

Protecting natural resources in the Ossipee Watershed since 1997

By Matt Howe

Welcome to the Spring 2023 edition of the *Watershed News*! This issue is dedicated to the Ossipee Aquifer and marks the official launch of GMCG's 2023 "One Aquifer" public awareness initiative.

In the months ahead, backed by a special project grant from the Adelard A. and Valeda Lea Roy Foundation and your donations, we will underscore the simple yet fundamental concept that a majority of the people, towns and businesses of the Ossipee and Upper Saco Watersheds have just one source of clean, safe drinking water - now and forever.

Last summer the "One Aquifer" signs started appearing along roadways from Sandwich to Parsonsfield. The message was one outcome of a 2022 marketing plan (also funded by the Roy Foundation) motivated by a sense that GMCG needed to do more to make sure that the people of our watershed towns and visitors to the region know two key things:

1. *The health of the Ossipee Aquifer is inseparable from the health of those who rely on it and the health of the region's economy. Those of us who have built our homes, our businesses and our roads above it have a responsibility to protect it and to take notice when others are not.*

One Aquifer.



Let's Protect It.

2. *Green Mountain Conservation Group is dedicated to the protection of the Ossipee Aquifer for future generations.*

To be clear, GMCG is no less dedicated to the protection of our surface waters, and we are ever mindful of their interconnectedness with the aquifer. Our water quality monitoring program is constantly expanding to cover new bodies of water and

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Tamworth voters approve Groundwater Protection Ordinance

GMCG is pleased to announce that on March 28th voters in Tamworth resoundingly approved a Groundwater Protection Ordinance, with 231 in favor and 43 against. Tamworth becomes the 111th New Hampshire town to pass such an ordinance to enhance protection of critical drinking water resources. Back in 2011 a similar measure did not pass, but efforts to educate the community about the importance of drinking water protection continued. In 2021, the Tamworth Planning Board, in collaboration with the Tamworth Conservation Commission, formed a Groundwater Protection Ordinance Committee that sought input from individuals and businesses, listened to their concerns, and made modifications to the draft ordinance based on input received at three public hearings held last fall. Thanks to the grassroots work of many Tamworth residents, there are now reasonable safeguards to ensure that Tamworth's future citizens will have access to clean, safe drinking water. Congratulations, Tamworth! For more information, go to www.gmcg.org/tamworth.



Maggie Grant, Chris Grant, and Sheldon Perry of Tamworth shared information about the GPO at many public events last summer.

A message from the Board of Directors

GMCG wants to hear from you

Our world is evolving at an increasing pace and with it, challenges to our watershed. As GMCG enters our next quarter century of keeping our watershed healthy, the Board of Directors is refreshing our strategic plan. It has been a number of years since we conducted a thorough assessment of what our watershed community seeks from us and how we can most effectively meet those expectations. We want to ensure every aspect of our Research, Education, Advocacy and Land Conservation (REAL) focus is sustainable and fits with our mission “to promote an awareness and appreciation for clean water and the wise use of shared natural resources across the Ossipee Watershed.”

To that end, we invite you to provide your input through a survey. You will receive a postcard the week of April 24, as well as an email with details on how to participate in the survey. The survey is structured so you can provide a brief response or provide as much feedback as you would like. It will be open for your input until May 15.

Your response is invaluable. It will be incorporated into the Board’s strategy deliberations over the summer and guide us as we set our course for the next 25 years. We thank you in advance for participating.

We have one aquifer, let’s protect it together!



Aerial view of the Ossipee Watershed looking north from over the summit of Green Mountain.

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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GMCG in action



AmeriCorps members from the Squam Lake Association teamed up with GMCG's AmeriCorps members to participate in a MLK Day of Service at the Bearcamp Center for Sustainable Community in Tamworth this January.



A camper reacts enthusiastically to his snow volcano erupting when AmeriCorps member Hailey adds vinegar to baking soda during GMCG's "Exploding Science" demonstration at the Bearcamp Center's February school vacation camp.



AmeriCorps member Grace leads a program about bugs at the Effingham Library.



Hailey Williams traverses a snow bridge in the Phillips Brook Wetland Preserve.



Grace, Hailey, and GMCG Board and Land Trust Committee Member Dana Simpson pause next to a GMCG boundary plate marker at the Phillips Brook Wetland Preserve.



GMCG Executive Director Matt Howe and Anne Packard of Freedom walk her land on Berry Bay. GMCG will soon hold the conservation easement on the 28 acre parcel and Lakes Region Conservation Trust will be the new land owner.



Campers participate in an animal tracking program led by Education Coordinator Tara Schroeder during the Bearcamp Center February vacation camp.



Grace does three things at once while water quality monitoring this winter.

