



# Friends of Green River Reservoir

Spring 2019  
Newsletter

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# The Monarch Butterfly

BY RONALD KELLEY

The Monarch is undoubtedly the most widely recognized butterfly in the U.S. and southern Canada. Early North American settlers named the monarch based on its color. The larvae feed on milkweed, which is poisonous, and makes both larvae (caterpillars) and adults poisonous to birds. After eating one monarch, a Blue Jay was observed to throw up nine times in half an hour. Male adults are more orange than females and can be recognized by the black spots on their hind wings. They also have thinner wing veins than the females.

Monarch migration is an amazing phenomenon that has been widely studied. The Monarchs that we see in our fields in July are the third or fourth generation of the Monarchs that spent the winter in Mexico. Those adults lay their eggs on milkweed in northern Mexico or the southwestern U.S. In a little over a month, the adults emerge and begin their flight to the Northeast, producing 2–3 more generations along the way. Eggs laid on milkweed in our area hatch into colorful yellow, white and black caterpillars which transform into a pupa (chrysalis), with the adult emerging in late August or September. These are the only monarchs who live



Female Monarch

RON KELLEY

longer than six weeks because they are the ones to migrate to central Mexico. It's a long and dangerous journey and many don't make it. One tagged monarch was found to have traveled 265 miles in one day. They show up there in November to December and congregate in large masses on trees. Recent research indicates they need their antennae to navigate the long distance south. They are guided by a time-compensated sun compass but also are aided by a magnetic compass on cloudy days.

Monarchs have experienced a precipitous decline over the past 20 years, largely due to milkweed habitat loss in the Midwest. Last year was a good year for the eastern monarch

*continued next page*



Male Monarch

RON KELLEY



and we saw more in our area than had been seen in many years. This was due to perfect weather for monarch reproduction in Texas and throughout the Midwest in 2018. This resulted in a 144% increase in the overwintering population area in Mexico this winter compared to the previous winter. Area occupied by monarch colonies in Mexico has been measured annually since 1994. Peak populations in 1996–97 occupied 45 acres but this dropped to a low of only 1.7 acres in 2013–14. The 15 acres occupied this winter is a hopeful sign that we will see monarchs again this year but it is not a certainty. Western monarchs overwinter in California and they have experienced a dramatic and perhaps perilous drop in population numbers in 2018.



Monarch Caterpillar

RON KELLEY

Efforts are underway to encourage individuals and farmers to plant and protect more milkweed but so far, more habitat is being lost to development (2 million acres per year) than is being restored. By promoting milkweed growth, we can all play a part in trying to keep this positive population trend going for the eastern monarch. For those interested in helping to monitor

the insect, Mission Monarch conducts a Monarch Blitz each year from late July to early August to increase our knowledge of monarch distribution. Last year, 241 individuals from 7 Canadian provinces and 9 states, including Vermont, participated. 2,237 caterpillars were observed by monitoring 24,831 milkweed plants. More people are encouraged to participate this year during

the monarch breeding period. The Vermont Center for Ecostudies coordinates the Vermont effort and information on how to participate should be available on their website by July.

*Ron Kelley is a retired state forest entomologist who currently serves as the board's treasurer. He loves exploring nature with a camera, particularly Green River Reservoir. ronald.kelley76@gmail.com*

## Friends of Green River Reservoir, Inc.

— SPRING 2019 —

PO Box 359, Hyde Park, VT 05655

FGRRVT.org

Email: webmaster@fgrrvt.org

Editor: Sally Laughlin

Design: Brian P. Graphic Arts

### BOARD OF DIRECTORS:

Sally Laughlin, President (802-355-2511)

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Monarch on Goldenrod

RON KELLEY



## UPDATE

# Relicensing of the Dam

### 12 March Hearing – Vermont Supreme Court

Several of the FGRR Board attended the Vermont Supreme Court session on March 12 held at the Vermont Law School in South Royalton. The hour-long hearing before the five Supreme Court Justices began with a 15 minute Agency of Natural Resources (ANR) presentation, followed by a five minute presentation by the Vermont Natural Resources Council/Trout Unlimited (VNRC/TU) lawyer, a 15 minute Morrisville Water and Light (MWL) presentation, and then closed with shorter rebuttals by both ANR and VNRC.

The judges introjected questions as the verbal presentations unfold. Thus, the lawyers representing the various parties do not get to do their presentations uninterrupted – and thus undoubtedly leave some issues that they planned to discuss untouched. Time limits are tightly managed by the Chief Justice.

