

Protecting natural resources in the Ossipee Watershed since 1997

GMCG launches winter road salt awareness campaign

GMCG has announced the launch of a public awareness program addressing the threats winter salt application poses to New Hampshire's environment, economy, and the health of its citizens. The "Salt Responsibly" campaign will focus attention on ways to reduce the use of salt while keeping roads, driveways, parking lots, and sidewalks safe throughout the long New Hampshire winter.

"The facts are in," stated Executive Director Matt Howe. "New Hampshire's freshwater lakes, streams, wetlands, and groundwater are becoming saltier each year, and the leading cause of that is the 400,000 tons of salt applied every winter to our parking lots, sidewalks, town roads, interstate, state highways, and other surfaces. Salt is toxic to aquatic life and plants, it corrodes our bridges and vehicles, and when it



Rock salt spread near the Ossipee River this winter.



SALTRESPONSIBLY.COM

permeates our drinking supply it jeopardizes human health."

Radio, newspaper, and social media messaging will direct the public to www.saltresponsibly.com to learn about the harm caused by winter salt applications and offer guidance to reduce the amount of salt that is contaminating New Hampshire's waterways and water supplies.

"The purpose of this campaign is not to cast blame," added Howe. "We recognize that safety is the first priority of those responsible for winter road maintenance, and until the day that practical alternatives are widely available, winter salt use will continue. The real problem is oversalting. Reducing waste and increasing the efficient use of salt are the key solutions. We seek a broader public understanding of the problem and to share information about the steps everyone can take to make a difference."

For nearly two decades, GMCG has conducted comprehensive water quality monitoring at dozens of sites in the Ossipee Watershed. Earlier this year, GMCG Water Quality Coordinator Jill Emerson and her team of AmeriCorps members and community volunteers released a report summarizing the last 15 years of data collection. "What is alarming," notes Emerson, "is there has been a significant increase in salinity levels at 85% of the sites we test, with surface water readings at several sites that pose a potential threat to the aquatic environment and the organisms that live there."

GMCG's data mirror findings from across the State. The New Hampshire Department of Environmental Services (NHDES) currently recognizes 50 New Hampshire water bodies as "chloride-impaired" based upon federal Clean Water Act (CWA) standards. In 2008,

Continued on page 2

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 promote an awareness of and appreciation for clean water and the wise use of shared natural resources across the Ossipee Watershed and advocate strategies to protect them.

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. Water knows no boundaries!

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Jill Emerson, Water Quality Coordinator

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Bethany Mestelle, Education and Outreach Assistant
Caitlin Noseworthy, Water Quality Resources Assistant



Road salt awareness campaign *continued from page 1*

only 18 New Hampshire water bodies failed to meet CWA standards.

Commercial salt applicators are responsible for the majority of winter salt applied to traveling surfaces in New Hampshire. GMCG collaborates with the University



Tons of toxic rock salt are routinely spread on NH roadways.

of New Hampshire (UNH) Technology Transfer Center to promote and deliver NHDES's highly regarded Green SnowPro certification program. This program is the first in the nation to train and certify commercial salt applicators on the latest methods and technologies to safely reduce the use of salt. Municipalities are the second highest contributor of winter salt applications in the state and they are soon to be eligible for Green SnowPro certification alongside the thousands of commercial salt applicators already in the program.

"As GMCG launches the Salt Responsibly campaign,

we want to underscore the leadership role that UNH, NHDES, and the New Hampshire Department of Transportation have played in the effort to safely reduce winter salt application," added GMCG Education Coordinator Tara Schroeder. "New Hampshire has made much progress, and I hope this campaign will help further increase participation in Green SnowPro and mobilize the public and more municipalities to take salt reduction seriously."

Visitors to the campaign website will learn about how one New Hampshire municipality, the Town of Madison, has recently invested in a brining dispenser. Brining, a process that liquifies salt before it is applied to roadways and other surfaces, has been found to be more effective in melting ice and snow while reducing salt applications by more than 50%. In the face of rising costs – commercial salt prices are at least 25% higher for most NH towns this winter – brining offers a significant financial incentive as well.

"GMCG's mission is to protect the Ossipee Watershed and the Ossipee Aquifer," noted Howe. "Yet we would like this message to extend across the state and beyond our borders. Everyone in New Hampshire lives in a watershed. As citizens of a watershed, we all have a responsibility to keep in mind that virtually everything we add to the land eventually ends up in our water."

GMCG in action



AmeriCorps member Caitlin Noseworthy helps maintain the Effingham Elementary fit trail on MLK day.



Stephanie Doyle (R) from the NH Mushroom Company leads a mushroom walk at GMCG in mid-October.



GMCG "Wonders of Water" traveling banner was displayed outside public libraries across the watershed throughout the fall.



Lakes Region Conservation Corps members take a quick break around a campfire during a GMCG workday in November.



Above and below: AmeriCorps members Bethany Mestelle and Caitlin Noseworthy collect data for our RIVERS program.



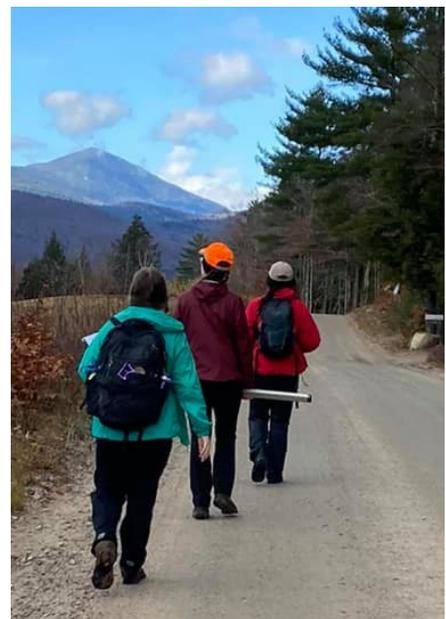
Volunteer Tim Otterbach helps with the new kiosk display at the Pine River boat launch making boaters aware of best practices used to help protect the Ossipee Lake Natural Area.