Aquifer crankie painting project tells the story of the Ossipee Aquifer

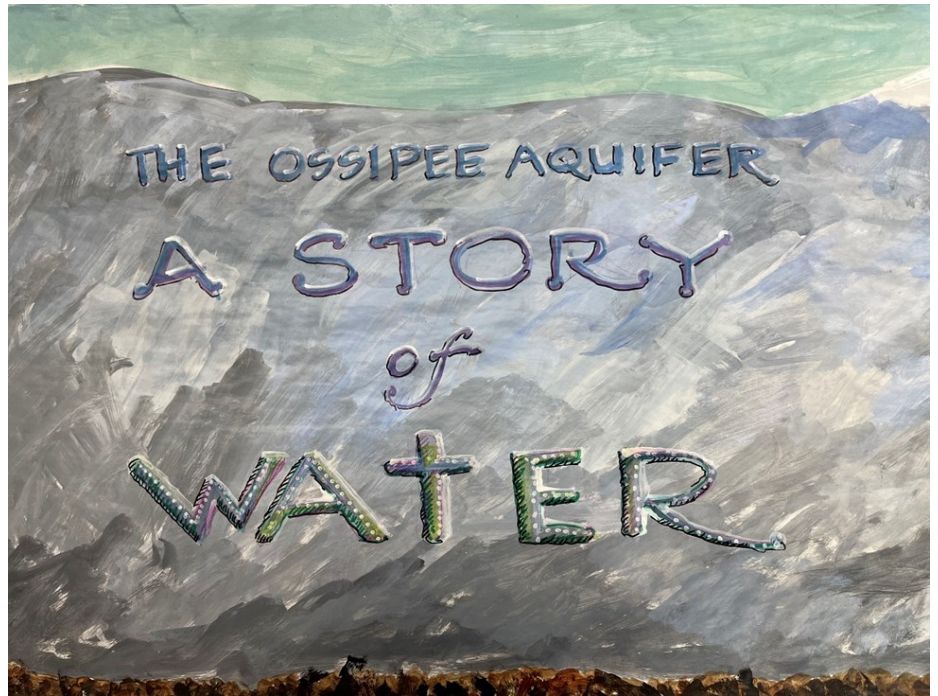
By Tara Schroeder
GMCG Education Coordinator

On Saturday February 18, GMCG, Cook Memorial Library, Chocorua Lake Conservancy, and Yeoman's Fund for the Arts joined together at the Cook Memorial Library in Tamworth for the creation of the Ossipee Aquifer Crankie! A crankie is a long scroll of images that gets rolled up and shown like a movie.

Crankies, called panoramas in the 19th century when they were all the rage, are an early form of moving picture. The group of 17 community artists created a beautiful, educational crankie depicting the Ossipee Aquifer—what it is, what it means to be a stratified drift aquifer, how the waters of the aquifer are connected to our lakes and rivers and the water that flows from our faucets, and why this kind of aquifer is particularly vulnerable to contamination. The crankie was filmed and put to various scripts and music to provide viewers of all ages an opportunity to learn, meditate, and appreciate the immeasurable value of the Ossipee Aquifer. "The Ossipee Aquifer: A Story of Water" video is available for viewing and as a teaching tool at www.gmcg.org and www.chocorualake.org.



Chocorua Lake Conservancy's Programming and Outreach Director Juno Lamb demonstrates to the group how a crankie works.



Artwork for "The Ossipee Aquifer: A Story of Water" crankie was completed by community members in February (Photo courtesy of Juno Lamb, Chocorua Lake Conservancy).



Community members painted the 30-foot crankie depicting the story of the Ossipee Aquifer's formation and importance in February (Photo courtesy of Juno Lamb, Chocorua Lake Conservancy).

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to better understand pollutants and problems such as *E. coli*, microplastics and cyanobacteria blooms.

In 2023 we are also stepping up our “Best Management Practices” advocacy and embarking on a major project with the Friends of the Danforth Ponds to reduce nutrient loading in one of the watershed’s most imperiled lakes.

Yet we believe a campaign to elevate awareness of the aquifer is critical. For one, since we never see it, an aquifer is easier to overlook than pristine lakes and streams. For another, there are demonstrated ways to improve surface water quality. If a portion of an aquifer becomes contaminated, remediation, if even possible, would be exorbitantly expensive and complex. As Karen McCall noted in her article from the Winter 2023 edition, formations of sand and gravel that filter and store our priceless drinking water - 14,000 years in the making - can be rendered useless by a single incident.

In the years ahead, municipal officials in Effingham, Ossipee, Freedom, Madison, Eaton, Tamworth, Sandwich and beyond will bear the responsibilities of deliberating on applications for new residential and commercial development while protecting their towns’ (and their neighboring towns’) groundwater supplies.

A core message of the “One Aquifer” campaign is that these can and must be *compatible – not competing – responsibilities*.

When the value of the aquifer becomes embedded in a town’s approach to planning and economic development, discussions no longer have to be about “tradeoffs.” When town officials are fully versed on the geological characteristics of a stratified drift aquifer, and understand why their groundwater protection ordinances include the provisions that they do, then the key question can be more along the lines

of “how can we support sustainable economic activity without exposing our groundwater to unnecessary risks?”

