GREEN MOUNTAIN CONSERVATION GROUP

THE WATERSHED NEWS

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Protecting natural resources in the Ossipee Watershed since 1997

View of Green Mountain from the Normandeau property in Effingham. (Courtesy photo)

The Ol' Hens' legacy lives on

A conservation story from the heart of Effingham

by Nancy Ritger
GMCG Executive Director

The story of the Ol' Hens is one of thoughtful generosity and a tangible commitment to conservation stewardship that lives on. In the late fall of 2024, GMCG acquired the Effingham property that had belonged to Patricia "Pat" Parker and Janet Normandeau — affectionately known as the Ol' Hens.

In 1986, Patricia "Pat" Parker and Janet Normandeau left the suburbs of Washington, D.C. and purchased Snow Farm in Effingham. In the ensuing years they immersed themselves in the life of their farm and the Effingham community.

They restored the farm, gardened, and raised ducks, geese and sheep. They entertained, made countless friends, and brought the community closer together by starting up the "Coffee Break," a weekly social gathering held at either the Effingham Historical Society or the old Town Hall. They also co-wrote a weekly column for the Northern Light newspaper called *"Scratchin' 'Round Effingham" by "A Couple of Ol' Hens."* The column ran for many years, providing town news and whimsical commentary and ensuring that the two would always be remembered in town as the "Ol' Hens."

Community service was important to their lives as well. Janet served on the Planning Board and the Conservation Commission. Together, they delivered Meals on Wheels.

When Snow Farm became more than they could manage, they relocated in 2003 to Province Lake Road where they enjoyed life together and their beautiful view of Green Mountain until Pat passed away in March 2023 at age 96. Janet stayed on caring for the property. She was out and about on her rider mower just a few days before she passed away on August 3, 2024 at age 91.

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Three of Janet and Pat's friends, Kate Hartnett, Rachael Stuart and Maria Crockett, have been serving as Trustees of their estate. Knowing how much the land and Effingham's natural environment meant to both Pat and Janet, the Trustees mapped out a plan for a permanent legacy to the "Ol' Hens" and to ensure the protection of the 16-acre property. They had the idea to place a conservation easement on the property to add to the wildlife corridor established by the Forest Society's 2,336-acre High Watch Preserve around the summit of Green Mountain. They contacted GMCG, a land trust and watershed protection organization headquartered just four miles away in Effingham.

"When Kate called our office and shared their idea to work with GMCG, it was immediately apparent we had a win-win opportunity for the community, for land conservation, and for GMCG," said former GMCG Executive Director Matt Howe. "On November 14 we closed on the acquisition of Pat and Janet's 16.5-acre property with their two-bedroom home." The next step was to place a conservation easement on the land.

Because the Trustees made a private bargain sale and worked with a conservation-friendly realtor who provided pro-bono services, GMCC was able to purchase the property for below market value. Once the conservation easement was in place, GMCG and the trustees worked with NH Saves to complete an energy audit. Weatherization work was completed to increase the energy efficiency of the house to both

Janet Normandeau and Pat Parker at their home in Effingham in 2021.

reduce oil consumption and save money for the buyers in the long run. The property was placed on the open market in January and under contract within days. Proceeds from the sale will support GMCG's year-round research, education, advocacy and land conservation programs to protect the Ossipee Aquifer and Ossipee Watershed.

"We are thrilled there will be a permanent legacy for Janet and Pat, the land will be conserved, and GMCG will have additional resources for our important work in the watershed. We extend a warm welcome to our new neighbors and partners in conservation, Leah and Andrew," says Nancy Ritger, new Executive Director at GMCG.

"As Trustees of the Normandeau-Parker Estate, we are so grateful to be able to honor Pat and Janet in this way," stated Kate Hartnett. "A precious piece of Effingham with its stunning view of Green Mountain, has been protected while keeping the remainder of the property and house on the Effingham tax rolls."

Added GMCG Board Chair Peter Zack of Porter, Maine, "We want to extend our deep appreciation to the Normandeau-Parker Trustees for their generosity, their creativity, and their commitment to land conservation. GMCG will memorialize this gift, both at the site and at our headquarters, being sure to note Pat and Janet's decades of service to the Effingham community they so loved."

If you are interested in learning more about legacy giving with GMCG contact Nancy Ritger at director@gmcg.org or call (603) 539-1859.

Green Mountain Conservation Group

The Watershed News is a quarterly publication of Green Mountain Conservation Group, a nonprofit, 501 (c)(3) charitable organization established in 1997. The mission of GMCG is to protect the lakes, rivers and groundwater of the greater Ossipee Watershed, its aquifer, land, and associated natural resources to ensure prosperous communities and a healthy ecosystem for all.

The towns of Eaton, Effingham, Freedom, Madison, Ossipee, Sandwich, and Tamworth comprise the Ossipee Watershed. This watershed includes one of the largest and deepest stratified drift aquifers in New Hampshire. GMCG also serves the towns of Maine's Sacopee Valley.

Your support makes all the difference!