Students from Sandwich Central School take part in microplastics collection on the Cold River as part of GMCG's annual Volunteer Biological Assessment Program.



Sadie poses for the Salt Responsibly website. Salt used to melt ice harms animals' paws as well as the environment.



Caitlin, Bethany, and Outreach Coordinator Moselle assess stream crossings and culverts in Tamworth.

By Tara Schroeder

Volunteer Biological Assessment Program (VBAP):

This fall, GMCG collaborated with six schools on the 16th year of VBAP, including: Effingham Elementary; Freedom Elementary; Ossipee Central; Sandwich Central; Pine Tree Elementary; and Sacopee Valley Middle School. The program involved more than 230 students, teachers, parents, and volunteers who helped to assess the water quality of local rivers and streams by sampling water for chemistry, macroinvertebrates and new in 2021, microplastics. Students presented their results and what they learned at the annual Community VBAP Presentation on October 28 via Zoom and received a t-shirt that they helped design for participating in the program.



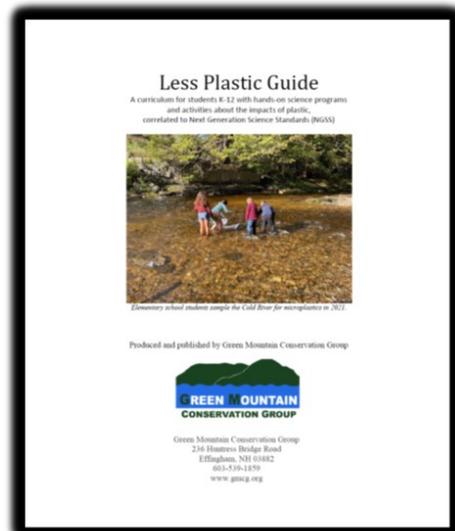
GMCG's Outreach Coordinator Moselle Spiller combined students' artwork from Pine Tree Elementary and Sandwich Central School for the VBAP t-shirt this year.

A final report was compiled on the program's results and distributed to schools and towns where water quality was assessed. The report is also available at www.gmcg.org.

Less Plastic Initiative: GMCG's initiative to share research and education about plastics in the environment reached eight schools in 2021, including students from kindergarten through 8th grade at Effingham Elementary, Freedom Elementary, Ossipee Central School, Sandwich Central School, Pine Tree Elementary School, Northeast Woodland Charter School, and Sacopee Valley Middle School. GMCG staff and AmeriCorps members also collaborated with Camp Calumet campers and Effingham Elementary School to conduct microplastics sampling and education over the summer. Public programs in 2021 included hosting an information table at the Tamworth Farmer's Market with Tamworth Recycling Project volunteers, presenting microplastics research to the public on Zoom, sharing information about the program at the Effingham Coffee Hour, and facilitating a Plastics Community Forum in October with collaborators from the Tamworth Recycling Project, Cook Memorial Library, Conway Public Library, Chocorua Lake Conservancy, and former selectman Willie Farnum of Tamworth.

Finally in 2021, GMCG completed the Less Plastic Guide curriculum for local schools with many of the education and research programs that were

developed and piloted over the course of the year. The Guide includes a curriculum for students K-12, with eight science lessons in addition to many educational videos, online activities, and extensions that can be used to reinforce lessons and allow for remote learning and homeschooling opportunities. Lessons in the Guide have students taking an approach to learning science that encompasses discovery and problem solving to explore and learn about their local watershed. The Guide focuses on plastic pollution as a local and global environmental issue, and the lessons have students investigate their surroundings for microplastics, reflect on their own plastic use, and learn how they can make a difference through community science and their own actions. All of the lessons are correlated to Next Generation Science Standards. The Guide has been shared with local educators and is online at www.gmcg.org



Trout in the Classroom (TIC):

In November, GMCG staff began working with schools to prepare for the upcoming TIC program. Since 2009, GMCG has been conducting this program in local schools which teaches students how to raise trout from eggs to fry, monitor tank water quality, engage in stream habitat studies, and appreciate water resources. Trout are indicator species and their abundance directly reflects the quality of water in which they live. Five schools will participate in 2021-2022, including Freedom Elementary, Sandwich Central School, Pine Tree Elementary, Northeast Woodland Charter School, and Sacopee Valley Middle School.

These programs are made possible with the support of local grants from the

Quimby Foundation, Francis Small Heritage Trust, Pequawket Foundation, Dorr Foundation and the NH Moose Plate Conservation Grant Fund. Town support for water quality monitoring programs and the

support of GMCG donors also make these educational programs possible. Special thanks to volunteers, teachers, and partner organizations NH Fish and Game and Trout Unlimited for their support!



Bethany Mestelle, GMCG's Outreach & Education Assistant AmeriCorps member, teaches a school group about trout biology, ecology and conservation through the Trout in the Classroom program.