It was no accident that the “One Aquifer” signs cropped up on Route 25 in the vicinity of the former Boyle’s Market shortly before a key Effingham Planning Board meeting last August 22, 2022. In coordination with the Ossipee Lake Alliance (OLA), we felt it was time to make our point about the proposed gas station in a more public fashion. Yet we wanted to do so with a message that was not antagonistic or casting blame. We wanted a message that was honest, positive and unifying. We hope we have found it, and we hope it can help set a more collaborative tone to what we acknowledge has been a tense two years in Effingham featuring legal action by GMCG and OLA.

In the case of the Meena, LLC gas station application, we have taken the steps we felt necessary to defend the Effingham Groundwater Protection Ordinance and protect the aquifer from the hazards of a business that is a “prohibited use.” We are confident that GMCG, OLA and concerned citizens have made a solid case based on science and the law that this gas station poses an unacceptable risk to the health and safety of those who live in its proximity.

With the launch of the “One Aquifer” initiative, we want to underscore that it will always be our preference to educate, advocate and organize in the community commons and not in the courtroom.

What will the initiative look like?

The signs will return to the roadways. If you live on a well-traveled road anywhere above the Ossipee Aquifer and would like to post a sign, just let us know!

There will be public service

announcements on the radio.

There will be focused social media messaging on Facebook, Instagram and elsewhere.

There will be flyers posted in public places.

There will be decals to display at places of business or on your vehicle.

There will be a new section of the GMCG website with fresh content and images to help visitors understand the meaning of “stratified drift aquifer” and why it is uniquely vulnerable to the consequences of human activity.

The initiative coincides with the formation of a new committee at GMCG, the Aquifer Protection Committee chaired by GMCG board member Todd Dickinson. Building on years of education and advocacy by the former Ossipee Aquifer Advisory Committee, the committee’s mission statement is as follows:

The aquifers of the Saco and Ossipee watersheds are unique treasures and critically valuable resources that sustain our people, ecosystems and economy. Water knows no boundaries and the quality of our aquifer is challenged by a variety of natural and human activities, as well as climate change; any of which could significantly degrade our water. The mission of the Aquifer Protection Committee (APC) is to promote public awareness and empower our communities so we can act together to protect this resource. We will do this by proactively providing strategies and tools to our communities and working alongside them to leverage these in support of aquifer protection.”

There is much to do. Let the campaign begin!

To learn more about our aquifer and what you can do to protect it, visit

www.gmcg.org/oneaquifer

This new web page will enhance your understanding of our region’s unique geology; highlight GMCG volunteer opportunities including service on the Aquifer Protection Committee; provide resources for homeowners and businesses owners on best practices for protecting groundwater, and much more!

Clean water is not free, even in the country

By Nancy Walser
GMCG Board Member, Sandwich

Back when we bought our house in Sandwich in 2001, I hardly thought about the water that we drank in our old farmhouse whenever we drove up from Massachusetts for a little rest and relaxation. But all that changed in March 2020 when I was suddenly able to work remotely due to the pandemic and, along with many others, moved up to New Hampshire to live full-time.

One of the many delights of leaving the city was realizing that we no longer had to pay a water bill which in Cambridge includes a sizable fee for treating wastewater as well.

But then a more sobering realization took hold: The quality of our drinking water was now on us.

In exchange for pricey water bills, Cambridge residents get water, yes, but also peace of mind. In 2001, a state-of-the-art water treatment plant opened to provide purified water to residents. Last year, a new \$1.5 million filtering system for certain per- and polyfluoroalkyl substances (PFAS) linked to cancers and other health problems was installed. Drinking water is tested annually by the city, with results published in glossy four-color reports so residents know their water is safe.

In Sandwich, I knew our water came from a well (somewhere!) but where did that water come from? And how did we know it was safe?

Friends of GMCG know that most of us in the Ossipee Watershed get our drinking water from the state's largest stratified aquifer. The layers of sand and gravel store water and act as a giant filtering system for the water flowing into the ground from rain and run-off via brooks and ponds as well as man-made surfaces like roads and parking lots.

Not all substances that enter the aquifer can be naturally filtered, though. Benzene (a human carcinogen) from gas station runoff, microplastics, and PFAS break down very slowly (up to 500 years for



The Ossipee Aquifer is the primary source of drinking water for the majority of people living in the Ossipee Watershed.

plastics, and not at all for some PFAS chemicals) thus the reference to them as "forever chemicals." Excess salt from winter road maintenance pose threats to wildlife and to us. Naturally occurring substances in water like radon and arsenic at certain levels threaten our health as well.

I am pretty sure our water is safe, for now. But keeping it safe—for ourselves, our neighbors, our children and grandchildren—is not free of expense, nor effort.

I am embarrassed to say that it took about 10 years before we actually went searching for our well; the wellhead was buried and not up to code. Soon after that, our 40 plus year-old well pump failed and we had to replace it.