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GMCG invites you to consider including us as a part of your next Individual Retirement Account required distribution. Talk to your IRA custodian about a Qualified Charitable Donation to GMCG directly from your account. It is fast to set up, supports GMCG's long-term research and community education goals, and is an investment in the environment of our future. Discuss the potential benefits of a Qualified Charitable Donation to GMCG with your IRA custodian during your next meeting.
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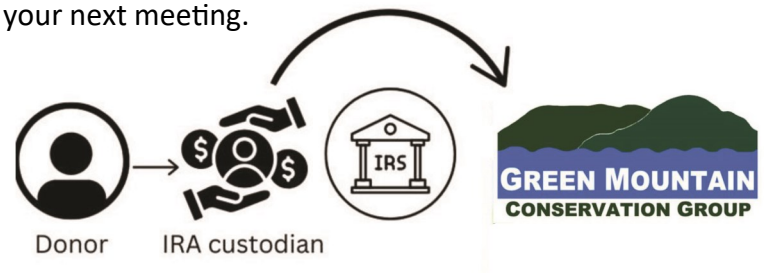

The mighty mitochondrion

by Jill Emerson
GMCG Staff Scientist

Despite its crucial role in biology, the average person knows surprisingly little about the mitochondrion, an organelle found in most eukaryotic cells. The one piece of bar trivia that many people can conjure up about the mitochondrion is that it is known as "the powerhouse of the cell". If pressed to come up with a second factoid about the mighty mitochondrion, I suspect that many people would struggle to do so.

The mitochondrion has a fascinating evolutionary history that dates back about 1.5 billion years. This tiny organelle, essential for energy production in eukaryotic cells, is believed to have originated through a process known as endosymbiosis—a theory that explains how mitochondria evolved from free-living bacteria into an integral part of complex life forms. According to this theory, mitochondria evolved from ancient alphaproteobacteria, a group of bacteria capable of aerobic (oxygen-based) respiration. At some point, a primitive eukaryotic cell—a single-celled organism with a nucleus—engulfed one of these bacteria but did not digest it. Instead, the bacterium formed a symbiotic relationship with the host cell, helping it generate energy more efficiently using oxygen. Over millions of years, this once-independent bacterium gradually became an organelle, losing many of its original genes but retaining the ability to produce ATP (adenosine triphosphate), the cell's main energy source.

Mitochondria (in red): the powerhouse of the cell. (Photo courtesy of Science Source)

The integration of mitochondria into eukaryotic cells was a major turning point in evolution. It allowed early eukaryotes to generate energy more efficiently, leading to the rise of complex multicellular life. This symbiotic relationship gave eukaryotic cells an advantage, enabling them to evolve into more complex organisms, including plants, animals and fungi.

Over time, many mitochondrial genes were transferred to the nucleus of the host cell, making the mitochondria fully dependent on the eukaryotic cell for survival. Despite this, mitochondria still retain some of their original bacterial DNA which are crucial for their function in energy production. The DNA retained by the mitochondria now also serves an important secondary purpose: as a tool for identifying individual species. Unlike nuclear DNA, which is inherited from both parents, mitochondrial DNA (mtDNA) is passed down exclusively from the mother, making it highly stable and useful for genetic analysis. This maternal inheritance and lack of recombination means that mtDNA, while exhibiting enough variation between species, remains largely unchanged across generations in a singular species. This provides a clear genetic history of an organism's maternal lineage. The conserved nature of mtDNA is particularly useful in forensic science, where it can help identify human remains by comparing samples to living maternal relatives. It is also widely used in tracking the lineage of domesticated animals, endangered species and even ancient human populations.

Another key advantages of mtDNA is its high copy number in cells. Each cell contains many mitochondria, and each

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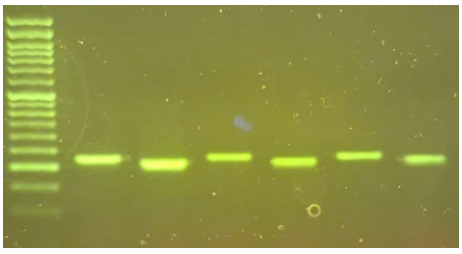
mitochondrion has multiple copies of mtDNA. This makes mtDNA easier to extract and analyze, even from degraded or ancient samples. Because of this, researchers can use mtDNA to identify species from preserved fossils, forensic evidence and environmental DNA (eDNA).

There are other DNA sequences besides mtDNA that can be used to identify a species like chloroplasts and ribosomal subunits. However, mtDNA is one of the most common areas laboratories target for species identification, including here at GMCG. Harvesting DNA out of the environment and searching for an organism's specific mtDNA allows us to look for species in a non-invasive way as well as conduct surveys both in a cheaper manner, and in places where traditional methods like observation and electrofishing are difficult or not possible.

While undoubtedly the mitochondrion will primarily be known as the "powerhouse of the cell" due to the energy it provides, maybe the mitochondrion can be viewed as a different sort of powerhouse as well: one that has revolutionized conservation management by providing scientists with a powerful tool to study, monitor and protect species more effectively. Perhaps one day this will, too, be worthy of bar trivia.



Gel electrophoresis results of a water sample contaminated with spiny water flea, an invasive plankton found in Lake Winnipesaukee in 2024.

Winter and spring programs feature variety of topics and learning opportunities for all ages

by Tara Schroeder, GMCG Education Coordinator

Photos: Education Coordinator Tara Schroeder and Carroll County Extension Forester Wendy Scribner lead a group on snowshoes to the summit of Mary's Mountain in Freedom to learn about the Ossipee Watershed and the conservation of the Freedom Town Forest on a beautiful, sunny day in fresh, powdery snow on February 7, 2025.

The snow has been fantastic this winter for outdoor programs across the Ossipee Watershed and at GMCG's conservation center, the Blue Heron House. For those who preferred learning from the comfort of home during the long, dark winter days, there were ample opportunities to log on for online programs as well. GMCG staff led programs on the topics of radon, cyanobacteria, salt reduction, eDNA, Big Night and the spring amphibian migration, drinking water testing and protection, slowing water down (a book group – see page 13 for the book review), tree identification and Eastern brook trout conservation.

