

The Watershed News

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Winter & Spring 2017

A Quarterly Publication for the Ossipee Watershed Published by the Green Mountain Conservation Group

19th Annual meeting will feature bobcat expert Rory Carroll

Green Mountain Conservation Group is excited that bobcat biologist Rory Carroll will be the keynote speaker at the 19th Annual Meeting on Saturday, March 4th at Hobbs Tavern and Brewing Company in Ossipee.

Rory Carroll grew up on the shores of Lake Erie. He graduated Summa Cum Laude from SUNY, Plattsburgh, with a bachelor's degree in biology and minors in chemistry and ecology. He has been employed as a researcher at the Lake Champlain Research Institute in Plattsburgh, New York and the Smithsonian Environmental Research Center in Edgewater, Maryland.

Currently, Carroll is a National Science Foundation graduate research fellow and PhD student at the University of New Hampshire studying population dynamics of bobcats in New England. This work focuses on the direct and indirect influences humans have had on bobcats through time. Anthropogenic development, habitat fragmentation, and alteration of wildlife communities can lead to unintended changes in the population structure, behavior, and physiology of these elusive predators. A self-proclaimed "high-tech naturalist", he uses a variety of techniques, including landscape genetics and stable isotope analyses, to gain a greater understanding of how animals respond to human use of the land. He has presented his research at conferences across the U.S. and abroad. Ultimately, he hopes to help develop better conservation practices that lead to a more sustainable shared landscape for humans and wildlife.

When not working in the lab or the field, Carroll can often be found

wandering through the forests of New Hampshire with his geologist wife Abby and their trusty dog, Yogi.

Carroll's talk, **Conservation in context: the past, present, and future of New Hampshire's wild cat** will explain how and why bobcats have been making headlines recently in New Hampshire. Over the last quarter century, bobcat populations have steadily grown across the state. A proposal to open a harvest season led to



Photo courtesy Rory Carroll

a lively debate that brought into focus the passion and respect many Granite Staters have for wildlife. It also brought forth some questions central to conservation: how should wildlife be valued? how can wildlife be managed for all to enjoy? And how can we can we best coexist?

To tell the story of the State's revered wild cats, Carroll will present what he has learned from nearly a decade of studying bobcats at the University of New Hampshire. He will further explore the conservation lessons we can learn from a long history of sharing the land. He will discuss some of the cutting edge science used to

track and study these cats and will also present important ideas toward hopefully crafting a rich shared future of animals and humans.

To view some of the incredible photos available, visit their website at tinyurl.com/NHbobcats or contact him on twitter@technaturalist.

The 19th Annual Meeting will be held on Saturday, March 4th at Hobbs Tavern and Brewing Company. (Snow date March 5th) Join us at 5:30 for cash bar and to learn more about GMCG. Dinner will include a pasta buffet and salad bar and birthday cake for dessert. **In keeping with GMCG tradition, and thanks to Hobbs for the donation of use of the facility, tickets will be \$19 to celebrate our 19th Birthday.** (Tickets at this price must be purchased by February 20th.) A brief business meeting and community awards will be followed by presentation at 7:00.

The annual meeting is the time to celebrate the past year's program successes; to honor staff, volunteers, board of directors, and to energize everyone in the Watershed for the year ahead.

GMCG is growing in name recognition and reputation within the Watershed. Through research, education, advocacy and land conservation, GMCG continues to demonstrate a commitment to the protection of the Watershed's natural resources and encourages youth and adults to learn more and take positive action.

Tickets purchased by February 20th are \$19. Tickets purchased from February 20th –28th will be \$25. Seating is limited and will sell out. Please call GMCG at 603-539-1859 or purchase on line at gmcg.org.

The Watershed News

The Watershed News is a quarterly publication of the Green Mountain Conservation Group, a non-profit, 501(c) 3, charitable organization established in 1997 and dedicated to the preservation of the natural resources in the Ossipee Watershed. The towns of Eaton, Effingham, Freedom, Madison, Ossipee, Sandwich and Tamworth make up the boundaries of the Ossipee Watershed. This watershed includes one of the largest and deepest stratified drift aquifers in New Hampshire. GMCG also partners across the Maine border into Parsonsfield and beyond. Water does not have any political boundaries.