Now, we test our well water every three years (although not yet for PFAS, as is now recommended for well owners every 10 years). We have our septic tank pumped regularly, and we take hazardous wastes and expired drugs to annual collection days in Moultonborough. I have given up pesticides and use compost for fertilizer. We haul sand rather than buy salt to spread on our driveway and walkway in the winter. Slowly I am finding alternatives to plastics and transitioning to all-natural cleaners.

In our society, it takes real effort to follow the golden rule of ground water protection: "If you do not want to drink it, do not put it in the ground." That includes garbage, which ends up in landfills.

One of the easiest things we do is to donate to GMCG, the only organization devoted solely to protecting the Ossipee Watershed and our aquifer through research, education, advocacy, and land conservation. GMCG is helping me and others learn about the kinds of regulations and best practices that are needed to keep our water safe.

There is more I could do. As a former city dweller, I admit that I am on a learning curve here, and the science is complex and ever-changing.

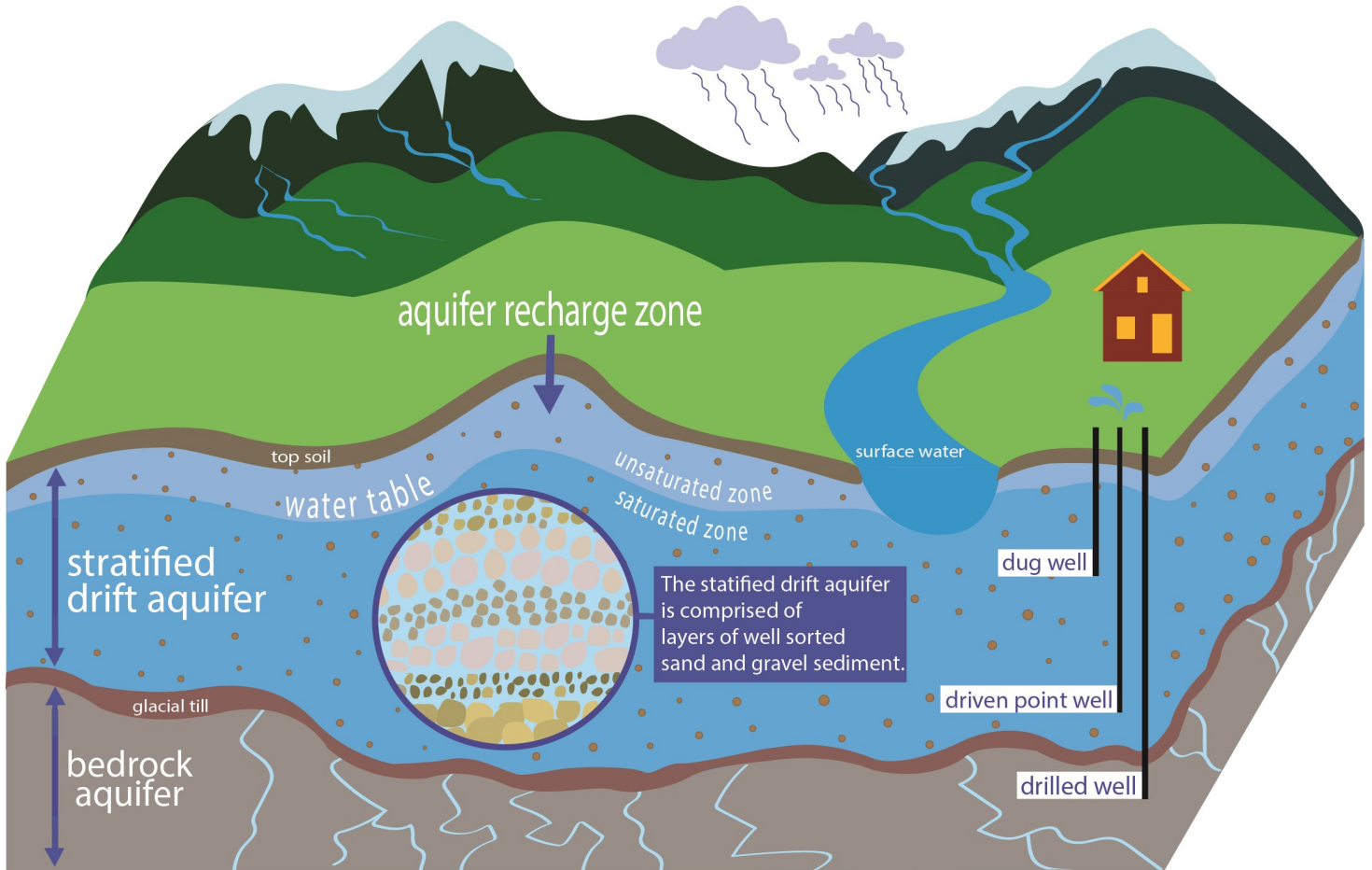
But there is one thing I have learned that keeps me motivated: it is much more expensive and onerous, if even possible, to restore a ruined water supply. Just Google the names of any of these New Hampshire towns—Merrimack, Portsmouth, Litchfield, North Hampton, Bedford, Amherst, Londonderry, and Greenland—with "polluted drinking water" and you will get a hint of the human and monetary cost of allowing dangerous substances to escape into the ground.