GMCG also hosted a number of trainings for volunteers, AmeriCorps members, and meetings and workshops for conservation commission

members. Other programs that were piloted this winter included a Mary's Mountain snowshoe in the Freedom Town Forest to learn about the special features of this property and the Ossipee Watershed, and a Winter Kids' Camp that had children out and about trying snowshoeing, snow shelter

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building, and learning about Native American culture and crafts during February vacation week.

School programs this winter have included Trout in the Classroom with four schools: Freedom Elementary School, Lakeside Primary School in Conway, Northeast Woodland Chartered Public School in Conway and Sandwich Central School. This program engages hundreds of elementary school students in learning about water quality and trout conservation each year.

Another long-running watershed education program, GET WET! (Groundwater Education Through Water Evaluation and Testing), began this March with trainings for volunteers, AmeriCorps members and new teachers. Over 100 students in fourth through eighth grade from the Kenneth A. Brett School in Tamworth, Freedom Elementary School and Sandwich Central School will test their water in the classroom through the program this year.

Overall, education programs reached more than 400 people from the Ossipee Watershed and beyond from January through March. Special thanks to: Education Committee member, writer and naturalist Barbara Bald; Education Committee member and Carroll County Extension Forester Wendy Scribner; Communications Director Juno Lamb from the Chocorua Lake Conservancy; Mary Cronin and Cook Memorial Library in Tamworth; Peggy Johnson of the Yeomans' Fund for the Arts; Barbara Richter and the NH Association of Conservation Commissions; RadonLibrary founder Tom Jarvela; Extension State Specialist/Professor Amanda McQuaid; GMCG staff and AmeriCorps members; volunteers Victor Vitek, Anne Packard and Katie McCarthy; and GMCG Board members Peter Zack, Alice Custard, Karen Vitek, for all of their help making these programs possible. Funding for these programs is provided by your donations and grants from foundations like Thrivent Financial and the Alfred Quimby Fund.

Photos: Charlotte Valley and Summer Scripture check out the quinzhee snow shelter and Henry Cook snowshoes and plays a game along the nature trail at GMCG's Winter Kid's Camp in February (Photos: Tara Schroeder).

Spring's greetings from Nancy Ritger, GMCG's new Executive Director

by Nancy Ritger
GMCG Executive Director

As winter releases its grip on the land and we move towards spring, I honor the transition from the crisp clear winter air to the earthy smells of spring. The sun is growing in strength, icicles grow overnight and drip through the day. Before you know it, birds will make their song-filled return. Even though spring marches on, I know that I will be taken off guard by that late snow storm or how early the peepers start their chorus. It has only been a few short months since I was welcomed as Executive Director at GMCG. Just as we are experiencing the shift of winter to spring, I am finding that there are still many surprises along my journey.

I am quickly learning the critical role that GMCG plays in fostering a healthy relationship between us and this watershed. School children learning the mechanics of watershed science, library books being sponsored to spark curiosity about the natural world, a campaign to bring awareness of the impacts of over-salting roadways, monitoring and reporting on the water quality of our lakes and rivers, dipping in the icy waters of the Ossipee River, and creating partnerships with local land stewards; GMCG is bursting with activity!

I am impressed by the dedication, knowledge, and enthusiasm of the staff, volunteers, and board members fostering strong community connections to understand, appreciate, and safeguard this watershed. I find GMCG to be a small but strong organization shining a bright light on what can be accomplished when we work together to protect the places we love and depend on.

This year, we face unprecedented challenges of navigating the uncertainty of federal and state funding and the rollback of environmental protections. I have no doubt that this community will stay focused on the rewards of stewarding and celebrating this watershed, with GMCG taking an important lead. I owe tribute to the founder of GMCG, Blair Folts and previous Executive Director, Matt Howe, for they have set a steady course. Along with the twists and turns of my new path, I have gratitude for being a part of this grand adventure.

I thank you for your warm welcome and invite you to support our work as we move forward through the seasons.

GMCG welcomes new AmeriCorps Members

Mackenzie (left) and Emma (right).

Mackenzie Sirrine, AmeriCorps Member Education and Outreach Assistant

"My name is Mackenzie Sirrine, and I grew up in Raymond NH. I am a recent graduate from the University of New Hampshire with a degree in Environmental Conservation and Sustainability, and I am always looking for ways to combine my passions for science and childcare. I have started up a series of nature walks aimed at teaching folks how to identify different tree species in the winter. I helped lead GMCG's Winter Kids' Camp this February, where we hosted a fun day of snowshoeing, crafts, and Native American storytelling. More recently, I helped implement the GET WET! program by visiting schools to teach kids the importance of testing the quality of their home's drinking water."

Emma Revenaugh, AmeriCorps Member Water Quality Resources Assistant

"My name is Emma, and I am from St. Paul, Minnesota. I got my bachelor's degree in Geology at Colorado College the spring of 2024, and have worked on water quality projects in the Gallatin and Clarks Fork of the Yellowstone Rivers in southwest Montana as a field scientist for the MT Department of Environmental Quality.

I have been busy getting acquainted with GMCG's RIVERS program. From analyzing past data for Conservation Commission Town Reports, to winter water sampling and preparing for the whirlwind of the summer, it has been a blast to dive headfirst into the program, and get to know the Ossipee Watershed."

