the insects or pathogens are hidden under the bark or deep in the wood. During the summer months (coincidentally, this happens to be the camping and traveling season), the adult stage of wood-boring insects and the spore-producing stage of tree diseases emerge to

infest or infect nearby host trees. In as little as two years, trees can start to die in large numbers.

The largest current threats to Vermont's forest are two insects- the **emerald ash borer** and the **Asian longhorned beetle**. The emerald ash borer is known to be

present in New York and nearby Quebec and it kills ash trees. Already, 50 million ash trees in North America have died due to this insect. The closest known infestation of the Asian longhorned beetle is in Worcester, MA, where eradication efforts are being continued. It attacks sugar maple and



Emerald ash borer shown on the backside of a leaf (right) and Asian longhorned beetle (left).

many other hardwood species.

More information, including the policy of the Green Mountain National Forest and other states, can be found at <http://www.firewood.vt.gov>.

Green River Reservoir Water Quality Update *by Bill Bartlett*

The water quality of Green River Reservoir has been monitored for many years now under the Lay Monitoring Program overseen by the Vermont Department of Environmental Conservation (DEC). In the early days of GRRSP, this monitoring was done by a small, but dedicated group of FGRR members. For many years now this task has been assumed by the

GRRSP staff, who collect the samples on a bi-weekly basis.

The collected samples and data are submitted to DEC where it is analyzed and tabulated. This data is used to evaluate long term trends and inform Vermont's water quality management efforts. Both chlorophyll A and water clarity are measured to assess phos-

phorus and water quality. The long-term nutrient enrichment trends for Green River Reservoir are stable and statistically show no variation, which is a pattern DEC likes to see.

The Reservoir received a "Fair" rating for atmospheric pollution like virtually all Vermont lakes due

(Continued on page 5)



The Nature of Spring *by Ron Kelley*

As I write this article, I look forward to the sights and sounds of spring and the rejuvenation of life that represents. To me, the very first sound of spring is that of spring peepers. The **northern spring peeper**, sometimes called the small chorus frog, hibernates during winter under logs and loose bark of trees where it can tolerate freezing of some its body fluids. It migrates to water in early spring. My former Lamoille County residence had a small pond nearby and for many years, I recorded the date on which I first heard their wonderful chorus. The earliest I ever heard them was on April 3 and the latest was April 24. The median and most frequent date was April 13. More than once, I tried to stealthily approach the pond to get a closer look but as soon as I arrived close enough to see the edge of the pond, they would stop calling. Males are the risk takers here, as they do the calling to attract females. Their silence on one's approach is a survival mechanism, having evolved with predators that equate their calls with dinner bells.



make an annual migration to water in spring. Vernal pools and other semi-permanent water is preferred, as it does not contain fish or other predators. Their aquatic stage has to mature before the water dries up in summer. The **wood frog** becomes active even earlier than the spring peeper. It



often starts its mating calls in late March to early April before the snow is all gone, making a duck-like quacking call. Its most distinctive feature is the dark

mask that begins at the nose and extends through the eye. This feature has led to the nickname "robber frog." It is common throughout Vermont but also is found further north than any other North American amphibian, even surviving in the tundra. It hibernates close to the surface in soil or leaf litter during winter and can tolerate freezing of its blood and other tissues. The female deposits her eggs on vegetation in water but then abandons them and returns to nearby moist woodlands.

The **red eft** is the most commonly seen salamander around the reservoir and elsewhere. Its brightly colored skin is a

(Continued on page 6)

Other amphibians such as salamanders and wood frogs also

2012 FGRR Park Steward: Alexis Drane *by Emma Marvin*

We are pleased to welcome Alex Drane as the 2012 Green River Reservoir Park Steward. Alexis comes to us with experience working as a ski instructor, a rafting guide, an organic farm land manager, and more recently as an environmental educator. Her breadth of outdoor experiences, knowledge of "Leave No Trace" practices, and experience developing nature programming make her well suited for serving as the 2012 Park Steward.

Established in the spring of 2011 the Green River Reservoir Park Steward's purpose is to encourage and educate visitors and minimize their impacts at the Reservoir, as well as provide them with information about the natural and cultural history of the Park. The position is managed by the Vermont Department of Forests, Parks and Recreation and funded by the Friends of Green River Reservoir.