As we learn more about the dangers of PFAS and other common contaminants, we need to be vigilant protectors of our water and our health. History shows there is a steep cost for taking our seemingly free, clean water for granted.

The water below us

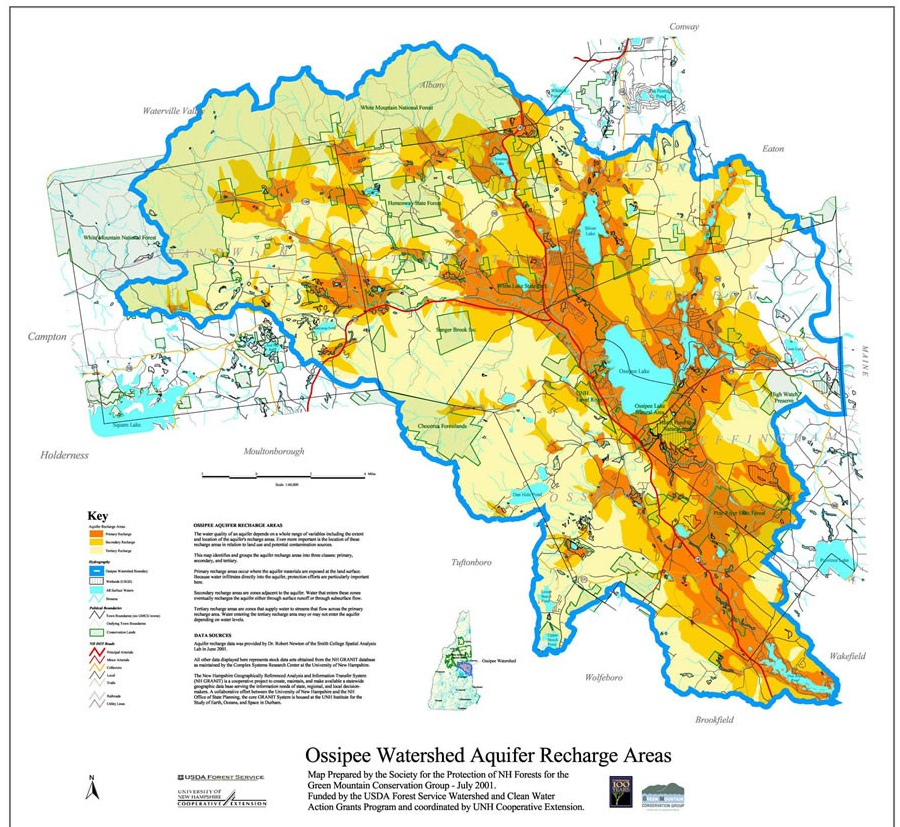
A conceptual diagram showing a cross section of a stratified drift aquifer

Illustrated by GMCG Outreach Coordinator Moselle Spiller



Stratified drift aquifers (such as the Ossipee Aquifer) lie within sand and gravel deposits laid down by meltwater rivers that drained the continental glaciers while they were retreating from this area approximately 15,000 years ago. Because they consist mainly of sand and gravel, they are more vulnerable to contamination due to their extremely permeable soils. The high transmissivity of water in aquifer recharge areas means that potential contamination sources in one town can impact groundwater quality in another town, as **water knows no boundaries!**

Right: Map of the Ossipee Watershed Aquifer Recharge Areas prepared by the Forest Society, 2001. The map shows the primary recharge zone as dark orange and yellow. The full-size map is viewable at www.gmcg.org.



Beloved trail in Ossipee gets a makeover

**By AmeriCorps members
Grace Kennedy and Hailey Williams**

Constitution Park has provided a lush haven for the community of Ossipee to pursue all forms of outdoor recreation, from hiking to disc golf. Since the land was granted in 1979, the property has undergone major leaps and bounds towards becoming a more inclusive and established conservation area. These improvements are largely thanks to the efforts of volunteer groups, state officials, philanthropists, and the UNH Cooperative Extension of Carroll County. Recently, the Friends of Constitution Park, formed in 2021, have furthered restoration efforts and activities on-site, committing to one overarching vision: "...create a space that enhances the health of local citizens, and provides social, economic, and educational benefits for the region."

Constitution Park is also home to many intriguing features such as remnant beaver activity, diverse forest ecology, and views of the Ossipee Ring Dyke. From the vista viewpoint, the Ossipee ring dyke is visible, a feature left behind from an ancient volcanic eruption and caldera collapse. This collapse resulted in the formation of the Ossipee Mountains and produced one of the only fully remaining ring dykes in the world.