Too much salt: Winter Salt Awareness Week 2025 examines road salt impacts & reduction efforts

by Tara Schroeder
GMCG Education Coordinator

This year, Winter Salt Awareness Week 2025 was held during the last week in January. GMCG staff and AmeriCorps members attended daily webinars during the week which aimed to raise awareness around salt pollution and reduction solutions. Winter Salt Awareness Week is a collaboration of governmental and non-governmental organizations across the United States and Canada. Here in New Hampshire, GMCG and NH Department of Environmental Services (DES) are supporting this effort to get information out to stakeholders about how best practices with snow management can better protect freshwater resources.

Each winter, 20-30 million tons of road salt are used in our country, and all the salt that we apply to streets and sidewalks ends up in our freshwater. Salt pollution is impacting lakes, streams, and drinking water. The cost of vehicle corrosion, extra road maintenance, tree damage, and infrastructure damage is estimated to be $3,140/ton of salt. Nationally, that works out to over $60 billion each year. By implementing best practices and new technologies, public agencies and private businesses are reducing salt use by 30-50%.

GMCG launched the Salt Responsibly campaign in January 2022 to inform NH residents about the harm caused by road salts and to provide guidance on ways to reduce the amount of salt that is contaminating New Hampshire's waterways and water supply. This winter we created new PSAs that were broadcast on radio airwaves across New Hampshire. Our website, saltresponsibly.com has more information about our local salt research and education efforts.

An entire driveway can be cleared by using just a coffee mug of rock salt and individual rock salt pieces only need to be three inches apart to be most effective at melting (coffee mug on the right), according to the Izaak Walton League of America's Salt Watch Coordinator Abby Hileman. (Photos by Abby Hileman and Izaak Walton of League of America).

Winter Salt Awareness Week featured daily live streams with speakers from across the country, including many from New Hampshire, who are working on this issue. If you missed the live webinars, do not worry! Check out the recordings featured online at saltresponsibly.com for great information about water quality research findings and impacts from salt on fish, wildlife and human health. Learn how state and local agency staff are successfully transitioning to newer technologies and adopting policy changes and reduction programs such as the New Hampshire Green SnowPro program.

Hear what GMCG staff and AmeriCorps members have to say about the week-long program:

Mackenzie Sirrine, Outreach & Education Assistant AmeriCorps Member:

"My main takeaway from Winter Salt Week was that we use so much more road salt than we actually need. An entire driveway can be cleared by using just a coffee mug of rock salt and individual rock salt pieces only need to be three inches apart to work. I feel like this is such a huge difference from how we clear our roads. Rock salt can also be reused! People can go out and sweep up any extra pieces they see and save them for the next storm, which also would prevent those extra pieces from ending up in our waterways. Being smarter about our salt usage would be good for both the environment and for wallets!"

Nancy Ritger, Executive Director:

"A big takeaway from Salt Awareness Week for me is the fact that chloride (salt) is highly soluble in water, as a result, there is no effective way to get it out. Dilution is not the solution since once chloride is in the water system it stays. Salt concentrations are rising throughout this

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watershed. It is worth noting short term and long term exposure to increased salt concentrations has been proven to cause damage in plants and animals. We can help by reducing the amount of salt used on our roads, parking lots and walkways. We can also consider alternatives such as brine solutions. I look forward to encouraging dialogue with town officials, road agents, business owners, and homeowners to consider ways we can all reduce salt use."

Emma Revenaugh, Water Resources Assistant AmeriCorps Member: "A big Salt Week takeaway for me is that over time, increased road salt loads increase rates of cation exchange in soils, causing elements such as calcium and magnesium to leach out of soils and into bodies of water at amplified rates. In other words, road salt affects how important ecologically significant elements move through soil systems, which can have major implications on water chemistry and plant life! Here is a link to the article I learned this from, which is a great extension of the discussions during Salt Week: https://www.pnas.org/doi/10.1073/pnas.1711234115."

Tara Schroeder, Education Coordinator: "Two things really struck me: a little bit of salt goes a long way and this salt is negatively impacting the amphibians that I love to see and study each spring. The whole three inches apart concept is something that I will share with others as it is easy to see we are oversalting our driveways, sidewalks and parking lots, with salt literally piling up in places. It was eye-opening to learn that in some countries like Germany, it is actually illegal to use salt, which makes sense; it is a contaminant and pollutes our water and environment, harms human health, and makes drinking water non potable.

As far as amphibians go, I am now more concerned about how road salts are impacting our freshwater ecosystems. Amphibians have highly permeable skin, and about one third of them are threatened around the world. According to studies, there is variability in amphibians' tolerance to salt. For example, wood frogs and spring peepers are more vulnerable to salt pollution. While it makes sense that too much salt can be toxic to all amphibians because of their highly permeable skin, I had no idea that salt can modify things like how organisms interact, make them more susceptible to parasites, and that even low levels of road salts can have negative impacts on freshwater ecosystems' water chemistry. Bottom line, this salt we are putting out there isn't going away; it is increasing over time and we need to do something about it!"

Jill Emerson, GMCG's Staff Scientist: "In NH, studies show that the amount of salt going into NH's streams has been increasing since the 1960's, and the high amount of salt being used on roads has created an expectation among drivers to see wet, black pavement during snow storms. Putting this into context, it is not surprising that the Ossipee Watershed is facing similar issues with its streams and rivers. The interactive map on GMCG's saltresponsibly.com website shows sites (red dots) where the community science program RIVERS (Regional Interstate Volunteers for the Ecosystems and Rivers of Saco) has collected salinity data. When clicking on a site, a map showing the median conductivity value for each year through 2024 appears. At 85% of the sites, a significant increase in salinity has been noted by Mann-Kendall analysis. A simple linear regression line (blue) has been added to the graphs to aid in overall trend observation."