GMCG's purpose is twofold:

1. To provide an organizational structure for a coalition of citizens and local officials interested in identifying sensitive areas within the Watershed in need of protection;
2. To offer public educational events about conservation issues and possible solutions regarding the preservation of unique natural resources.

Through research, education, advocacy and land conservation we strive to promote an awareness and appreciation of our watershed's natural resources and encourage a commitment to protect them.

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Why volunteering for GMCG is important for me

By Nancy Wogman

Recently I agreed to serve as the Treasurer of the Green Mountain Conservation Group. I've been involved in GMCG since we moved up to West Ossipee in September of 2011. Initially, I served as the recorder at Board Meetings and learned a lot from being a part of those meetings.

Both my husband and I have also been Water Quality Volunteers testing water on Tuesdays in the spring, summer and fall at the Pine River location on Ossipee Lake Road. We're there by 7 a.m., but it's a quiet peaceful time and gives us a chance to observe the surrounding nature while testing the water. It's a great way to volunteer and provide an important service to GMCG. Water quality monitoring by volunteers has been going on since 2001. Recently the Ten Year report was published. This document presents water chemistry changes and tracks trends in data over the past decade.

Volunteering has been something that I've done since I was a child in Swampscott, MA and throughout my adult life. People sometimes ask me, "Why bother?" Yes, I have three adult children, five grandchildren, a brother, and a husband who all keep me busy. Yes, I still work part-time from home. Yes, I have a house and a yard that keep me busy. But, I believe that we are all called to use our gifts and talents to improve the world around us. And, that's why I bother to volunteer.

We live in one of the most beautiful

areas in our country. But our environment is increasingly more fragile and the work that we do with GMCG is one way to assist in maintaining and improving this little corner where we live.

Regarding the financial health of GMCG, we ended the year of 2016 in the black and that is great news! One of the areas that we need to improve is membership development. If you are already a member, thank you for your support! And if you are not, we need you! There is a form to fill out in this newsletter and I urge you to do so and join us! **March is Membership Renewal Month!**

Last Friday, Larry and I stopped by the Blue Heron House, the new office and education center located on Huntress Bridge Road. It is spectacular! When finished GMCG will have a water quality center, much needed office space and a community room for students to learn and explore water and environmental issues that impact the aquifer. Located right on the Ossipee River, there will be opportunities for children and adults to gather samples right onsite.

Right now, the building is "in the works" as the saying goes, but we're hoping for a September completion date. With your help, that will happen. We need about \$50,000 more and you will soon be hearing about the ways that you can support this effort.

So—I'm hoping to see many of my friends as well as others at GMCG events. Join me in volunteering and supporting this organization.



GMCG Board members Larry and Nancy Wogman on top of Foss Mountain in Eaton with views of Mt Washington and the beginning of the greater Saco Watershed.

December 19th was first global “Less Plastic Day” in Wolfeboro, NH and Venice, Italy

BY
ELISSA PAQUETTE

Approximately 300 Kingswood High School students took seats in the Kingswood Arts Center auditorium on Less Plastic Day, Monday, Dec. 19, to view the documentary “Bag It!” The film takes the viewer through the grocery store, landfills, and interviews with scientists as it tracks what happens to the plastic bags we use and throw away every day.

In the US alone, around 60,000 plastic bags are used every five minutes. The question is where do they go? Underwater cameras showed how turtles consume floating plastic bags that appear to them to be jelly fish, to their demise. An autopsy of a beached whale shows a massive tangle of plastic in its digestive tract.

The answer to the question where does it go, is discouraging. According to scientists, the bags are not biodegradable, and even when churned into smaller particles, those particles end up in the groundwater, our rivers, and eventually our oceans. Discussions with students followed.

Science teachers Karen Payne, Billy Palmatier, English teacher Gordon Lang and Art teacher Tresa Livernois teamed up with the Green Mountain Conservation Group of Effingham, headed by Blair Folts, and G.A.L.A. Executive Director Josh Arnold on the occasion of the nationwide Less Plastic Day to offer students a variety of activities. The film was just one.