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.*

Effingham Conservation Commission

In the fall, the ECC considered plans for educational programs to be presented in the spring. Given the ongoing pandemic issues, these may be on Zoom. Members also presented their ideas for projects that ECC could apply for grants to fund. Suggestions included updating the ECC brochure to include the Larry Leavitt Preserve and Pine River Cherubini Preserve (PRCP); installing an informational kiosk at the PRCP; aquifer protection

through stormwater runoff control measures and stream bank restoration for the town; funding to send more local kids to conservation-oriented summer camp programs; habitat preservation and improvement for specific species; watershed management; and improvements to broadband access. ECC also provided a letter of support to the Effingham Planning Board for the town's groundwater protection ordinance.

Madison Conservation Commission

In the continuing effort to reduce both salt run-off and costs, the Town of Madison

recently purchased a brine agitator to go with its new acquisition of the brine tank spreader. This means they now mix their own brine. Additionally, they purchased three 1100 gallons tanks, which will be filled by the Madison Fire Department, to provide the water for the mixer. They can now make the brine 23% solution at 8 cents per gallons versus the \$1 per gallon purchase price. The Madison DPW reports that salt prices are now up 38% from last year and Madison is using 1/3 less salt. Literally tons less!! The Madison Conservation Commission helped fund these projects jointly with conservation, Town, and American Rescue Plan Act funds.

Sandwich family tackles arsenic in drinking water

By **Bethany Mestelle**,
AmeriCorps Member

Most people know that large doses of arsenic can be harmful or even fatal, but even low concentrations of arsenic can have devastating health effects. In adults, long-term exposure to arsenic is one of the leading causes of bladder cancer and diabetes. In children, there is a link between low levels of arsenic exposure and impaired brain development, growth problems, breathing problems, and health problems, such as cancer, as an adult ⁽¹⁾.

Arsenic occurs naturally in rocks and soils around the world, including the granite deposits and bedrock of New Hampshire. While arsenic is concentrated in the bedrock of the southeastern portion of the state, it can be found across the state. Arsenic dissolves into groundwater, becoming a health hazard for those who get their drinking water from wells, which is 40% of families in New Hampshire. Arsenic has no taste, color, or odor in water, which can make it difficult to detect. The only way to know if your well contains arsenic is to get it tested. Concentration of arsenic in well water can vary dramatically depending on the exact location of your well, the depth to which your well is drilled, and even recent weather events. So, even if your neighbor tests their well water and has no arsenic, it is still important to get your well tested.

The Environmental Protection Agency (EPA) maximum contaminant limit (MCL) is the amount of a contaminant that can be present in a public water system. MCLs are determined by



Mark and Peggy Longley of Sandwich have started a program with GMCG that increases access to well testing for residents.

considering information regarding the health effects of exposure to a contaminant as well as the cost of treatment options. The EPA MCL for arsenic is 10 parts per billion (ppb), but the healthiest amount of arsenic in a drinking water supply is 0 ppb. There is a 20% chance that a well in New Hampshire is over this limit ⁽²⁾. New Hampshire Department of Environmental Services (NHDES) has established an even lower statewide MCL of 5 ppb. There is a 25% chance that a well in New Hampshire is over this limit ⁽³⁾.

Mark and Peggy Longley of Sandwich, NH have started a program that increases access to well water testing for residents in their town. Mark's experience as professional polymer chemist and a former GMCG board member piqued his interest in water quality protection. "Based on the level of risk, especially to young children, we thought, wouldn't it be beneficial to offer free arsenic testing to any family in our town where children reside?" Mark stated. The cost to test a well water sample for arsenic through NHDES is \$15, but most people elect to do the standard well analysis, which

costs \$85 and tests for 17 water quality parameters. So for families with children, the Longleys will either cover the cost of the arsenic test, or put \$15 toward the standard well analysis. Every month, Mark collects well water samples from families in Sandwich, and drives them to the state lab in Concord. About three weeks later, the state will send out an analytical report outlining the test results after the sample has been processed. When the results are in, Mark will follow-up to help interpret the results and decide if treatment is needed to ensure the water is safe to drink.

There are a variety of treatment options if your well water contains arsenic. Because arsenic is only a health concern if ingested, a point-of-use (POU) system can be used to treat only the water used for cooking and drinking. These systems typically cost about \$200 to install, and require continued testing of the filtered water to ensure that the filter is effective. If arsenic levels are severely elevated, there are multiple water contaminants of concern, or if drinkable water is desired at all water sources in the house, a point-of-entry (POE) system can be installed. POE systems treat all of the water coming into the house, but tend to require more maintenance and are much more expensive than POU systems. A common POE treatment system is reverse osmosis, which can remove arsenic, as well as other water contaminants, using a semi-permeable membrane. These systems can cost between \$3,000 and \$4,000 to install, and consume numerous gallons of

water for each gallon of finished, filtered water.

Regular testing of well water is an important way to keep harmful substances out of your drinking water supply. For more information about arsenic in well water or to get your well tested, contact NHDES at dwgbinfo@des.nh.gov or (603) 271-2513.

GMCG also has standard kits available at the office for pick up, and Sandwich residents can also contact GMCG to reach Mark and Peggy Longley for testing and follow up help to interpret the test results. The *Be Well Informed Guide* from NHDES is another resource designed to help people understand their water test results and, if their well water has commonly found pollutants in it, provide information about health concerns and water treatment choices. Visit www4.des.state.nh.us/DWITool/Welcome.aspx for more information.

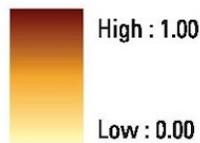
Information for this article is from an interview with Mark Longley done by GMCG AmeriCorps Member Jessica Pierce in September, 2021.