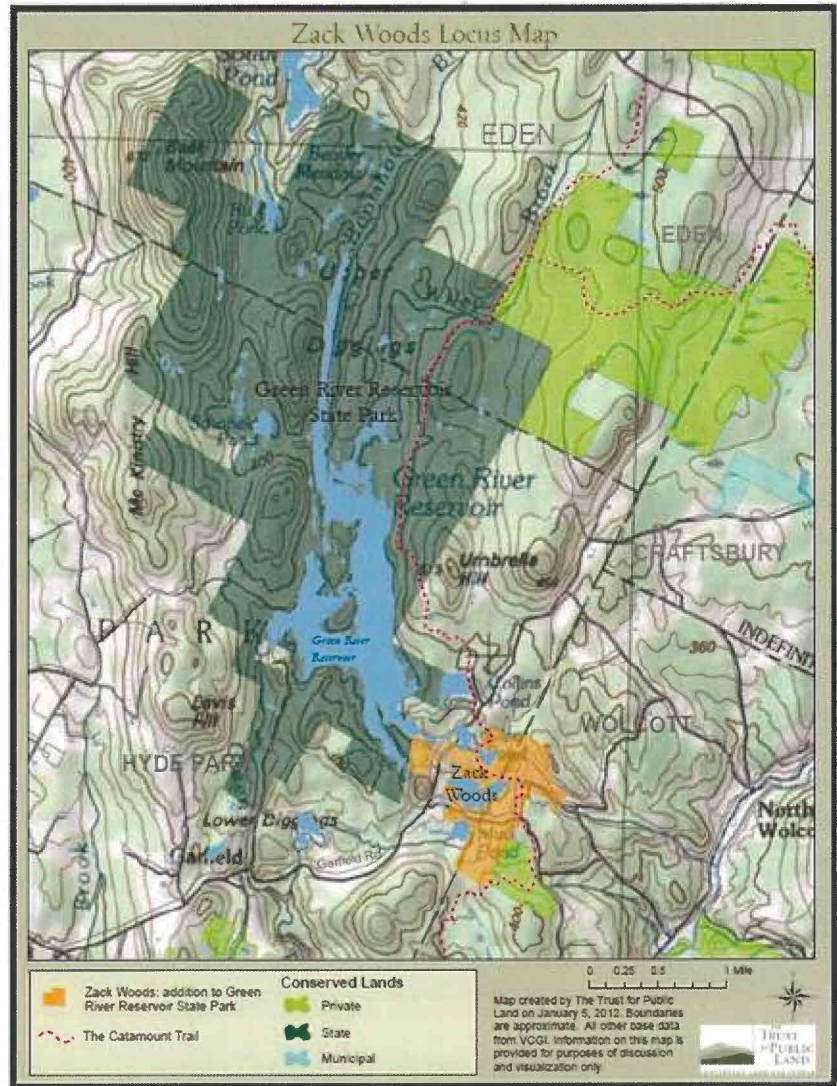
For 2012, the program has been expanded to a full forty hours per week for the fourteen week camping season. FGRR has agreed to provide funding to the State for the position through 2014.



Zach Woods Pond Update by Bill Bartlett

The Trust for Public Land now owns the 28-acre parcel north of Garfield Road adjacent to the Reservoir and hopes to transfer that ownership to the State of Vermont this spring. There are three landowners involved, all of whom are willing sellers, with the remaining 365 acres. For those lands, some due diligence-type issues remain to be resolved. It is expected that the remaining lands which surround Zack Woods Pond and a nearby wetland complex will be purchased and added to Green River Reservoir State Park sometime in 2012. The best news is that all the funding to make these purchases has been secured. We'll provide a further update in our fall Newsletter.

Until the Department of Forests, Parks and Recreation can conduct a public discussion about the future management of this area with current users, (perhaps beginning as early as this fall), no significant changes in management are expected. The land will be open to the public for hiking, fishing, boating, picnicking, skiing, snowmobiling, and limited camping as described on the kiosk on Zack Woods Road between Zack Woods Pond and Mud Pond. If you want to participate in those public discussions when they occur provide us with your name and contact information to FGRR@pshift.com.