To learn more about what you can do, visit saltresponsibly.org. If you would like to receive a kit to track chloride concentrations in your local waterways or drinking water, visit www.saltwatch.org.

Big Nights are coming to Sandwich -- and your town as well.

by Nancy Walser
GMCG Board Member, Sandwich

Do you know your neighbors?

I mean *all* your neighbors?

This spring, the Sandwich Conservation Commission is working with the Green Mountain Conservation Group (GMCG) to become better acquainted with some of the most elusive creatures that live among us.

Armed with rain gear, safety vests and head lamps, commissioners will fan out during the first warm, rainy nights of spring to identify areas in town where salamanders and frogs emerge from forests to lay eggs in nearby shallow ponds, wetlands or vernal pools.

So-called "Big Nights" occur in New Hampshire when the snow has melted, the ground has thawed, and nightly temperatures hit 40 degrees or above. This weather occurs sometime between mid-March and the first week of May, depending on elevation.

When the conditions are right and it starts to rain, forest dwelling amphibians – spring peepers, wood frogs, American toads, spotted salamanders and more – begin to move together en masse.

In certain places, hundreds of amphibians can be seen migrating over just a few hours, thus giving rise to the name Big Nights.

These amphibians migrate to and from the same breeding grounds every year. However, many are killed by vehicles if they must cross a road in their travels.

According to at least one study, amphibians and reptiles

can make up to 95 percent of vertebrate roadkill. Because they are small and quickly eaten by predators, amphibian roadkill can often be an "invisible" problem.

Some migrating amphibians, such as the blue-spotted salamander, are especially at-risk as they are considered by the state to be "Species of Greatest Conservation Need" due to declining populations, loss of habitat, disease, pollution and other threats.

The Sandwich effort is intended to collect information about amphibian road crossings to better protect these populations and their habitats in the future.

Commissioners hope to build on a program pioneered by the Harris Center for Conservation Education in Hancock, N.H. more than 20 years ago. Each year, the Harris Center trains and organizes approximately 300 volunteers into "salamander brigades" to collect data and to help salamanders and frogs cross busy roads safely.

Although most of these brigades operate in southwestern New Hampshire, conservation commissions across the state can assist as well by collecting data on the

Thanks to Peaco Todd for contributing these original illustrations to help raise awareness about Big Night.

number and species of migrating amphibians locally, says Brett Amy Thelen, science director at the Harris Center.

She pointed to the role of the Keene Conservation Commission in recommending that the City of Keene purchase land slated for development after volunteers counted 838 frogs migrating through that site in four hours. "Numbers tell a story that words can not tell," said Thelen.

A road adjacent to that land, which was purchased by the city in 2008, is closed on Big Nights and has become a popular gathering spot for families when "amphibian detours" are in place. The Harris Center also maintains an online map of reported amphibian crossings. Currently, the map contains 155 sites – a number that Thelen calls "a vast" undercount.

For Tamworth resident Tara Schroeder, Big Night is a special time of year.

On a hunch one spring, Schroeder decided to take her then five-year-old daughter to see what they might find outside their house, located between a forest and wetland. They discovered an amphibian crossing right on their road. "For my daughter, it was like Christmas," she said.

Schroeder, who is GMCG's education coordinator, now

Big Nights continued...

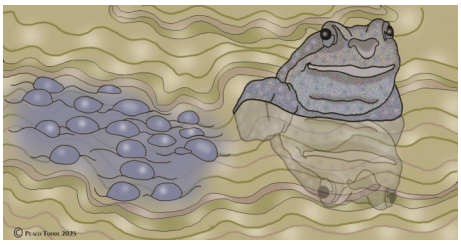
organizes a salamander brigade every year in the Chocorua Lake Basin. Last year, a Big Night occurred there on April 11.

Still, you do not need to go outside in the rain on a 40 degree night to help protect migrating amphibians, said Thelen. “If being out in the rain at night is not your thing, you can save amphibians simply by not driving and saving your errands for the daytime.”

But those who are willing to explore outside can be rewarded with a rare sight because some of these species live hidden underground nearly all year long.

“These are places you go by every single day and they become a whole other world on Big Nights,” she said. “It truly feels like magic.”

Nancy Walser is a writer who lives in Sandwich. She is also a GMCG board member and chair of the Sandwich Conservation Commission.



Original illustrations by GMCG board member and Tamworth resident, Peaco Todd.

Big Night crankie project blends community art and conservation advocacy

Big Night crankie painters gathered at Cook Memorial Library in Tamworth to collaborate on artwork raising awareness for amphibian conservation. (Photo by Juno Lamb)

On March 1, thirty plus people gathered to share their artistic talents and create a Big Night crankie at Cook Memorial Library in Tamworth. The final artwork is a beautiful, educational piece that explains the life cycle of some of our native amphibians, why vernal pools and wetlands matter, what Big Night is, and how we can all help our neighborhood amphibians to cross roads safely, mate, and thrive.

A crankie is a long scroll of images that gets rolled up and shown like a movie. Crankies, also called panoramas, were a popular early form of moving picture in the 19 century.