Students who signed up for the afterschool program in the

Media Center were greeted with tables covered with table cloths and decorations made by students that used plastic bottles for artful centerpieces and a buffet of snacks and drinks put together by the Lakes Region Technology Center's Hospitality students to create a bistro environment.

Folts linked up with a ceramic artist, Lauren Moreira in Venice, Italy for a Skype interview about her project *More Clay Less Plastic*. She hosted an event at the well known Venetian restaurant, Ristorante Vinaria, where she showed the new film “Straws” www.strawsfilm.com, by American Film maker Linda Booker. Following the movie, Arnold elicited feedback about “Bag It”. The prevalent attitude among the high schoolers was concern for the environment and wildlife and a desire to help in mitigating the plastic pollution problem.

The art and family consumer science departments joined forces in setting up tables and sewing machines in The Plex for students to cut and sew their cast off t-shirts into reusable tote bags. Another table held supplies for stamp your own gift wrap.

Payne reported that around 40 students participated in the I Spy contest, which asked participants to create lists of the single use plastic items they encountered in a single day. The responses poured forth, including: zip lock bag, Lindor chocolate wrapper, K-cups, contact lenses, plastic fork, plastic spoon, styrofoam tray, disposable razor, Dorito bag, 6 pack soda holder, Saran wrapped left-overs, red Solo cup, yogurt container, smoothie cup from Aroma Joe's, Dunk's cups, cheese stick wrapping, rice krispie treat

wrapper, candy can wrapper, milk bottle, ramen noodle cup and wrap, cat food mini meal cup, flossers, chip bag, Expo wrappers, mulch bag, Gatorade bottle, plastic egg carton, trash bags, bottled water bottles... the list goes on.

Students have expressed the desire to continue a connection to the *Less Plastic* initiative. Already they have held the auditorium for December 19th 2017 and are in discussion over this semester about ways they can make a difference in Kingswood High School.



Kingswood High School student Mary McCarthy holds up the new reusable tote bag she made from a t-shirt from her Tuftonboro Central School days during Less Plastic Day.

Elissa Paquette is a writer with the Granite State News and Carroll County Independent.

Watershed Schools participate in Trout in the Classroom and GET WET!

Trout in the Classroom

Through the Trout in the Classroom program (TIC), Freedom Elementary students in Mrs. Palmer's class and Moultonborough Academy students in Mr. Smith's class received about 250 eastern brook trout eggs from the Berlin Hatchery in mid January. They will raise the trout from eggs to fry and then release them into the Bearcamp River in Tamworth and Cold Brook in Freedom sometime in May. Both schools also assessed the macroinvertebrate communities at these sites in September and know that there is good habitat and food there and that the water quality is in great condition.

The act of raising, monitoring, and caring for young trout fosters a conservation ethic within participating students and promotes an understanding of their shared water resources. Eastern brook trout are extremely sensitive to changes in water quality and are known as a waterbody's "canary in the coal mine," so students must take great care of the conditions of the water including gradually raising the temperature of the tank from 38 F to the temperature of the streams where they will be released. It is



also important to time this release so that it occurs during "swim up" so they do not have to feed the fingerlings.

GET WET!

Seven Schools throughout the Ossipee Watershed are currently participating in the University of Maine's Groundwater Education Through Water Evaluation and Testing (GET WET!) program facilitated by GMCG's education coordinator, Dr. Karen Deighan who is teaching these young citizen scientists how to collect samples of tap water from their home for testing in school. Students then travel from table to table with their own well water, stopping at each station to test for pH, conductivity, nitrates, iron, sodium chloride, and hardness. With a majority of residents in the Ossipee Watershed getting their drinking water from groundwater, the GET WET! program gives students the opportunity to conduct meaningful research and help monitor this important resource.

When testing is complete, students also locate the latitude and longitude coordinates of their wells using Google Earth and enter their data into an Excel spreadsheet. This use of technology allows the students to see their collective results in the form of graphs and Geographic Information Systems (GIS) maps.