Conserved Lands map showing the 28-acre Zack Woods parcel now owned by the Trust for Public Lands. Kate Wanner will be sharing the story of the Zack Woods acquisition at the Annual Meeting on July 19th at Butternut Mountain Farms in Morrisville, Vermont.

A Changing of the Guards by Danielle Owczarski

Green River Reservoir State Park says farewell to Park Ranger Jason Kelly who is moving on to work in the private sector in weatherization and energy efficiency. Jason started working as the head ranger at GRRSP in 2002 and had worked as a dock master and attendant for the Depart-

ment of Forests, Parks, and Recreation four years prior. He loved being at the reservoir, working with his staff, and helping out park visitors. Most of all he enjoyed being in the outdoors, paddling and swimming, working on park projects, and photographing the park flora and wildlife.

We wish Jason the best of luck in his new endeavors. The new head ranger is Charlotte Williams, who previously worked as the assistant ranger at GRRSP. Lucas Griggs is the new assistant ranger. Welcome back Charlotte and Lucas!



cont. Green River Reservoir Water Quality Update

(Continued from page 2)

to the impacts of air pollution, particularly from coal power plants from the mid-west. However, Green River Reservoir is considered to be in “good shape” with stable water quality trends and no known invasive species. If you’d like to learn more about the water quality in Green River Reservoir, or other Vermont lakes and ponds please visit

www.vtwaterquality.org/lakes/docs/lp_lakescorecard.pdf.



cont. Birds and Science at GRRSP

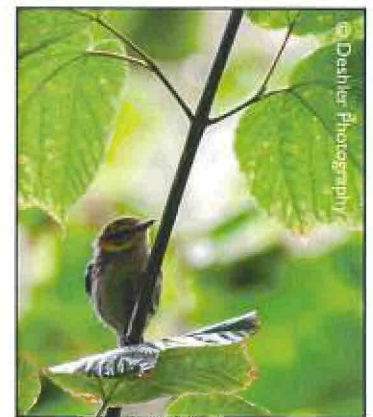
(Birds and Science Continued from page 1)

study site consists of a series of five sampling points spaced approximately 200 meters apart. During the height of breeding activities in June, each site is visited twice by a volunteer or a staff biologist skilled in visual and aural bird identification. At each survey point all the birds seen and heard are recorded. As one of the only projects in the Northeast that collects habitat-specific data across a broad range of forest types, the FBMP provides critical baseline data with which to monitor future population changes. See the VCE website (vtecostudies.org/FBMP) or contact Steve Faccio (sfaccio@vtecostudies.org) for more information on this important work.

Our GRRSP FBMP survey began in 2004, and now has collected data for 7 years (missing only 2010). The site is remote and difficult to access, so FGRR Board members have taken responsibility for knowing the terrain and guiding the birder across beaver dams and over ledges to the five permanent sampling points. Many thanks to Bill Bartlett, Mike Wickenden, Terri Gregory, Danielle Owczarski, and Emma Marvin for this invaluable contribution to the work – without which the expert birder would probably never have made it to the count points much less back to civilization! The birder/surveyors have been Sally Laughlin (2004, '05, & '06), Heidi Rich (2007, '08, & '10), and last year (and hopefully for the foreseeable future) Liz Lackey. Liz says:

“Thank heavens for my guides! No one would have been able to describe how to find the study sites. I have never seen so many deer flies! I don't like using bug dope, but this nearly made me change my mind. How do the moose stand it? I

get to leave at the end of the sample period! Luckily I enjoy scrambling up and down ledges, and thankfully I don't have a lot to carry. The woods are amazing, and there is so much bird song. The most numerous species last year were Winter Wrens, Black throated Green Warblers, and Hermit Thrush. I felt surrounded. It was great to hear them sing with an American Bittern calling in the background. All over is moose sign and sounds – I haven't bumped into one yet but certainly hear them sloshing thru the swamps.”



A Black-throated Green Warbler

Over the seven years of the survey, 39 species have been located at the point count sites. The most commonly detected birds have been: Yellow-bellied Sapsucker, Red-eyed Vireo, Veery, Hermit Thrush, Wood Thrush, Black-throated Blue Warbler, Black-throated Green Warbler, and Ovenbird.