On March 22, the group gathered again at the library to “reveal” the final art piece and share with friends and community. The Big Night crankie project is a successful example of a community coming together to enjoy the fun of creativity and raise awareness for the conservation of native amphibians and their habitats.

Many thanks to Chocorua Lake Conservancy, Cook Memorial Library and the Yeomans' Fund for the Arts for partnering to make this project possible. A video of the crankie in action can be viewed at both CLC’s and GMCG’s websites.

Each “scene” within the crankie scroll features artwork by local artists and in many cases the artwork was a collaboration created by people ranging in age from five to eighty plus!

Conservation conversations

Editor's Note: *Conservation 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.*

Eaton Conservation Commission:

The ECC received water quality results from Bob Craycraft of UNH back in December. Three waterbodies were monitored in Eaton that border Route 153 from May to October. Long Pond, Thurston Pond, and Crystal Lake. The monitoring was conducted by Mark Carbone and Paul Nuccio. Data from 2024 was compared to data collected from 1996 to 2002. Long Pond and Crystal Lake had good results. Both are oligotrophic but have increased conductivity when compared to historical data. However, Thurston Pond's data confirmed it was mesotropic with significantly higher conductivity and phosphorus levels when compared to past data.

Effingham Conservation Commission:

The annual Earth Day roadside litter cleanup is scheduled for Saturday, April 26, based out of the Effingham Public Library on Town House Road. A cookout will follow. The roadside cleanup unofficially kicks off the season for KELF (Keep Effingham Litter Free). KELF volunteers clean up sections of town roads they elect to manage. Also in conjunction with Earth Day, students at Effingham Elementary School take part in the annual ECC poster contest. Each year they produce posters based on an environmental theme. This year's theme is Why are Forests Good for the Earth. The entries will be judged at the May meeting, at which one winner per grade will be selected by the ECC. Winners receive books as prizes. This spring ECC Members will inspect Effingham's publicly accessible conservation properties for winter damage, and schedule any necessary cleanup work days. Work will continue on improving the route clarity on the Highland Trail in the Pine River Cherubini Preserve. New members and volunteers are welcome. ECC meets on the first Monday of every month, at the Town Offices at 6:30 p.m.

Sandwich Conservation Commission:

Under the leadership of new chair Nancy Walser, the SCC has created a Strategic Plan for 2025 to 2029. The goals include updating our Natural Resource Inventory using co-occurrence GIS maps, building public awareness about the impacts of climate change, and expanding community engagement and outreach opportunities. This spring, the SCC will work with environment majors at Plymouth State University to produce a web-based NRI and identify land with high conservation value. An Earth Day assembly about recycling is planned for the Central School, and will include a dramatic presentation. We plan to increase the visibility of the commission through electronic and print media and conservation events.

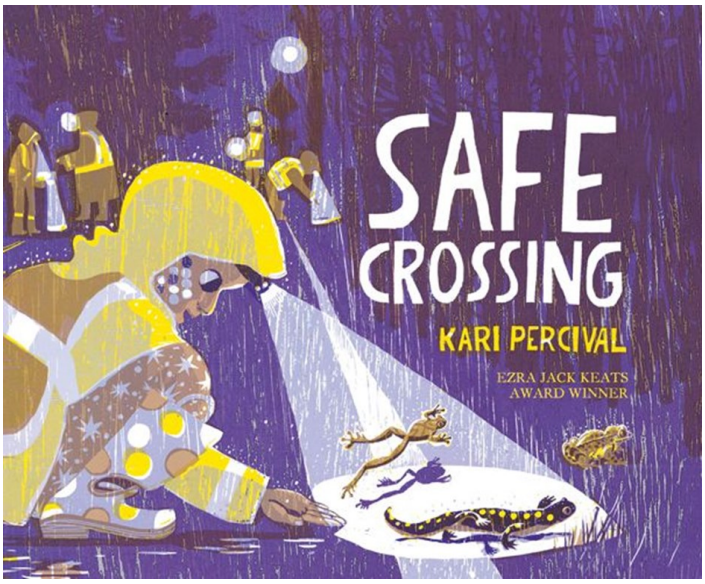
Tamworth Conservation Commission:

The TCC started 2025 with a review of priorities: reemphasizing ongoing operations, including managing town-owned lands and trails, monitoring conservation easements, collaborating on outreach and education, and reviewing NH DES wetlands and other permitting. This also includes reviewing our Bylaws and updating the TCC Members' Handbook and other parts of our website. Projects this year include: a mailing in collaboration with the Planning Board, reminding all town residents of local and state ordinances that must be considered before building or impacting shorelands and wetlands; a structural and safety assessment of the Great Hill Fire Tower; collaboration with the new town Parks & Rec Director on guided hikes on TCC trails; the TCC "Hikin' Herons" challenge of hiking all our trails; and a new Natural Resource Inventory in preparation for a likely new town master plan - recent examples of NRIs from neighboring towns' CCs provide inspiration!

This winter and spring, White Lake Woods LLC, a part of the Alvin J. Coleman & Sons, has applied for local and state permits for a sand and gravel excavation site northwest of White Lake State Park and the Town's Black Spruce Bogs conservation land. This includes the first special use permit under the Town's new Groundwater Protection Ordinance, and the TCC has provided review, input, and advice to the decision-making Planning and Select Boards on details of the process and applications. As the TCC's 60th Anniversary approaches (2026), we are hosting a nature photo contest, with prizes and a 2026 calendar planned. We appreciate GMCG facilitating recent get-togethers of the region's town commissions.