Through the end of March, students will further investigate the relationships between this region's geology, hydrology, current and historical land

uses, and the quality of its groundwater. They will compile their graphs, maps, and research in a PowerPoint presentation and will join together for a Watershed wide presentation to their parents and the community.

VBAP

On November 30th youth citizen scientists from six schools joined together at Effingham Elementary School to present their water quality findings to the community through the Volunteer Biological Assessment



Youth present water quality information.

Program (VBAP). GMCG thanks our local youth for helping protect water quality through research.

GET WET!, Trout in the Classroom and VBAP programs will all be included in the Ossipee Watershed Water Literacy Curriculum, a resource for teachers interested in implementing watershed-specific educational programs in local schools.

Aquifer Protection Advisory Committee gets underway in 2017

The Ossipee Aquifer Protection Committee has been meeting regularly over the past year. Funding was provided in part by a Watershed Assistance Grant from the NH Department of Environmental Services with Clean Water Act Section 319 funds from the U.S. Environmental Protection Agency. This initial phase of the project in 2017 is to provide education about the Ossipee Aquifer to both adults and students; to review work done in the past that identified important aquifer recharge areas and proximity to potential contaminated sites; and to provide ground water education to schools through the GET WET program. The program will also introduce simple best management practices to local businesses and homeowners such as the use of drip pans, funnels and absorbent pads when working with hazardous substances such as gasoline and motor oil.

The Committee will help craft BMP brochures for distribution to businesses and homeowners with guidelines as to how to protect their drinking water from potential contamination. Businesses will also receive emergency contact information that can be easily displayed in case of an accidental spill.

The Committee will also work on creating a mission statement that will help foster a new advisory board, the Aquifer Protection Advisory Board, that will be charged with reviewing regional development projects.

If you are interested in helping create a regional advisory board focused on protecting this large stratified drift aquifer, please consider joining this committee. Your input is very important.

Contact Corey Lane for more information at 539-1859.

Drive Carefully in March—SALAMANDERS CROSSING!

By
Kamalendu Nath

Have you ever wondered, or seen a *Salamander*? It's both a mythical and a real creature. The name salamander is derived from a Greek word, loosely meaning *Fire Lizard*. Salamanders were both creator and extinguisher of flames, even fire themselves (on rare occasions as humanoid). Basis could be in the fact that the true salamanders sleep amongst logs which tossed in a fire may have a creature coming out from roaring flames. With a cool exterior, salamanders can tolerate short fire exposure without harm.¹

During early spring, as the ground thaws, on a rainy night in New Hampshire, large numbers of salamanders, frogs, and toads migrate to vernal pools to breed. If their path is across a busy road, the fatality is very high. Each spring an organization, in Monadnock Region of NH, trains volunteers to serve as Salamander Crossing Guards at these amphibian road crossing hotspots. Volunteers count migrating amphibians and safely usher them across roads during "Big Nights" in March and April.²

At least 150 salamander species live north of Mexico, on our planet. Sometimes called "spring lizards," salamanders are not lizards that are reptiles with dry, scaly skin and clawed toes. Salamanders have smooth, moist skin and clawless toes. They are amphibians of the order Urodela (Greek) or Caudata (Latin) — with a tail in all their life stages. Because most are nocturnal, sly, adept hidiers, we know little of their presence, beauty, habits and ecosystems importance, serving nutrient cycle: as larvae (in water) they consume aquatic organisms into their own body tissue and as adult (on land) get eaten by predators. Adults eat worms, snails, insects and such invertebrates, regulating populations and nutrient cycling (rates of organic-matter decomposition).

There are two types of salamanders. **LUNGLESS SALAMENDERS:** more than half of the world's salamanders (two-thirds of North America's) - breath as frogs; the largest group being woodland salamanders who are on land; red-backed and northern two-lined salamander are the most common in the Northeast. **MOLE SALAMENDERS:** only in North America (14 species), live in rotting logs or underground (eating worms; insect larvae); such as the marbled, spotted and tiger salamanders; the latter continent's largest land-dwelling salamander (13 inches); most widely present. Mole salamanders, except for marbled ones, make an annual trek on spring rainy nights, herd-like, clambering over obstacles, as if drawn by some invisible beacon to *vernal pools*—woodland depressions that fill with water only part of the year. Such temporary pools offer a safe

harbor for breeding, free of fish that would feed on eggs and larvae. Males and females gather by the pools to result in fist-size clusters of fertilized eggs attached to plant stems. Over the weeks, the larvae hatch, grow, lose their external gills, develop legs and lungs, and move onto land as adults. For migrations, if they need to cross highways, mole salamanders need a help. Volunteers act as "crossing guards" at highways along known migration paths, and stop cars and hand-carry the salamanders to the other side. Some communities have even built salamander tunnels beneath roads.³