***Did you know?
In 2021, 14 of 135
wells tested in
Sandwich had
elevated levels of
arsenic.***

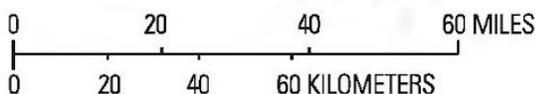
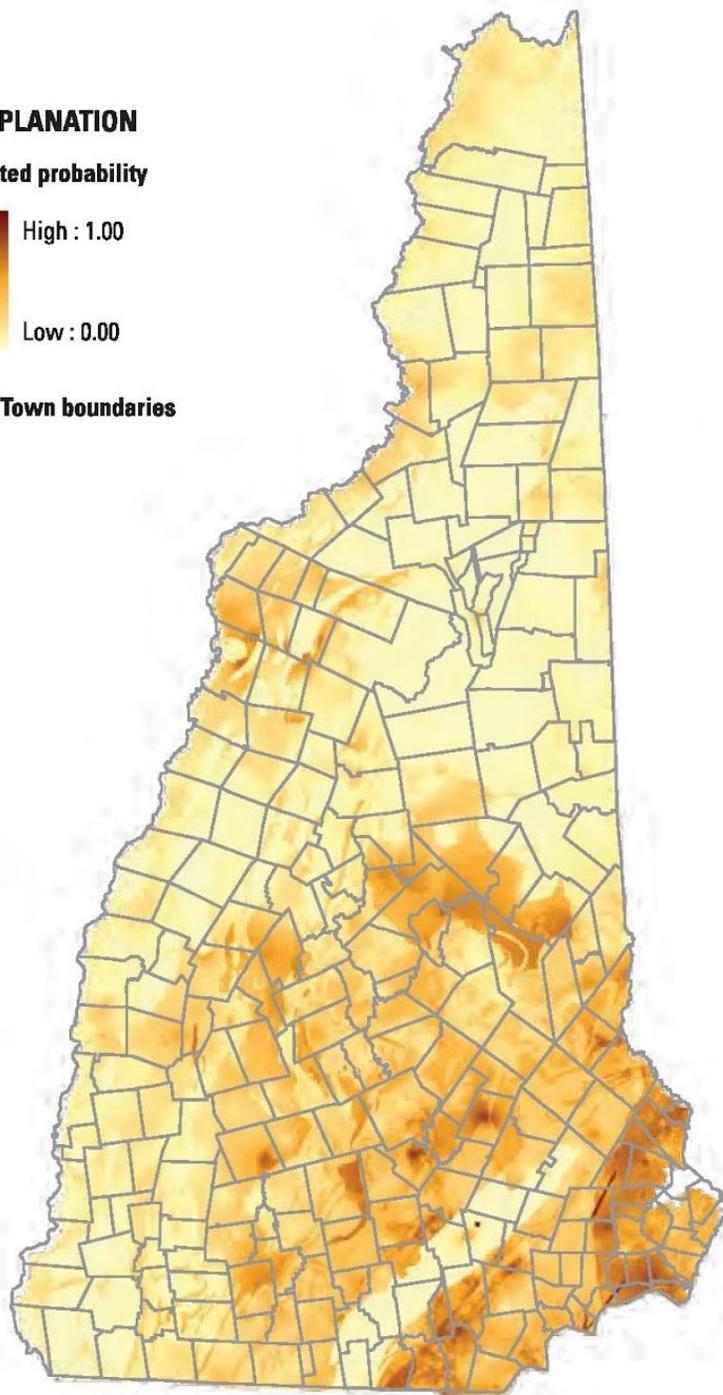
B. Arsenic $\geq 5 \mu\text{g/L}$ model

EXPLANATION

Predicted probability



Town boundaries



Map of New Hampshire showing the probability that the groundwater contains arsenic greater than 5 ppb (4).

1. <https://sites.dartmouth.edu/arsenicandyou/arsenic-and-children/>
2. <https://sempub.epa.gov/work/01/519463.pdf>
3. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/dwgb-3-2.pdf>
4. Estimated probability of arsenic in groundwater from bedrock aquifers in New Hampshire, 2011 <https://doi.org/10.3133/sir20125156>

GMCG looks to the future with \$250,000 3-year campaign

By Matt Howe

As announced in the Fall 2021 issue of the *Watershed News*, the Board of Directors approved a special \$250,000 campaign last September to invite the GMCG community to help us secure critical conservation land, make essential improvements to our buildings, and invest in organizational capacity.

GMCG approached some longtime friends, board members and committee members to gauge the level of success we might expect. We were delighted that this small group of GMCG supporters pledged over \$133,000 of the \$250,000 goal! It is now time to invite the entire GMCG community to participate.

“We’ve found that people are glad to step up and help GMCG be successful,” said Board Chair Knute Ogren of Effingham Falls, “The three-year campaign makes it easy for friends of the watershed to give generously. Together we will reach our fundraising goal and ensure that GMCG is ready to confront the growing challenges of protecting our natural resources and our precious aquifer.”

Stay tuned for a mailing with more details about the campaign; how these funds will be used to protect land and strengthen GMCG; and how you can play a part. The chart on the opposite page shows how we can reach \$250,000. If you would like to get a head start and choose a water drop that works for you, the back page of the newsletter is a tear-off response form.

Phillips Brook Wetland Preserve Expansion Completed

Thanks to the campaign’s first donors, on November 18, 2021 we were able to purchase 44 acres in Effingham and Ossipee that increased the size of our Phillips Brook Wetland Preserve to 146 acres. This added protection of the Phillips Brook watershed coincides with recent advocacy efforts to protect its lower reaches as well as the particularly vulnerable aquifer recharge area between Route 25 and Leavitt Bay. Phillips Brook, which is already showing excessive salinity and higher phosphorous levels based upon GMCG water quality monitoring, is less than 200 feet from where a developer is seeking to operate a gas station (visit our website for the latest on this situation and local citizens’ efforts to defend Effingham’s groundwater protection ordinance).