Many thanks to Vermont Department of Forests, Parks and Recreation for setting aside this survey area and to Vermont Center for Ecostudies for their conservation work including this important project; and a special thanks to our expert birders for their key role and to FGRR board members for getting the birders to the sites!

Visit the FGRR website for the FBMP 2007-2011 data.

cont. The Nature of Spring

(Continued from page 3)

warning to predators, as it contains a potent nerve poison called tetrodotoxin. The red eft has a reverse life history compared to the other salamanders. It spends its juvenile form on land and adult form in the water. The red eft is the juvenile form of the **eastern** (also called the **red-spotted**) **newt** and spends its time, often for up to eight



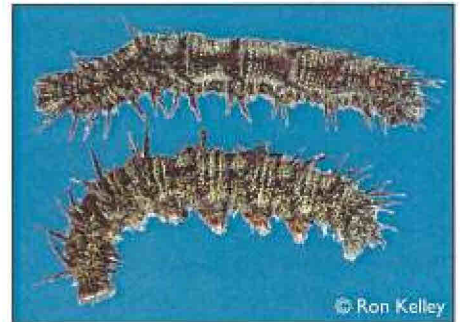
years, in a moist woods environment, returning to water as an olive green adult. The adult, unlike

other salamanders, can occupy permanent water bodies containing fish. Jim Andrews, a herpetologist at Middlebury College, maintains the Vermont reptile and amphibian atlas that relies on reports from the public to show species distributions of this and other amphibians by town. The atlas can be found online at http://community.middlebury.edu/~herpatlas/the_atlas.tm.

As for insects, most of them in our area spend the winter in some life-stage other than as adults. Some that do spend it as adults, such as the monarch butterfly, are smart enough to migrate to warmer regions for the winter. Some moths and butterflies overwinter as larvae or pupae, either in the soil or leaf litter or on or within plants. Others may overwinter as eggs on their favorite host plants, with egg hatch nicely timed to the emergence of the foliage on which the larvae feed. One exception to this is the **mourning cloak butterfly**, which overwinters as an adult and is usually the first butterfly to emerge in the spring. It can sometimes



be seen flying about the same time that the spring peeper is calling. The mourning cloak is widely distributed throughout North America and beyond and is the state insect of Montana. This butterfly is so-named because the wings resemble traditional dark colored cloaks worn when one is in mourning. This dark color, combined with the insect's basking behavior on sunny days, allows it to raise its temperature well above the air temperature. The wings act as solar collectors warming the hemolymph (blood) in the wing veins and returning the warmed fluid to the body until the butterfly reaches a temperature suitable for flight. The larvae feed on poplar, willow and elm and are sometimes numerous enough to be pests known as the **spiny elm caterpillar**. Looking at these kind of reminds one of the ugly duckling turning into the beautiful swan!



As long as we are on the subject of spring and especially after this extremely mild winter and summer temperatures in March, you may be asking the question "is spring coming earlier these days?" The answer to that is a definite YES. One answer can be found in the maple sugaring data kept by UVM's Proctor Maple Research Center (PMRC). According to PMRC's Dr. Tim Perkins, sugaring season is beginning 8 days earlier and ending 11 days earlier than it did 40 years ago. Sandy Wilmot, a Forest Health Specialist and Climate Change Coordinator with the VT Dept. of Forests, Parks & Recreation now has 20 years of data on budbreak of sugar maple in Underhill. This data shows that sugar maple budbreak is 3 days earlier and leaf-out is 8 days earlier this decade than last. And Dr. Alan Betts, Vermont's leading atmospheric researcher, reports that over the past 50 years, first leaves have appeared on Vermont lilacs almost 3 days earlier per decade. The frozen period for small lakes and ponds has decreased by about 7 days per decade. Looking on the bright side, this means that on average, we can probably start paddling a little sooner each year!



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Friends of Green River Reservoir Merchandise



Item:	Price:	Quantity:	Total:
Nature Field Guide	\$6	_____	_____
T-Shirt (list quantity for each size) Small___ Medium___ Large___ XL___ XXL___	\$25	_____	_____
Hat (one size fits all - adjustable)	\$25	_____	_____
Medium Tote (11" x 5" x 12")	\$25	_____	_____
Large Tote (14" x 7" x 14")	\$30	_____	_____

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Friends of Green River Reservoir, Inc.