The remnants of beaver activity can also be spotted from an interpretive trail. The occurrence of beavers created a wetland habitat that transitions into forest, making a transition zone also called an ecotone. Ecotones are home to diverse species that take advantage of the transition from one habitat to another.

The GMCG AmeriCorps members were given the opportunity to redesign and draw inspiration from the original UNH interpretive trail signs. Since joining the team at GMCG, Hailey and Grace, have been trained in interpretive trail design and management. They have been eager



Phenomenal views of the Ossipee Ring Dyke formation, seen from the vista viewpoint on the Hilltop trail.

to contribute to Constitution Park's legacy and to extend outdoor education to the community. The redesigned interpretive trail will have interactive activities with content appropriate for children and adults as they walk the path. While not currently underway, the Friends of Constitution Park are making active progress towards updating the boardwalk found on the Deer Run Trail. Future AmeriCorps may also have the opportunity to work

on restoring and developing additional interpretive signs along the Deer Run Trail. Those curious about learning more can access additional information through the Friends of Constitution Park website:

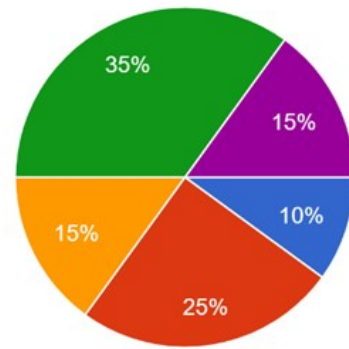
<https://fcpossible.org/>

By Tara Schroeder
GMCG Education Coordinator

In the fall of 2022, GMCG collaborated with Saco Headwaters Alliance to conduct the “Saco Headwaters Watershed Survey: Protection Priorities” to ascertain the natural resources of greatest concern in our watershed communities as well as the greatest perceived threats to those resources, and effective strategies for protecting them. One hundred thirty-six individuals were invited to participate in the survey, including selectmen and members of planning boards, conservation commissions, zoning boards, budget committees and other town leaders in the 26 municipalities within the Saco Headwaters Watershed. The survey was open from September 6 through November 18, 2022. A total of 20 responses were received, with 70% of respondents being Planning Board member and 30% being Conservation Commissioners. A handful of respondents indicated they were also members of their town’s zoning board and select board, or other area of town management.

Most respondents indicated that aquifers/groundwater were their highest conservation priority, followed by wetlands and other natural resources such as surface waters and wildlife habitat. Some of the greatest threats to natural resources in the watershed identified include: climate change, fragmentation of wildlife habitat and corridors, road salting, development and invasive plants and animals. Just half of respondents indicated that they thought their town is doing a good to excellent job of protecting natural resources while 35% felt their town is doing a fair job and 15% felt their town is doing a poor job (Figure 1). Most of respondents (75%) felt their town does not have adequate budget and staffing for natural resource protection (Figure 2).

How do you feel your town is doing when it comes to protecting critical natural resources? (20 responses)



- Excellent
- Very Good
- Good
- Fair
- Poor
- No Opinion

Figure 1: Half of respondents indicated that they thought their town is doing a good to excellent job of protecting natural resources while 35% felt their town is doing a fair job and 15% felt their town is doing a poor job.

Survey respondents had the opportunity to share some successes with natural resource protection in their town as well as challenges to natural resource protection. Many of the successes mentioned involved the town conserving land (town forest, public preserve, easements) and important natural resources protected as a result, such as wildlife corridors. Other successes mentioned included: clearing of invasive species; compliance with local, state or federal laws; having various natural resource ordinances in place (groundwater, steep slope, viewshed, dark skies, noise, soils-based development limitations and storm water); Wild & Scenic protection for Wildcat; continual improvements to the zoning ordinance that provide mechanisms for resource protection; building a solar powered wastewater treatment facility; and having a Natural

Does your town have adequate budget and staffing for necessary natural resource protection? (20 responses)

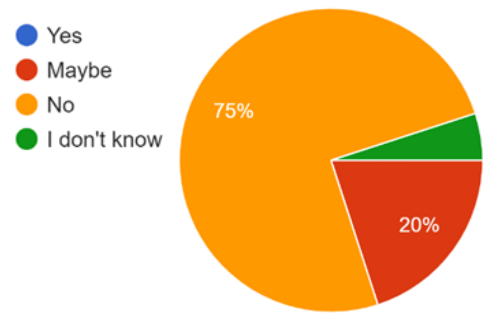


Figure 2: Most of respondents (75%) felt their town does not have adequate budget and staffing for natural resource protection.

Resource Inventory, or NRI, completed.