New Water Research Center at Blue Heron House will be ready by May

If you have ever visited Water Quality Coordinator Jill Emerson in her research space, you know she is rather short on elbow room. Funds raised in this first phase of the campaign have enabled us to embark on the construction of a much larger space in the Blue Heron House basement.

“The demand for our water quality monitoring services continues to grow”, notes Jill. “This expansion will enable us to collect and analyze more data on behalf of more lake communities. Without this new space we would have had nowhere to place new equipment, and now that our AmeriCorps program has grown to four members during the busy summer months, we will have room for everyone to work analyzing data at the same time!”

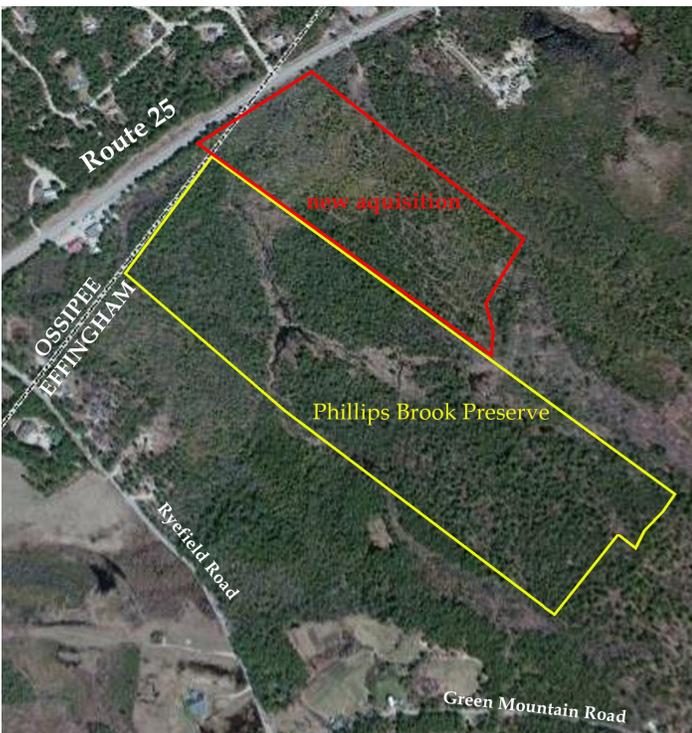
'Pacesetter' pledges exceed 50% of goal



View of the wild wetlands within the Phillips Brook Preserve, summer 2021.



GMCG Facilities Committee members Bill Klotz, Tim Otterbach and Dana Simpson framing out the new water research center in the Blue Heron House basement. Volunteer labor on projects such as this makes your dollars go even further!



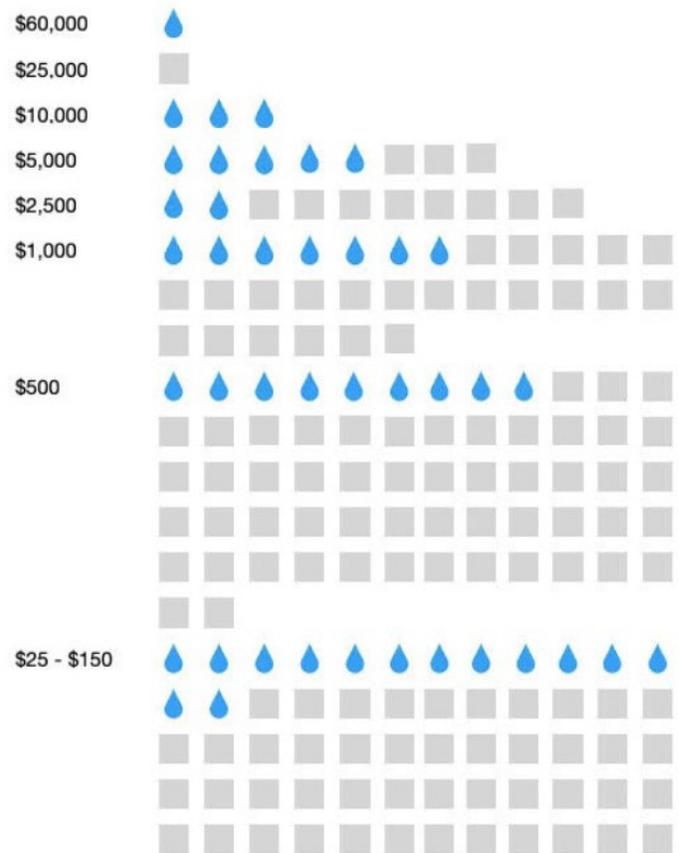
The red line in the map above indicates the new expansion of the Phillips Brook Preserve.



Members of the GMCG Land trust Committee, volunteers, staff, and AmeriCorps conducted a monitoring walk of the 102 acre Phillips Brook Preserve in August of 2021.

Every Drop Counts!

Consider making a generous pledge to GMCG!
Campaign gifts can be given over a three year period.



Donor Goal: 175 Dollar Goal: \$250,000
As of Jan. 1st: 41 As of Jan. 1st: \$133,150

Why aren't we making water?

By Jill Emerson

The water we have here on earth now was here some millions of years ago when dinosaurs roamed the planet. It was here even before the dinosaurs – back when life forms were developing in primordial soups or maybe geothermal ocean vents – either way, water was involved. Pretty much whatever we have here on earth is what we have always had, and more or less what we get. It is why water protection is so important – more of it is not being made.