PO Box 359, Hyde Park, VT 05655 FGRRVT.org E-mail: webmaster@fgrrvt.org

Board of Directors: Sally Laughlin, President (644-5651); Milford Cushman, Vice President (888-3362); Bill Bartlett, Secretary (888-5591); Michael Wickenden, Treasurer (888-3365); Terri Gregory (888-3362); Ron Kelley (888-7466); Emma Marvin (888-9339); Eric Nuse (730-8111); and Danielle Owczarski (413-652-4946).

Why Leaves Change Color

Text and Photos by Ron Kelley



Fall foliage season in Vermont is a great spectacle of nature, even if it is only a fleeting pleasure. There are numerous legends that explain this phenomenon, from Jack Frost pinching the leaves with icy fingers, to the Native American legend of a great bear killed by celestial hunters. The bear's blood changed leaves to red, while the splattered fat of the cooked meat turned leaves yellow.

The simple explanation is that leaves contain pigments such as carotenoids that impart an orange or yellow color and anthocyanins that impart a red color. During the growing season, the green chlorophyll in leaves absorbs energy from the sun to produce food in the form of sugars and starch by the process called photosynthesis. The green

(Continued on page 5)

Take Notice of Our New Email

In addition to our new email: webmaster@fgrrvt.org, we are also in the works of updating our website. Please be sure to contact us with any questions or comments about changes to the FGRR website.



FALL 2012 NEWSLETTER

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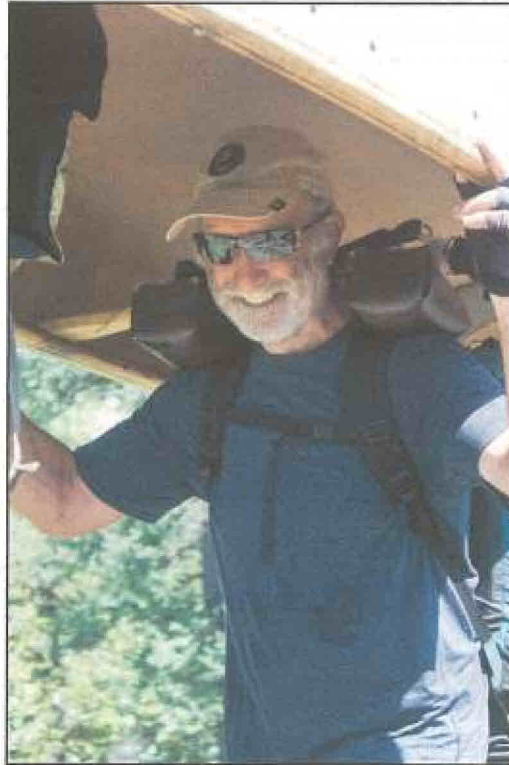
FGRR Merchandise

Give a gift that gives on multiple levels. Not only do those who receive FGRR hats, bags, guides and shirts get a great gift, the proceeds support the park.



FGRR Board News: New Board Member Welcome

We'd like to extend a humble welcome to local Hyde Park native, Eric Nuse, as a new board member to the Friends of Green River Reservoir Board of Directors. Eric comes to us with a 32-year background in the Fish and Wildlife field. As some of you may know, during this time Eric has served as Game Warden for Vermont Fish and Wildlife in Lamoille County, Hunting Education Coordinator, and outdoor educator. He is the former Executive Director with the International Hunter Education Association and Orion – The Hunters' Institute, and is currently a member of the Johnson Conservation Commission, the steering committee for the Vermont Wildlife Partnership, and the Lamoille



Valley Fish and Game Club. He holds a Bachelor of Science in Wildlife Management from the University of Maine, and is now the Principal of Eric Nuse and Associates, a consulting firm specializing in hunter education and hunting related shooting incidents. When he's not working to keep the outdoor scene safe or volunteering, he enjoys canoeing, fishing, hunting, camping, wildlife viewing, and reading. We are excited about the addition of Eric's experience and expertise and the benefits they will extend to the board. He has published tales about his work as a Game Warden in *Vermont Wild*, so look for his stories in upcoming newsletters about the wilds of our favorite place, GRRSP.