Challenges to natural resource protection in the watershed that were highlighted included: wetland and groundwater protection; the Master Plan is outdated; development opportunities are limited by conserved space and lack of municipal sewage limits further growth; the town has no zoning and a real aversion to enacting ordinances or practices that are protective; a lack of good data; rollbacks of protections enacted in the past; town enforcement needs to remember the mechanisms for resource protection provided in the zoning ordinance and bring them to bear; not conserving land at a high enough rate and putting the onus on nonprofits rather than taking the lead; the American concept of property ownership; and “a varying mixture on greed, paranoia and ignorance that greets every overture related to environmental protection”.

When asked how towns can improve natural resource protection, town officials had many ideas. Responses included: Get people to vote “yes” for our upcoming groundwater protection ordinance; need water and development policies; education

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needs to include the ways that individuals and small business will not be directly impacted by mitigations or ordinances and address the fear/impression that any protection will add cost to property taxes or small businesses; find state and federal funding to offset costs of natural resource protection in towns; have more land under easements and public preserves; better water runoff management; better management of septic systems on the lakes; implementation of non-salt management of winter conditions; update the prime wetlands mapping; establish setbacks from perennial streams; identify upper watershed stream catchments for priority protection; identify and protect old growth areas; provide tax incentives for protecting selected natural resources; enhance shoreland protection for all great ponds; reduce road salt over all aquifer areas; complete a risk assessment of all stream crossing structures; adhere to the priorities set in the Natural Resource Chapter of the Master Plan; invasive species management needs work; continue patiently teaching; need more codified natural resource protections; utilize more municipal property for renewable energy; and work on wetland buffers in the zoning and conservation plan.

GMCG and SHA would like to thank all of the individuals who took time to complete the survey and reflect on the priorities, successes and challenges they face when protecting natural resources in their communities. Future follow-up discussions with respondents will help to further identify how GMCG and SHA can collaborate and support towns to protect shared natural resources. These resources provide immeasurable value to our local economies and quality of life and it is our mission to ensure that they are protected for future generations.

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:

The voters of Effingham approved a warrant article at the deliberative session of the town meeting on Saturday, March 18, to remove the \$2,500 cap on ECC's share of Current Use Change Tax revenues. ECC's share remains 50 percent, but is no longer limited further by the cap. This updated the funding mechanism established in 2005 as authorized by RSA 79-A:25 II. Funds accrued will be available for the protection of additional conservation lands. Spring also brings annual events like the Earth Day Poster Contest at Effingham Elementary School, and the roadside litter cleanup on April 29, 2023.

Saturday, April 29 Keep Effingham Litter Free (KELF) with the Effingham Conservation Commission. Volunteers meet

between 8-9:30 a.m. at the Effingham Town offices to receive a road assignment, trash bags and disposable gloves. After picking up roadside trash in Effingham, we will meet back at the Town Offices at noon to enjoy a BBQ.

Tamworth Conservation Commission:

Starting later this spring the Tamworth Conservation Commission will be participating in the Tamworth History Center's "Tamworth Trails and Hiking" exhibits and events. The Commission will be highlighting the town-owned hiking trails and some of their history. Some of the other participants will be the Wonalancet Out Door Club and the Tamworth Outing Club. Opening date for the exhibit has not yet been set.

Eaton Conservation Commission:

Bob Cottrel, an independent history and museum consultant who runs the Henney History Room at the Conway Public Library, will speak as part of the ongoing series Conservation Conversations on Thursday April 13, 6:30 to 8pm at Eaton Town Hall, followed by a "wall walk" from 9 to 11 a.m. on April 15 starting at the Eaton Town Hall.

Help the wildlife and help clean up the trash



Join us on Saturday, April 29th Annual Earth Day Trash Clean-up

Meet us between 8-9:30 at the Effingham Town offices to receive a road assignment, trash bags and disposable gloves.

After picking up roadside trash in Effingham, we will meet back at the Town Offices at noon to enjoy a BBQ.

Come and join us to help Keep Effingham Litter Free.

Sponsored by the Effingham Conservation Commission

Web cams provide a sneak peak

By Barbara Bald
Educator and GMCG Education
Committee member

Have you ever found yourself inadvertently eaves-dropping—maybe listening to the folks dining in the booth behind you, maybe over-hearing a slightly loud phone conversation?

Perhaps you found yourself feeling like you an intruder as you witnessed a young couple at the airport kissing after a long absence.

Odd thing is, you might feel the same way as you tune into your first web cam that has been set up inside a bear's den or a bird's nesting box. There she is—a peregrine preening her feathers, adjusting herself on her almost-ready-to-hatch eggs, her mate delivering a freshly killed mouse. There you are sitting in front of your computer, tablet or phone— peering, uninvited, into another creature's private world. Should you be watching?

You may be stunned by the beauty of it all, beginning to realize how much like other species we are, grateful to be having this opportunity. Perhaps feeling, a bit uncomfortable to be visually intruding into such intimate scenes. Yes, all of the above reactions may strike at once, but please do keep watching.

Web cams are set up all over the world. Some are regional; others international. Some only operate seasonally as in an animal's particular breeding season; others are year-round. Some focus only on animals in rehab; others give 'windows into the wild'. Some even collect data from citizen observers.