But on a planet that is so good about manufacturing things (sometimes to extreme excess), why *is* no one making more water? There is certainly a market out there for water, and many instances where having access to more water would be incredibly helpful: out west, where drought conditions grow worse year after year; Australia, which in recent years has been decimated by bush fires; in poorer countries around the world that lack the infrastructure to move water effectively.

For (wildly pedantic) starters, we can not “create” water - this would violate the Law of Conservation of Mass, in which matter cannot be created nor destroyed. Setting that very important point aside, could humanity get new water by combining hydrogen and oxygen together to form H₂O? Sure – we can do this. So why are we not making water?

Well, you can not just mix hydrogen and oxygen atoms together and expect them to be water. That does not get them to bind to each other – you need a



The airship Hindenburg, the largest dirigible ever built burst into flames upon touching its mooring mast in Lakehurst, New Jersey.

bit of energy to get those orbiting electrons to play together. And it would not even be that hard to get the force you would need to combine them! Hydrogen is flammable and oxygen supports combustion, so with just a small spark you could combine the two atoms and make water! But...you also make an explosion.

Exhibit A: The Hindenburg. Now, the Hindenburg was obviously not designed with the idea of water formation in mind - nor with the immediate end of the zeppelin era – but hey, essentially both are what resulted. The airship, famously filled with hydrogen, ignited in 1937 in spectacular fashion. What few people realize is that during that explosion, somewhere in the area of 160 metric tons of water was formed when atmospheric oxygen combined with the exploding hydrogen. That is over 42 thousand gallons of water, or... just 1/15 of what is needed for an Olympic sized swimming pool.

It would most likely have been observed as water vapor, if anyone had been able to look past, you know...the horrific explosion.

This is basically why we do not form new water (as of yet anyway) – you would need a very large explosion to produce enough water to make it worth the time and effort. And large explosions clearly have their own set of problems, with safety being the first but not only concern. If there was a way to do this in a safe, large scale production, it would potentially be a viable option. Humanity is great at inventing things, when we put our collective minds to it. Many things that we take for granted today were far-fetched or even unthinkable 100 years ago, so who knows what mankind will have figured out how to do in the next 100 years. Necessity is the mother of invention, after all, and the need for water is always great.

GMCG Welcomes New AmeriCorps Members



Caitlin Noseworthy, Water Quality Resources Assistant

“I am Caitlin and I’m from Mendota Heights, Minnesota. While I didn’t grow up an “outdoorsy” person, I always had an interest in my science classes—especially Earth Science. I decided to pursue a degree in Geology at St. Norbert College (SNC) and loved every second of it. My field experiences at SNC ranged from the Upper Peninsula of Michigan to Alaska to Hawaii. I found myself especially interested in the water aspect of geology—which led to me earning my MS in Hydrogeology from Illinois State University. While I was there, I completed research on microplastics and other water quality issues. In my free time, I enjoy golfing, reading, puzzles, and exploring new places. I am really excited for the opportunity to serve at GMCG for the next ten months!”

GMCG is now seeking two half-term (22.5 weeks) AmeriCorps members to serve with us for the 2022 season beginning on May 16, 2022.

AmeriCorps members will assist in our research, education, and outreach endeavors. To read the full position description and instructions for how to apply please visit:

<https://www.gmcg.org/ameriCorps>



Bethany Mestelle, Education and Outreach Assistant

“My name is Bethany, and I grew up in Arbor Vitae, Wisconsin, where I fell in love with the outdoors and learning as much as I possibly could about the world around me. That desire for discovery led me to the University of Minnesota-Twin Cities, where I studied Environmental Sciences, Policy, and Management and minored in Soil Science and Music. In college, I was a member of the marching band, where I spent two years leading the ensemble as the Block Captain, and was an educator at the Natural History Museum. Through these opportunities, I developed a passion for teaching. I am excited to apply my knowledge and continue learning with Green Mountain Conservation Group and build connections with the community through science. In my free time, I can often be found outdoors hiking or biking, reading a good book, or making music with any instrument I can get my hands on.”



March of the salamanders

**By Brett Amy Thelen,
Science Director, Harris
Center for Conservation
Education**

Before we know it, the spring amphibian migration will be upon us. Under the spell of warm spring rains, thousands of spotted salamanders, wood frogs, spring peepers, and other amphibians will emerge from the underground burrows where they have spent the winter and clamber through the forest – up to a quarter-mile, on tiny feet – to vernal pools and other wetlands to breed. Sometimes known as “Big Night,” it is a nocturnal affair of mythic proportions, and it is spurred by three elements acting in synchronicity: thawed ground, nighttime temperatures at or above 40 degrees, and rain after dark.

As one friend said, going out on Big Night is “like stepping into another world.” Except, of course, it is *our* world. Like any hero’s journey, the migration is fraught with peril – particularly in places where frogs and salamanders must cross roads to reach their breeding sites. The statistics on amphibian roadkill are sobering: in Canada, biologists recorded an astounding 30,000 dead amphibians over the course of just four seasons along a mere two-mile stretch of road. Researchers in western Massachusetts concluded that roadkill rates even on rural roads were likely to lead to extirpation of local spotted salamander populations in as few as 25 years. It does not take a lot of cars to do

a lot of damage.

As an individual, one of the very best things you can do for migratory amphibians is *not* drive on Big Nights. If you have got an errand to run and it is a warm, rainy night, ask yourself if it can wait. You could save the lives of scores of amphibians simply by staying home. The next best thing – especially if you are a night owl who does not mind getting a little wet – is to join the Salamander Crossing Brigades, intrepid crews of community scientists who move migrating amphibians across roads by hand, keeping count as they go.