GRRSP Fall Facilities Update *Text and Photos by Milford Cushman*

The 2012 summer season boasted beautiful sunny and warm days and weeks on end with little rain fall. Consequently, the GRRSP experienced more day visitors and campsite reservations than any previous season. While this created wonderful experiences for visitors, the natural resources of the park were put under unusual stress. The ranger staff correspondingly took on the challenges and opportunities of the integrated dual roles of management and education.

When the GRR became the GRRSP, one of the goals was to create a management tool that offered a

method to control the number of visitors at any one time. Ultimately, the size of the parking lots - meaning the number of Town of Hyde Park permitted parking spaces - became this tool. This summer, as in past seasons when the GRRSP's parking spaces were full to capacity, the park staff would not allow new visitors to enter until exiting visitors had left an open parking space.

Due to the fine weather this past summer, there were many days when the parking lot was full. This also meant the waters of the GRR, the day use sites, the overnight campsites, and the overflow

campsites were full a greater percentage of the season. This generated much needed revenue for Park operations, and it tested the resiliency of the Park itself. Students from Sterling College are performing a site by site impact study and analysis. This study will provide the DFP&R valuable information as to how to protect each accessible site from proliferating in size and increased degradation.



Photograph by Ron Kelley

(Continued on page 4)

A Reflection by Our Park Steward *by Alexis Drane*

The leaves have lost their lustrous red and orange hues, the trees bare their naked limbs. As swiftly as summer came, fall arrived, and now I patiently await winter's white blanket. I am not the only one anticipating the change, all the squirrels have been busy taking the fallen nuts from my yard, and the amount of mice my cat gifts me every morning has increased as they try to fatten up for the winter. The seasons change so swiftly, and now, as in all shoulder seasons, I reflect.

I entered the park this summer with high hopes of meeting enthusiastic visitors and paddling the reservoir on the cool misty summer mornings and bright blue days. My ambitions and hopes were not merely met, but exceeded. I did indeed meet enthusiastic campers and loon watchers. I did paddle the reservoir on those foggy mornings and blue-bird days. I swam, paddled, talked, laughed, raked the Clivus composting toilet mounds, and helped numerous people out of ditches on crazy Saturdays. All of these actions were instrumental in my summer, but the most important thing I experienced was constant humbling by our park visitors. They not only embraced the "Leave No Trace" practices, but they often exceeded them as they educated their peers, and cleaned up after other visitors. They bragged about the park as if it was the most amazing place on earth, which we all know is true, and they taught me more than I could ever teach them. Did you know that Zach Woods

has medicinal reishi mushrooms growing next to the kiosk, or that loons are on the water hours after being born? I had no idea! These are just a few of the things I learned, with many more to come, but none of this would have been possible without you, the park visitors.

All of those involved in keeping the reservoir a sanctuary for people to visit have experienced the beauty of the reservoir. It is a spectacular place. Because of that devotion, many of you wait until those bitter cold fall days to experience it for yourselves. The vibrantly colored leaves and empty parking lots are a nice bonus too. So what happened this summer? Well, we have two brand new Clivus composting toilets, the road and ADA trail were re-graveled, there is a new boat rack, we began using the second pit on our composting platforms at the sites, and there are plans being explored for a mobile educational table. The loons had babies and all survived, we had a large 14lb pike caught by the campers, and the beaver population is alive and well, being the hydro-engineers of the reservoir. All of this and we had the addition of Zach Woods.

As you can see, things were moving quickly at the park, and as I await for the snowfall, I am also awaiting next summer when I am back on the reservoir paddling the hidden coves and greeting you all. Happy Winter friends!

2012 Loon Update *Text and Photos Ron Kelley*

Nesting was earlier than usual this year. With the early spring warmth, the ice was out and loons had returned by April 7th.

	Northern Pair	Southern Pair
Nesting Date	Early June	May 19th
Hatched Chicks	1, with second egg abandoned	2
Hatch Date	July 3rd	June 16

A third pair of loons attempted to nest in Merganser Bay in early July but didn't follow through with it, which is often the case with newly-weds the first year.