The justices' questions clearly indicated that they had reviewed the briefs, reply briefs and original case filings and orders. One justice wanted to know what stage of the stream's transformation was the reference conditions, that is, was the base aquatic biotic conditions before the dam's construction or at the beginning of the last FERC license condition in the 1980s? There were also questions around the application of the "existing use" anti-degradation policy. Much time was spent responding to questions on this topic as it related to white water boating, and to a lesser extent, to the flow conditions of the Cady's Fall outflow.

We understand that it will be six to nine months before the Court announces a decision.

For those interested, the recording of the hearing may be streamed by following this link: <https://www.vermontjudiciary.org/supreme-court/audio-recordings-oral-arguments>

At present, "In re: Morrisville Hydroelectric Project Water Quality" is the first argument under 2019.

### Meeting with MWL

Since then, the FGRR Board has met with Morrisville Water and Light to discuss our mutual interest in the GRR Dam. Attending were Craig Myotte, MWL general manager, Penny Jones, MWL, and Alex MacLean of Leonine Public Affairs, consultant to MWL. Craig assured us that they were committed to keeping the dam in place, and their financial concerns about operating the Green River Reservoir site. Once the case is decided and we know more about the future trajectory of this permit, regardless of the outcome, there will be a need for ongoing conversations around the sustainable future for the reservoir.

FGRR will continue to champion the preservation of the highest quality natural habitat, consistent with the continued operation of the Green River Reservoir State Park and hydro generation.

### Update March 7, 2019 – Vermont Supreme Court Appeal

As previously reported, ANR, VNRC/TU, the American Whitewater/Vermont Paddlers' Club (AW/VPC), and MWL are involved in the formal appeal of the Environmental Court's September 18, 2018 Judgment Order on MWL's appeal of a water quality certification issues by ANR.

As described in more detail below, all pre-hearing court filings were completed by the appellants in February. The Vermont Supreme Court will hear oral argument on Tuesday, March 12 at 9:00 A.M. at the Vermont Law School in South Royalton. The Court has allotted 60 minutes for the argument. The hearing is open to the public. The Supreme Court's decision is expected within six months.

On February 11, ANR, represented by the Vermont Attorney General's office, and VNRC/TU filed "reply briefs" with the Vermont Supreme Court. ANR's reply brief can be found <http://www.fgrrvt.org/s/ANR-Reply-Brief-February-2019pdf.pdf> and VNRC/TU <http://www.fgrrvt.org/s/VNRC-VTU-Reply-Brief-February-2019.pdf>. The final filing in this case, the MWL reply brief, was filed February 22. It can be found <http://www.fgrrvt.org/s/MWL-Reply-Brief-February-25-2019.pdf>. AW/VPC chose not to file a reply brief.

See the FGRR website (<http://www.fgrrvt.org/>) for a brief summary of Green River Reservoir relevant issues that the FGRR Board believes will be discussed before the Vermont Supreme Court March 12, past posts, and future news.



RON KELLEY

Green River Reservoir State Park Finances*					
Year	Revenues	Expenses	Expenses Notes	Difference	Difference excluding Infrastructure Expenses
2009	\$33,359.00	\$66,812.47	includes \$14,525.38 infrastructure expenses	\$(33,453.47)	\$(18,928.09)
2010	\$52,561.97	\$88,806.37	includes \$37,015.08 infrastructure expenses	\$(36,244.40)	\$770.68
2011	\$54,193.00	\$63,413.27	no infrastructure expenses	\$(9,220.27)	\$(9,220.27)
2012	\$59,552.00	\$132,105.53	includes \$58,180.46 infrastructure expenses	\$(72,553.53)	\$(14,373.07)
2013	\$63,244.00	\$56,534.05	includes \$1,953.40 infrastructure expenses	\$6,709.95	\$8,663.35
2014	\$69,890.48	\$50,834.58	includes \$883.88 infrastructure expenses	\$19,055.90	\$19,939.78
2015	\$77,723.50	\$64,859.34	no infrastructure expenses	\$12,864.16	\$12,864.16
2016	\$81,974.54	\$74,541.00	no infrastructure expenses	\$7,433.54	\$7,433.54
2017	\$86,534.00	\$85,478.06	includes \$6,921 for generator shed and heat to contact station	\$1,055.94	\$7,976.94
2018	\$88,014.00	\$128,061.50	includes \$41,780.50 infrastructure expenses—foundation of Workshop/Woodshed	\$(40,047.50)	\$1,733.00
2019			Include building construction for Workshop/Woodshed		

\* Information from Vermont Department of Forests, Parks, and Recreation



# Last Season at the Park

## UPDATE FROM VERMONT DEPT. OF FORESTS, PARKS, & RECREATION

**A**t the March FGRR Board meeting, **Susan Bulmer, Northeast Parks Regional Manager, & Nick Caputo, Northeast Parks Regional Operations Manager**, gave us an overview of the past season and an update on plans for the coming summer. Susan and Nick reported that 2018 was a great park season – with excellent attendance and the return of seasoned, experienced park staff. Overall, state park use was up for the state. At GRRSP there were 8,435 overnight campers – with 6,774 from in-state and 1,661 from out of state – as well as 4,842 day users.