For fifteen years, the Harris Center for Conservation Education has coordinated the Crossing Brigade effort in the Monadnock Region – complete with data forms, *Salamander Crossing* signs, frequent admonitions to never ever go out on roads at night without a reflective vest and bright flashlight, and even a five-day salamander forecast. We have now trained nearly 1,600 volunteers, many of

whom return, like the salamanders, year after year. Together, we have provided safe passage for 60,000 amphibians and counting.

A number of years ago, a fellow Crossing Brigadier affectionately referred to us as “slimy-fingered loonies,” a title we claim with pride. If you think you might like to be a slimy-fingered loony too, consider joining us for this year’s volunteer training on Tuesday, March 15, 2022 from 7 to 8:30 p.m. via Zoom. Although the Harris Center only actively coordinates volunteers in the Monadnock Region, the training will include helpful information for folks who would like to organize grassroots crossing efforts in other towns as well. All are welcome! Learn more and register at harriscenter.org/salamander-crossing-brigades.

An earlier version of this story appeared in the Monadnock Ledger-Transcript on March 31, 2021.



Left: Crossing Brigadiers pose for a picture during a Big Night migration in New Boston, NH. Photo credit: Amy Unger.

Above: A Spotted Salamander sits on a speed hump. Photo credit: Brett Amy Thelen.

Notes from downstream

"Borders? I've never seen one, but I hear they exist in some people's minds." Thor Heyerdahl

**By Rikki Haley,
Water Quality Coordinator,
Saco River Corridor Commission**

The SRCC has exciting prospects in the works for the 2022 Water Quality Monitoring Season. As a result of a grant recently awarded to the Commission from the Maine Outdoor Heritage Fund, the SRCC and GMCG will be able to test for *E. coli* and enterococcus bacteria "in-house", granting us the opportunity to expand our monitoring program. With new sites, new parameters, and new equipment on deck, we are thrilled for the season to begin. May is just around the corner, is it not? Wait, it just started snowing.

Increasing *E. coli* testing in the watershed is crucial as we move forward during these trying times of the COVID-19 pandemic. Public recreation and travel is expected to exceed that of 2021, therefore, we are prepared to further protect public health by getting out to swimming beaches, river access points, and other recreation areas throughout the watershed. We are ready to add several new sites used for recreational purposes to the sampling schedule, spanning from Fryeburg to Biddeford. We have just started recovering from a viral pandemic, so let us do everything we can to prevent harmful bacteria from ruining your summer plans! We have done our research and have some great ideas for new parameters and new sites that would benefit from our water quality monitoring, but we need your help! We are always looking for feedback from our communities, and by advancing



The Ossipee River flows through Effingham on its way to Maine.

and expanding our program, we are even more equipped to meet your expectations and take suggestions. Do you know a popular river site used for swimming, kayaking, fishing, etc.? Visit our website, srcc-maine.org, and click on the "Contact Us" tab to send us your thoughts and suggestions so that all of Maine can have a safe, healthy summer.

So, what other things do we have brewing for the winter months? After testing out the Quanti-Tray Sealer PLUS from IDEXX Corporation, we are working on a standard operating procedure to update our QAPP (Quality Assurance Project Plan) and continuing our submissions of water quality analysis to all towns in the corridor. With our water quality analysis report from FB Environmental in its final stages, we have great ideas to enhance the interactive mapping experience on our Corridor Mapping Tool, so stay tuned! Did I mention that the "Water Quality" pages on the SRCC website have been extensively

updated? Check them out on the SRCC website.

Between the land use-regulatory program and prepping for the upcoming water testing season, we are keeping ourselves busy this winter. Given our expansion of the monitoring program, we are always looking for volunteers to get out on the rivers, use our advanced equipment, and contribute to a worthy cause. Make it a family activity! We highly encourage volunteers to engage their family members and friends in the testing experience and have fun while doing it!

We look forward to keeping you updated on our future endeavors and exciting projects to come. Want updates sooner? Check our Facebook page, www.facebook.com/sacorivercorridorcommission for news on our upcoming projects and work!



Save the date! 2022 winter calendar

Every other Thursday, February 10- April 21: Found Art: Recycled Plastic Sculpture Classes

3:30-4:30 pm at the Conway Public Library

This winter, artist Kristy Foster-Carbone and GMCG will be hosting an art class and scientific exploration opportunity for kids focused on plastic. In the “Found Art: Recycled Plastic Sculpture” program, students will design and build unique mixed media creatures using recycled plastic materials and other bits and pieces of the “unimportant” fragments we find in our daily lives. Some examples of subjects to work from for creatures are animals, birds, trees, people, houses or cars. The finished artwork will be hung in the teen section of the library for the public to view. Students will also participate in activities centered around the impact of single use plastics on the environment as part of the Less Plastic Initiative. Activities include using microscopes to view microplastics and analyzing how much plastic is used in day to day life through science activities and experiments. To register for the class, contact GMCG at education2@gmccg.org.

Wednesday, February 16: Introduction to Animal Tracking

5:00-6:00 p.m. on Zoom.

Ever want to know what visits your backyard at night? During the day? What sleeps under your shed? Care to help youngsters identify the tracks and signs of animals with which we share the land? Animal tracker Barbara Bald will examine prints, track patterns, stride and straddle in snow, consider where and when to look, and help you become familiar with resources that help decode stories in the snow. No science experience is necessary. Please register in advance for this program at www.gmccg.org.