The southern immature loons were last observed in mid-August swimming around on their own near their nesting island in the main southwest cove. What happened to them remains a mystery. A bald eagle was seen in their cove in August, but by

then the chicks were too big to be easy prey. It is more likely that they were targeted by the new territorial pair. A nest bowl with one unhatched egg was reportedly seen in the far southwest cove. Possibly the new pair of adults moved there, putting them closer to the territory of the two southern immatures. The northern immature was frequently observed into October, but in this

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cont. **GRRSP Facilities Update**

Red Worm Moldering Campsite Toilets

One year ago we reported that the Park Rangers had constructed the final 6 moldering toilets so that each of the standard campsite locations would be served by one of these very successful and beneficial toilet facilities. All of the campsite composting toilets are recharged each spring with red worms that do the job of breaking down solid human waste (and solid dog waste when placed into the toilet) into earth like compost. Each toilet has two sides so the seat can be moved to allow the piles of waste a chance to compost. Charlotte Williams, the summer 2012 Park Ranger, reports that some of the toilets, notable at the group sites, will require the use of additional wood shavings to keep the piles aerated and compostable by the red worms. Future seasons will see an increased educational effort by the staff to inform visitors the proper use of the toilets.

Trail Head Composting Clivus Multrum Toilets and Award Winning Privies

After nearly seven years of planning, the chemically charged, bright green, trail head Portalet toilets are history. In their place are two Clivus Multrum trailhead composting units with Kelley Osgood's award winning privy enclosures located near the lower and ADA parking areas. Funding for this project was approved by the VT Legisla-



ture over a year ago. John Medose, Region IV Maintenance Supervisor of Vermont State Parks and Milford Cushman and Kelley Osgood, both of the Cushman Design Group, shared the construction administration roles. Late this summer the two toilets, one complying with ADA standards, went on line. The Park staff reported positive comments from users of all ages. These toilets too, require the education of users and herein are

another great opportunity for the Park staff to interact with visitors.

Interpretive Signage At The Kiosk and Along The ADA Trail

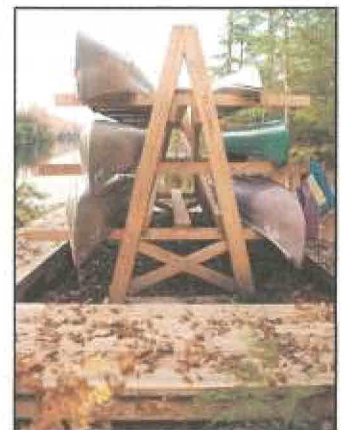
As we reported a year ago, former summer Ranger, current FGRR board member, and Field Naturalist, Danielle Owczarski is chairing the FGRR education committee, which has taken on the task of proposing and designing educational and interpretive displays, signs, and handouts for the Informational Kiosk and signage along the ADA trail. Along with Sally Laughlin and Emma Marvin, Danielle has presented ideas and concepts to Susan Bulmer, Parks Regional Manager for 2013 implementation.

Firewood at GRRSP

All visitors are discouraged from bringing their own firewood into the GRRSP. The issue is imperative as invasive species are making their way north and the threat to the forests in and around the GRRSP is significant. Visitors who bring their own firewood must know that the firewood was harvested from forests within Elmore, Morrisville, Stowe, Johnson, and Eden. The State is contemplating offering local sustainably harvested firewood for sale at the Park for the 2013 operating season. To house and protect the wood, a wood shed, to be located near the contact station, is being considered.

Canoe and Kayak Rack

Near the conclusion of this season, a new canoe and kayak rack was constructed at the foot of the ADA water accessible trail. For years the staff boats were haphazardly arranged on a temporary rack located close to the water's edge, not far from the placement of the new rack. The



cont. 2012 Loon Update

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case, an adult was always seen not far away. At any rate, we may see three nesting pairs on the reservoir next year. **Update:** Good news. All three immature loons were seen on the

reservoir October 26th. The two southern loons were far up north near the mouth of Wiley Brook. It is likely that they moved there to escape the new territorial pair.