It is great to see the Park bringing in enough revenue to break even in operating expenses in recent years: \$88,014 in 2018 versus \$128,061 in expenses (which included \$41,780 in infrastructure expense of the putting in of foundation for the new workshed/woodshed building.

- The new Workshed/Woodshed will come on line for the 2019 Season! The foundation went in in last summer.

- FGRR has pledged \$5,000 towards Workshed/Woodshed construction.
- Red Worm Moldering Toilets. All campsites on Green River now have access to red worm/moldering toilets.
- The solar batteries that power the ranger contact station had to be suddenly replaced last summer at a cost of \$1,600.
- The park staff sold FGRR items last summer and did an outstanding job! Thanks from the Board! They will do it again this coming season.
- It may be necessary to manage camper parking in the future, perhaps by a fee for the third car, or limiting the number of cars allowed per camp site, depending on the size of the site.
- Park staff continue to remove camper-made stairs, tables, and benches for safety reasons and to maintain wilderness standards.
- Susan and Nick circulated the comment cards from campers last summer. Mostly were very enthusiastic. Some good questions and points raised.
- Dogs: Leash regulations are enforced at Access, as well as the No Dogs rule for staff.
- ADA Boardwalk: Frost heave monitoring and repair may happen next summer; underwater stabilization mat needs to be replaced, hopefully in the next few years.
- Planning for ADA campsites will start, hopefully, this summer. Once planning is complete, permitting is the next step.

Is there a need for more bear/wildlife-proof lockers? Susan reports Parks has discussed this and will target the 2020 season for implementation. Meanwhile, FGRR members are encouraged to let us know if they see the need at certain campsites.

GRRSP Attendance			
Year	Campers	Day Use	Total Users
2009	5,975	5,993	11,968
2010	6,701	3,946	10,647
2011	7,161	3,273	10,434
2012	7,438	3,492	10,930
2013	6,956	5,028	11,984
2014	7,342	4,978	12,320
2015	7,679	5,039	12,718
2016	7,912	4,824	12,736
2017	8,224	5,089	13,313
2018	8,435	4,842	13,277
<b>TOTALS</b>	<b>73,823</b>	<b>46,504</b>	<b>107,050</b>





# Under the Waves – Why Bass Bite (or Don't)

BY ERIC NUSE

It's a classic picture: mist coming off the water, the sky is brightening, a loon calling. Your top water lure lands just short of the submerged log, you give it a twitch, and a big bass smashes it. An hour later you can't get a bite to save your life. What happened?

There are three reasons a fish bites: it's hungry, it is defending its territory, or its prey/chase response is triggered. If you can tap into any of these motivations you will catch fish. The trick is when, where and how.

In late May and early June, during the catch and release season for bass on Green River Reservoir, the fish have made beds in the shallow water. The females lay the eggs, and the males stay around to guard them from perch and sunfish. If you can cast a popper on the top of that bed without spooking the fish, you will have a strike. I use an 8-weight fly rod with a small barbless hooked yellow popper so I can release

the fish quickly and he can continue to guard the nest.

By mid June the eggs have hatched and the fry are dispersed. The adult fish are in deeper water during the day, but move back into shallower water to feed during low light and at night. Favorite foods for bass in Green River are crawfish, frogs and small perch. In early summer, these are smaller than in late summer so you want to "match the hatch" and use similar size lures. The habits of these food source dictates where you fish, because the bass are going to be where the food is.

Crawfish like rocky bottoms with weeds nearby. They hide under the rocks and are most active in low light and at night. You can see their eyes shine at night with a strong flashlight and can catch them fairly easily with a fine mesh net. If you catch some, try pinching off their pinchers and using a large worm hook in the tail, cast it out

into a likely area. Lift it off the bottom slowly so it can't hide. Bass can hear them making a clicking noise and smell them from great distances. If there is a bass anywhere near by, it will go for your bait and the fight will be on.