Saturday, February 19: Outdoor Animal Tracking Program

11:00 a.m.-1:00 p.m. at GMCG’s conservation center, the Blue Heron House located at 236 Huntress Bridge Road in Effingham. Family-friendly and open to all ages, folks will meet animal tracker Barbara Bald, spend some time observing casts of tracks, pelts, skulls and more before heading out into the forest on a short outdoor walk along GMCG’s Blue Heron Trail to search for animal tracks. Participants will learn how to identify native animal and bird tracks in the snow. Dress appropriately for the weather and with proper footwear. Please contact education@gmccg.org to preregister for this program as space is limited to 15 people. Free to the public, with donations graciously accepted.

Tuesday, March 15: Salamander Crossing Brigade Volunteer Training

7:00 p.m.-8:30 p.m. on Zoom.

As the earth thaws and spring rains drench New Hampshire, thousands of amphibians migrate to vernal pools to breed. Sadly, many are killed when their journeys take them across roads. Every year, the Harris Center trains community scientists to serve on Salamander Crossing Brigades at amphibian road crossings throughout the Monadnock Region. These heroic volunteers move migrating amphibians across roads by hand during one or more “Big Nights” each spring, keeping count as they go. Attend this fun, information-packed volunteer training to join their ranks – or simply to learn more about the remarkable spring amphibian migration. Please register in advance for this program at www.harriscenter.org/events/salamander-crossing-brigade-workshop-2022. For more information, contact Brett Amy Thelen at thelen@harriscenter.org.

Wednesday, March 23: Conservation in the Pristine Paradise of Palau

5:00-6:00 p.m. on Zoom.

Join District Conservationist Nels Liljedahl of the Natural Resources Conservation Service who will present about his ten month experience on the remote island archipelago of Palau, located in the Pacific Ocean. Nels started this adventure by living and working in the small fishing village of Ollei on reforestation and water quality protection for the seagrass beds and coral reefs, the lifeblood of Palau. Come and hear his story about this amazing country, their strong environmental ethics and the present day challenges they now face. Please register in advance for this online program at www.gmccg.org.

**U.S Centers for Disease Control advises that “masks are a critical step to prevent people from getting and spreading COVID-19” and recommends that unvaccinated people wear a mask when in proximity to other people. Complimentary face masks will be available at all in-person programs at GMCG.*



Building our capacity to protect the Ossipee Watershed!

GMCG's Capital Campaign - \$250,000

Name(s) _____

Address _____

Town _____ State _____ Zip _____

Phone _____ Email _____

With commitments already received we have been able to acquire 44 acres to expand the Phillips Brook Wetland Preserve. We are now actively working on additional conservation projects in Effingham, Madison and Freedom and much-needed renovations to the Blue Heron House and Huntress House. What can you do to help GMCG reach \$250K? Choose an amount that makes sense for you. For some, it will be \$5,000 each year. For others, it will be \$50 each year. Most will be somewhere in the middle. Gifts at every level make a difference. If you want to give the whole pledge in one lump sum, we will gladly receive it!

Yes! Count me/us in with a **total pledge** of \$ _____ to conserve critical lands, care for GMCG's buildings, & expand/support the staff.

I plan to fulfill the pledge all at once.

I plan to fulfill the pledge over a three year period

This will be a gift in memory of or in honor of: _____

When we receive your pledge, we will touch base with you to **thank you** and to talk about a number of options available to you to fulfill your pledge including: **Credit card**, by sending a **check**, or by some other option such as a **gift of stock**, from a **family foundation**, or from an **IRA** for those who have reached 72 years old.

Questions: Contact Executive Director Matt Howe at director@gmcg.org or call (603) 539-1859.

Mail to: GMCG P.O Box 95, Effingham, NH 03882

GMCG is a 501c3 nonprofit corporation. Federal I.D. #02-0498020

Thank You!



THE WATERSHED NEWS

A Quarterly Publication for the Ossipee Watershed

Nonprofit
Organization
U.S. Postage Paid
Effingham, NH
Permit No. 10

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Effingham, NH 03882
(603) 539-1859
info@gmcg.org

SAVE THE DATE
10am-12pm
Tuesday, April 26 OR
Saturday, April 30
RIVERS training sessions

In This Issue:

- Salt Responsibly!
- Education programs in full swing
- Sandwich family tackles arsenic
- \$250K campaign for the future
- ...and more!

Contributors: Jill Emerson, Matt Howe, Tara Schroeder, Moselle Spiller, Bethany Mestelle, Caitlin Noseworthy, Rikki Haley, Brett Amy Thelen

Comments, questions, or ideas for a future article?
Please write to info@gmcg.org

FUN FACTS: NEW HAMPSHIRE WAS THE FIRST IN THE NATION TO SALT ROADS, IN 1938! REGULAR APPLICATION BEGAN IN 1941-'42. RUSTED-OUT CARS BEGAN APPEARING AROUND 1944! ← OKAY, MAYBE LATER...

- ROAD SALT RESIDUES CAN HARM AQUATIC LIFE, INCLUDING BREEDING FISH AND AMPHIBIANS.
- SALT KILLS OR DAMAGES MANY PLANT SPECIES.



- CHEMICALS FROM ROAD DE-ICING CAN CONTAMINATE SOILS, WETLANDS, AND LEACH INTO VULNERABLE WELLS.
- SALT DETECTED IN STREAMS, LAKES, AND PONDS MAY COME NOT ONLY FROM SURFACE RUNOFF, BUT FROM GROUND-WATER ACCUMULATION OVER YEARS. IT DOESN'T GO AWAY JUST BECAUSE IT WENT UNDERGROUND.

TIM WHITE 2022