Lacking such volunteers⁴ in your town keep an eye out, during rainy early spring nights, for migrating amphibians to vernal pools that might cross your path!

Bibliography:-

- 1) <http://www.mythicalcreaturesguide.com/page/Salamander>
- 2) <http://www.birds.cornell.edu/citscitoolkit/projects/harris-center-for-conservation-education/salamander-crossing-brigades/>
- 3) <http://www.motherearthnews.com/nature-and-environment/salamander-species-zmaz07fmzpit>
- 4) <http://newengland.stewardshipnetwork.org/citizen-science/salamander-crossing-brigades>



(Spotted Salamander; 04/20/1016 – from under a planter –courtesy Kamalendu Nath)

Kamalendu Nath lives in Effingham and is a retired professor, poet and an alternate on the Conservation Commission.

Conservation Conversations

Editor's Note: *Conversations is intended to provide a forum for the seven towns of the Ossipee Watershed to share news of their conservation and planning activities and an opportunity to find creative solutions to challenges.*

Effingham

The Conservation Commission is happy to report that they have received funding from Fields Pond Foundation, the Royal Little Family Foundation and the Town of Effingham towards the purchase of the Pine River property. They are also grateful that the current owners have been patient with the sale while they have been fundraising and are willing to sell this riverside property at a bargain sale. This property which abuts the Pine River on the backside of the lot is a beautiful spot for animals of all kinds and for humans to enjoy. If interested in making a donation, please call 539-2035.



Looking across the Pine River to Green Mountain from the "Pine River property".

Freedom

A unique challenge for the Freedom Conservation Commission (FCC) and the town of Freedom in 2016 included the proposed expansion of Westward Shores Campground in Ossipee from 258 existing camp sites to 522 camp sites. After numerous meetings with various boards and committees, many environmental groups, surrounding towns in New Hampshire and Maine, and three engineering firms, the FCC unanimously voted in May to request input into the expansion project from the town of Ossipee based on "regional concerns." Ossipee granted Freedom abutter status but refused to hear concerns regarding serious violations of existing Ossipee town ordinances and FEMA regulations. This matter is now being litigated by the Carroll County Court. The Ossipee Lake Protection Fund was established to raise awareness of, and funding for, litigation of this matter. The first court session was conducted on 12 January 2017 without finding. The next court date will be set by Judge Ignatius.

The Commission attempted to compile septic records of 450 shoreline residences in Freedom. Approximately 60% complete and incomplete records were found. A new record keeping system was established during the summer to capture all new applications to construct and operate new septic systems in Freedom, and to update and maintain the new data base.

Eaton

Eaton's Conservation Commission continues to keep Foss Mountain open for hiking, 360-degree viewing and blueberry

picking. A regional team of brush cutters from Horizon Forestry was hired to keep brush and trees from overtaking everything. They did a tremendous job this late Fall and were reasonable from a cost perspective.

Rocks and boulders have been removed from lower fields by the local firm of Stewart Heath to allow for easier growth and harvesting of commercial blueberries. Timbering is



Hiking on Foss Mountain with visitors from JAPAN

continuing this Winter on some of the 1200 acres that the town has available for wildlife and timber harvesting. This brings in needed funds for conservation activities throughout the town. The harvests are planned and carried out by our town forester, Dan Stepanauskas.

Other projects planned for the Commission this Spring, include hand-spreading of granular sulfur. Blueberries like lower pH soil conditions. There may be some brush clearing and burning by volunteers, as well.