Green sinking rubber worms with crawfish scent applied will work almost as well. Rig it weedless, let it settle, raise it up, reel in a few turns and settle again. If you feel a tap or see it moving, give it a few feet of line, then tighten up the line and set the hook hard. If you don't get a hook up and the worm is pulled down on your hook, you are probably striking too soon and the bass only had the tail of the worm in its mouth.

Late summer and fall is the time to get the top water lures out. Evening is prime time for casts around structure, weed beds and the shoreline. I like to use weedless lures or cut the bottom hook of the treble hook off. It really helps to avoid snags and doesn't seem to reduce hook ups. Bass have to worry about predators eating them also – so they like to lie beside logs, rocks, and floating weeds. This structure is ideal to cast near or over.

If you are working a fishy spot and not getting any hits, change up your lure, both size and color, and try fishing faster or slower. No fish, then move. That's the fun of fishing – you never know when the big one is going to hit!

Good luck and tight lines!

*Eric Nuse is a retired game warden, board member of the FGRR, and an avid fisher and paddler. You may see him on the reservoir with a canoe full of grandgirls, brisling with cane poles and a creel full of perch for dinner.*  
[ericnuse@gmail.com](mailto:ericnuse@gmail.com)





## Friends of Green River Reservoir Annual Lecture

### BENJAMIN KILHAM ON BEARS

# The Social Black Bear

Friday, October 20, 2018 • 7:00 PM

Green Mountain Technology and Career Center  
at Lamoille Union High School/Middle School, Hyde Park



**B**en Kilham has worked with bears for 25 years, and has developed a deep understanding of bear's social behavior – their communications, lives (as long as 40 years), matrilineal hierarchy (females can stay in their mother's territory), and individual personalities. He has studied bears by radio collaring – with the longest relationship with Squirty, raised from a three pound cub, now having lived 22 years in the wild, with daughters and great granddaughters sharing her territory. He pioneered groundbreaking efforts to raise orphaned bear cubs and successfully release them back to the wild. The **Kilham Bear Center** in Lyme, NH, which he, his wife Debra, and sister Phoebe run, is a remarkable facility which cares for orphaned cubs brought to them by NH and VT Fish and Wildlife, and prepares them for release back to the wild. Ben says this past fall and winter they received a record breaking 66 orphaned cubs to care for – largely

as a result of the poor food crop last fall, which caused mothers to wander in search of food – resulting in mothers killed from collisions with cars, being shot by hunters and irate homeowners, and starvation.

Ben Kilham Ph.D., is a wildlife biologist and world recognized bear expert. His books include *Among the Bears: Raising Orphaned Cubs in the Wild*, and *Out on a Limb: What Back Bears Have Taught Me about Intelligence and Intuition*.

He has consulted with Chinese biologists on the restoration of the panda, and is featured in the recently released IMAX film *Panda*. Recent articles about him include *Sierra Club Magazine's* "Does a Bear Think in the Woods?" and documentaries including National Geographic's *A Man Among Bears* and *Animal Planet's Papa Bear*. Read more about him and this work at [kilhambearcenter.org](http://kilhambearcenter.org).

Don't miss this opportunity to hear Ben speak and see photos of his work.

Free and open to the public.





## FGRR NEWS



RON KELLEY

Duckling emerging  
from nest box

### Wood Duck Nest Boxes

One of the two wood duck boxes erected by board members on Zack Woods Pond was utilized by ducks in 2018, with all eggs showing successful hatch. A third box next to the reservoir was also successful, with all eggs hatched.

### Friends of Green River Reservoir Annual Meeting of Membership

**Thursday, July 31, 2019  
6:30 pm**

**Butternut Mountain Farm  
37 Industrial Park Drive  
Morrisville**

Join the FGRR Board for a pot-luck supper (bring a dish to share and your own plate & utensils), good conversation, the latest on the Morrisville Water and Light/VT Agency of Natural Resources dam renewal permit, a summary of the past year, and a brief business meeting. Thanks to all our members for their support!

*The FGRR Board*



RON KELLEY



### MEMBERSHIP RENEWALS

Memberships run for a year from the month that you join. Volunteers (Board member Sheila Goss) send electronic reminders followed by a snail mail a few months before your renewal is due (and again and again, if members don't respond to the first notice). Renewing immediately saves time, energy and stamps – we thank those that renew on the first notice!

### GIFT MEMBERSHIP OFFER

Through September 2019, the Friends of Green River Reservoir Board is offering renewing members the opportunity to give a free gift membership, and will include that notice in each membership renewal. If you choose to enter someone as a member, the gift membership will run for one year and will be up to that person to renew. We hope to increase our membership this way and have more support for all the work ahead!