Photo: Loon with newborn chicks.



cont. Why Leaves Change Color

(Continued from page 1)



coloring masks the other pigments. In autumn, partly due to changes in photoperiod and temperature, leaves stop their food-making process. The chlorophyll breaks down, the green color disappears, and the other colors become visible. Trees with an abundance of carotenoids, such as quaking aspen, elm, and birch, turn yellow, while maples with a mix of anthocyanins and carotenoids, turn yellow, orange, or red. Red maples have the greatest tendency to produce red leaves.

Fall colors vary from year to year due to weather conditions. The most vivid colors appear after a warm dry summer and early autumn rains that prevent leaf fall. Dry weather favors anthocyanin formation, which explains the abundance of reds this fall. In contrast, the extremely wet 2011 produced mostly drab color with few reds, at least here in Lamoille County. Warm

sunny days in early autumn, followed by cool nights with temperatures below 45 degrees Fahrenheit (freezing not needed), also tend to promote vivid red colors. The cool nights prevent movement of sugars from the leaves, allowing anthocyanin to form in the trapped sugars.

Leaves on stressed trees tend to turn color prematurely. This was evident this year for some trees growing on dry sites that didn't receive quite enough rainfall. Our best fall color tends to occur over a few days, during which viewing weather isn't always the best. This year, colors around the reservoir were spectacular between September 29 and October 3 but weather was mostly cloudy and rainy. It cleared briefly on October 2, allowing for gorgeous views while paddling early that morning. I was able to capture some of this with my camera. Warmer, sunnier weather three days later brought more paddlers out, but by then many leaves had dropped.



Picnic Cove Reflections.

Lay Monitoring Data and Lake Score Card

If you remember from the 2012 Spring Newsletter, we reported on the water quality of Green River Reservoir and made reference to a “scorecard” you could access to view water quality information. These are now available on the Water Quality Division’s new Vermont Lake Score Card website at <http://www.anr.state.vt.us/dec/waterq/lakes.htm>.

If you’d like to see the Lake Score Card for any lake, follow the link above and click on “Lake Score Card.” This will zoom you to all the lakes in Vermont via Google Earth. By clicking a lake, you can bring up the scorecard. On the left side of the Lake Score Card are clickable folders, such as the “Lay Monitoring Data” folder. In addition, you can click on the list of plants that are known to be growing in a particular lake, or even the listing of fish species present.

A special thanks to Amy Picotte of the Lakes and Ponds Section of the Water Quality Division for her assistance with this report.



cont. GRRSP Facilities Update

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DFP&R’s goal was to remove the boats from the conspicuous waterfront location and organize them tucked into the trees and vegetation 50 feet away from the water line. Constructed mostly of locally harvested tamarack and hemlock, the rack sits on two small footprint feet. There is a board walk that surrounds the rack so human foot traffic does not compact the wetland plants nor prevent the movement of wetland species within the overall footprint of the rack. John Medose and Milford oversaw the details of construction. Within a year the newly cut wood will have begun to weather in and will camouflage the rack.

Contact Station Update

Sharlotte Williams was the assistant summer ranger who helped to initiate the contact station when it was a new facility. Being that 2012 was her first season as the head summer ranger, we thought we’d check in with her and ask how the building was holding up and how the PV (photovoltaic) system was working. She responded with her generous smile and proverbial thumbs up, saying that “we still get complements on it” and that because of the

sunny summer, they had “plenty of power” for most of the season and ran the generator “a handful more times into the fall.” This year, one of the staff kept an aquarium with various aquatic plants and critters on the outdoor shelf under the porch roof for visitors to observe and learn about. Next season this display may be offered again. It is a common summer sight to see staff, sometimes with musical instruments, enjoying the twilight from under the welcoming porch roof.



Quiet moments by the floating dock at the end of the ADA compliant boardwalk.

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Friends of Green River Reservoir Merchandise



Detail of canvas Tote bag



Detail of Hat front



Detail of Hat back



Detail of T-Shirt chest

Item:	Price:	Quantity:	Total:
Nature Field Guide	\$6	_____	_____
T-Shirt (list quantity for each size) Small___ Medium___ Large___ XL___ XXL___	\$25	_____	_____
Hat (one size fits all - adjustable)	\$25	_____	_____
Medium Tote (11" x 5" x 12")	\$25	_____	_____
Large Tote (14" x 7" x 14")	\$30	_____	_____

Please make check to and mail order to:
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Total: _____