Captivating books to add to your reading list

by Juno Lamb
Communications Director Chocorua Lakes Conservancy



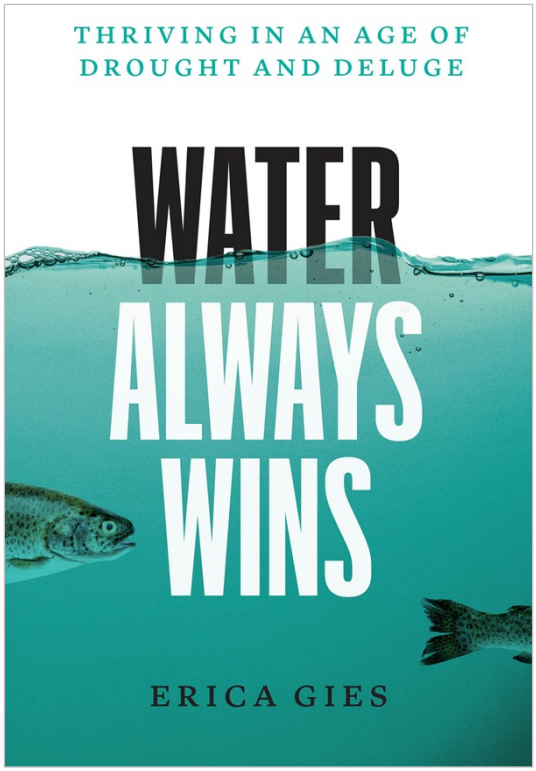
Safe Crossing, by Kari Percival

"The spring peepers are singing so loud it makes my spine tingle." —from *Safe Crossing*

This beautiful new children's book, winner of the Ezra Jack Keats Award, shares the story of a family and community's care for the amphibians in their neighborhood, especially on Big Night, the first warm, rainy night (or nights) of springs when amphibians migrate en masse from their winter habitats in upland woods to wetlands and vernal pools. With joyous colorful images, Can You Find pages, extra science notes, how-tos, and a glossary at the end, this book will appeal to a wide range of ages. Along the way you will meet many of New Hampshire's amphibian species, learn about their life cycles, experience the excitement of a Big Night Amphibian Crossing Brigade, and learn just about everything you would need to know to advocate and fundraise for safer amphibian crossings where you live! The only question the book can not answer, because we humans don not know, is: how do the amphibians know it is time to migrate? "Do they taste the warm rain? Do they smell the skunk cabbage blooming?" How do *you* think they know?

Water Always Wins: Thriving in an Age of Drought and Deluge, by Erica Gies

Erica Gies' *Water Always Wins* begins in California, where she grew up, and travels the world from the Mesopotamian Marshes of Iraq to a re-created hyporheic zone ("the liver of the river") beneath a stream in the Pacific Northwest; to places in England and elsewhere where beavers are being reintroduced intentionally and marshes restored; to Chennai, India,



with its metropolitan area home to more than 12 million people and the Andes Mountains in Peru, radically different environments where people are re-implementing sometimes centuries-old water management strategies. She introduces communities along the Mississippi, Missouri, and Arkansas Rivers who have experienced "spectacular" levee failure; to Holland, China, and many other places along the way. In each location, she introduces us to innovative water experts. People who are part of what she calls the Slow Water movement, a diverse group of scientists, ecologists, engineers, urban planners, and ordinary citizens who understand that letting water move in the ways water wants to move can fix many of the problems that have been created by trying to corral and control water.

The book is dense with stories, ideas, and information, and gorgeously written, so that you will feel you've had a glimpse into the life of an Iraqi marsh dweller, or visited a rolling plateau in the Peruvian highlands "where the *puna* grassland is scattered with scrubby chamise bushes and lupine in decadent purple flower, and the mountains stack behind each other into seeming infinity." This book could not be more timely and inspiring. It is essential reading for anyone thinking about how to store and use water wisely, how to protect human infrastructure from human-created risks, and how to restore damaged ecosystems in these changing times.

Sponsor-a-Book program expands in libraries across the watershed

by Katie McCarthy, GMCG Education Committee member

How do salamanders and frogs cross our roads on a dark rainy night in early spring?

Safe Crossings, by Kari Percival, is a beautifully illustrated, non-fiction children's book about people of all ages coming together as citizen scientists during the spring migration. This is just one of the exciting new books in our GMCG Sponsor-a-Book collection.

Since 2023, the Sponsor-a-Book program, initiated by the GMCG Education Committee, has placed dozens of high-quality, beautifully illustrated, nature-themed children's books into each of the libraries of the Ossipee Watershed. Each book has been selected according to criteria that supports GMCG's mission of protecting and conserving the natural resources in the Ossipee Watershed.

In February, an event at the Samuel H. Wentworth Library in Sandwich, NH, led to the sponsorship of twelve books to the library. This represented the introduction of the program in Sandwich. Enthusiasm and support for the program resulted in the scheduling of a return visit in March.

During the past year the Sponsor-a-Book program has expanded into area elementary schools. Books have been delivered to the Effingham Elementary School and Lakeside Primary School in Conway. March also marked the introduction of the program into the Sandwich Central School.

Annually, new books have been evaluated and added to the list of desired books. The Education Committee will be meeting in early April at the Effingham Library to consider new additions to the collection.

Enthusiasm for the program is evident wherever the books are on display. Individuals, who may not currently engage in volunteering or advocacy with GMCG, are often willing to contribute the purchase of one or several books to their local library. These books expand GMCG's visibility in the community and provide outreach by engaging the hearts and curiosity of our children.