GMCG's new home—Blue Heron House is coming along

Despite winter snows and cold temperatures the framing of the additions on the new soon-to-be-home for GMCG—Blue Heron House—has moved right along. If you haven't had a chance to stop by yet, **please feel**



welcome to do so at any time.

Builders, Bill Huckins and Harvey Stewart welcome visitors and also any volunteering that can be offered!



GMCG is grateful to Tim Otterbach for his generous donation and time in meeting with the builders and the building committee to learn more about our ideas and turn those thoughts into architectural drawings.

We still need to raise \$50,000. Please help us meet our goal by June 1 by making a donation at gmcg.org for Blue Heron House.

Save the Date! 2017 Winter Calendar

Saturday March 4th 5:30-8:00 GMCG's 19th Annual Meeting at Hobbs Brewing and Tavern. Guest Speaker will be Rory Carroll who will speak about bobcats in New Hampshire. (see page one for details and ticket purchase information.)

Thursday March 22 9-1 Green Snow Pro Training—7:00 a.m to 2:30 p.m with location to be determined. This workshop is for commercial salt applicators –topics to be covered will include how to: improve efficiency in salt use, reduce the amount of salt used by commercial applicators, establish a voluntary system for commercial salt applicators to track their salt use and provide information annually to the salt accounting system. Credits and certification available. For more information please call 539-1859.

Thursday March 22nd 5-8 pm Celebrate World Water Day with GMCG at Tuckerman Brewery in Conway—you need clean water for great beer! World Water Day is held annually on the 22nd of March as a means of focusing attention on the importance of freshwater and advocating for the sustainable management of freshwater resources. An international day to celebrate freshwater was designated by the United Nations General Assembly in 1993. Each year, World Water Day highlights a specific aspect of freshwater. In 2016 the theme was "Water and Jobs," in 2017 "Wastewater" will be the focus.

Tuesday, March 28th - Ossipee Watershed Management Plan Steering Committee Meeting— Discussion and review of the updated plan . Public input is essential to future success of implementing the recommendations to protect the watershed.

Saturday, April, 22 RIVERS Water Quality Monitoring (WQM) training- 10:00 to 12:00 at Huntress House. This training is offered for current volunteers as an update or for anyone else interested in volunteering or learning more about the WQM program. Dress appropriately as it takes place at the River.

Sunday April 23 Celebrate EARTH DAY with a special event. Details will be posted at www.gmcg.org!

Thursday April 27 Wildlife Action Plan update with Amanda Stone and Wendy Scribner at Runnells Hall 6:30-8 pm. The NH Wildlife Action Plan was updated in 2015 and there is a wealth of new data and information! Not to speak of some really great new Wildlife Habitat maps (last updated in 2010) – they have changed!

Join us to learn what's new and how you can use this information to take your wildlife and conservation efforts to the next level. This session will provide an overview of the 2015 Wildlife Action Plan, a review of the revised wildlife maps, data and information in the updated plan, and most importantly, provide actions you can take to help New Hampshire's wildlife and habitats in your community. We will have a hands on session to discuss the information on the wildlife maps for the towns in the GMCG region and brainstorm next steps.



MARCH IS MEMBERSHIP MONTH!

PLEASE! Renew or become a member today! Every drop counts! Thank you!

(Please make checks payable to Green Mountain Conservation Group Box 95, Effingham, NH 03882)

You may also donate online at www.gmcg.org/we-need-your-help/

Vernal Pool __\$25 Stream __\$50 River __\$75 Pond __\$100 Bay __\$250 Lake __\$500 Aquifer __\$1000 Other __

NAME _____

ADDRESS _____

PHONE _____ **EMAIL** _____

Are you interested in being a GMCG Volunteer? YES

GMCG is a non-profit 501 (C)3 tax-exempt organization funded by grants, memberships, and donations.



THANK YOU FOR YOUR CONTINUED SUPPORT!



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The Watershed News

SAVE THE DATE!
19th Annual Meeting
March 4th
Hobbs Tavern

Summer Newsletter
submissions due June 5

EVERY PERSON CAN MAKE A DIFFERENCE AND EACH PERSON SHOULD TRY.



Sign up for event updates with *Watershed Happenings* and stay in the flow! Sign-up at www.gmcg.org