We advocate for what we love. Instilling a love for the nature, creatures and wildlife of the watershed is an important step in encouraging future water protection advocacy and support from our youngest citizens.

George and Imogen Bull excited about learning more about Big Night and amphibian crossings at the Effingham Elementary School. (Photo courtesy of Melanie Jones)

Left to Right: GMCG Education Committee member Jennifer Elwell, Samuel Wentworth Library Director Nancy Frederickson, and GMCG Education Committee Member Katie McCarthy. (Photo courtesy of Katie McCarthy)

Check with your local library regarding this program. For more information, or to donate a book directly to a library in the Ossipee Watershed visit www.gmcg.org

www.gmcg.org

Sponsor-a-Book

Save the date! 2025 spring calendar

Please register in advance for these programs at www.gmcg.org. There are no registration fees, but your donations help us sustain these programs. The Blue Heron House in Effingham is located at 236 Huntress Bridge Road.

Big Night & Salamander Crossing Brigade: Chocorua Lake Conservancy (CLC) and GMCG are assembling a team for a Big Night Salamander Crossing Brigade and data collection in the Chocorua Lake Basin once again this year. CLC and GMCG invite folks who live close to the Chocorua Lake Basin to participate in a Big Night Salamander Crossing Brigade, helping amphibians to cross the road safely and collecting data on what species are on the move. We encourage anyone living farther away to monitor crossings near their home so that they are not driving long distances on a night when amphibians are on the move. The exact date of Big Night is weather-dependent and could be any time March through May. Register at www.gmcg.org. PLEASE NOTE: To participate in the program it is important to review the training sessions below as we will be collecting amphibian migration data and identifying amphibians. Harris Center Salamander Crossing Brigade Workshop: https://harriscenter.org/events/salamander-crossing-brigade-workshop-2025

Thursdays in April from 10 to 11 a.m. — Children's Hour with GMCG at Effingham Library: The Effingham Public Library is hosting a weekly Children's Story Hour featuring nature-based programming led by GMCG staff, AmeriCorps members and volunteers. We hope kids and their families can join us on Thursdays for fun, educational programs and stories about spring, salamanders, frogs and toads, Earth Day and more! For more information please contact The Effingham Library at 603-539-1537 or Effinghamlibrary@gmail.com. The library is located at 30 Town House Road, Effingham, NH.

Friday, April 11 from 12 p.m. to 3 p.m. — 7th Annual GMCG Annual Polar Plunge for Healthy Water: GMCG invites you to take the plunge into the icy Ossipee River with GMCG staff and friends to support our watershed protection programs! You can participate by plunging, donating, or both! At 12 p.m. the doors of the Blue Heron House open for coffee, hot coco, hot potluck lunch and desserts. At 1 p.m. the Polar Plunge gets underway. Before or after your plunge enjoy a woodfired mobile sauna session courtesy of Elemental Saunas. The event will feature prizes for the top plungers who collect the most sponsorship donations and participation gifts for all who take the plunge. Learn more, register, or donate at www.gmcg.org/polarplunge. ***This year's Polar plunge donations will be matched 100%!***

Tuesday, April 22 and Saturday, April 26 from 10 a.m. to 11:30 a.m. — RIVERS Volunteer Training Sessions: At the Blue Heron House, RIVERS volunteers will learn and refresh their water quality skills, practice using monitoring equipment, and meet other volunteers. In order to provide the highest quality data, we strongly encourage all volunteers to attend one session. Sessions will be outside so please dress for the weather. For more information email Jill Emerson at water@gmcg.org.

Thursday, June 5, 11:15 a.m. to 12:15 p.m. — NH LAKES 2025 LAKES CONGRESS at The Grappone Conference Center in Concord: Presented by Moselle Spiller, GMCG Outreach Coordinator and Frank & Kathy Lalumiere, Friends of Danforth Ponds. Danforth Ponds in Freedom, which flow into Lake Ossipee, have been ranked among New Hampshire's more impaired surface waters. The 2018 Ossipee Lake Watershed Management Plan outlined various measures to prevent erosion and reduce harmful phosphorus levels and other compounds degrading the water quality of the ponds. The Friends of Danforth Ponds and the Green Mountain Conservation Group were awarded a $100,000 grant by the U.S. Environmental Protection Agency to address these challenges. Hear how the Danforth Ponds community is working together to install best management practices to reduce stormwater runoff for both small- and large-scale projects. Learn about cost-share incentives that were developed to both encourage proper septic system maintenance and homeowner best management practice installations. In addition, hear about the educational and community engagement initiatives that were deployed.

Tuesday, July 29 4 to 6 p.m. — GMCG 28th Annual Watershed Celebration at The Preserve at Chocorua: GMCG is delighted to be returning to The Preserve at Chocorua for our Annual Watershed Celebration in honor of the volunteers, donors, local organizations, and businesses who make up our watershed community. Details for registration will be announced later this spring.

THE WATERSHED NEWS

A Quarterly Publication for the Ossipee Watershed

GREEN MOUNTAIN CONSERVATION GROUP
PO Box 95
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Effingham, NH 03882
(603) 539-1859
www.gmcg.org

GMCG 7th Annual Polar Plunge for Healthy Water

Friday, April 11
at GMCG
from noon to 3 p.m.
group plunge in the Ossipee River at 1 p.m.

ALL DONATIONS MATCHED 100%

In This Issue:

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