Despite its unwanted side effects, technology is giving us up-close-and-natural glimpses into worlds we have never seen before. No matter where they are set up, they offer biologists and community scientists a chance to learn what they can to promote animal survival. While web cam purveyors do not charge money, they do appreciate donations to keep them functioning.



In the game camera videos stills above a male loon takes two chicks back to the nest. This is the third video in a series documenting the first trip from the nest for the two chicks. To watch this video and more visit <https://loon.org/looncam/> (From the Loon Preservation Committee website.)

What animals can you watch LIVE on-line? Pandas, sheep, elk, donkeys, parrots, peregrines, black bears, hippos—the sky's the limit. Pick a particular species, then just google its cam and voila! Here's just a taste of what's out there:

skylinewebcams.com gives you a view of Mt Washington's weather.

discoverwildlife.com invites you into the world of a Komodo Dragon.

youtube./@peregrinenetworks lets you take a peek at a peregrine sitting on her eggs.

allaboutbirds.org helps you become a bird enthusiast as you sip your tea in the living room.

explore.org offers you a chance to spy on brown bears catching salmon at Alaska's Brook Range.

loon.org lets you peer into a loon's first swim in New Hampshire's Lakes Region.

Web cams allow you to learn almost anything about wildlife at home or in the classroom, but the best part is you are seeing it with your own eyes. Trouble is, once you see red-tailed hawk tearing off bits of flesh to feed to its squawking chicks, you may become smitten. You may need to set aside more time in your day to feed your new addiction.

Good luck and have fun!

Program & financial highlights

2022 in review

By Matt Howe

Last August we celebrated our 25th anniversary with a festive gathering under the big tent at The Preserve in Chocorua. Torrential downpours aside, it was a special occasion and opportunity to celebrate a quarter century of achievement and honor some of the people who have contributed to our success. Enduring 25 years – and continuing to thrive – is a notable milestone for any organization. This alone makes 2022 a year to remember, but let us highlight some of our notable accomplishments:

Completion of the new Water Research Center at the Blue Heron House – With more space, electrical upgrades, and an array of new equipment we are ready to expand our water quality monitoring programs and delve into new arenas of study including microplastics and environmental DNA.

Release of the Less Plastics Curriculum – Based on Next Generation Science Standards, GMCG has produced a comprehensive experiential student learning guide on the problem of plastic waste and what must be done to address it. One New Hampshire educator with 40 years of classroom experience recently noted, “it has got to be one of the best guides I have seen literally in the world! It is fantastic.”

Construction of a new website – The result of a complete overhaul is an online destination that is well organized, visually compelling, faster to load and easier to administer. If you have not already, please check out the new www.gmcg.org!

Completion of a three-year stream crossing assessment project – Our highly trained team of volunteers, AmeriCorps and GMCG staff completed the process of assessing every significant stream crossing (430 culverts and bridges!) in the towns of Effingham, Ossipee, Freedom, Madison, Tamworth and Sandwich. The stage is now set to work with these towns to identify the crossings most in need of replacement in order to support fish passage, mitigate erosion and reduce threats to public safety.

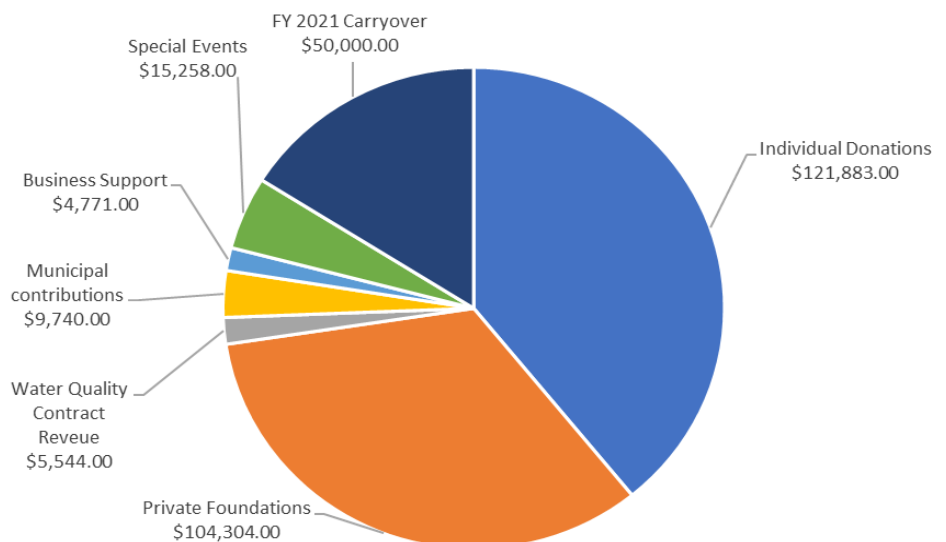
Installation of an interpretive trail at the GMCG Natural Area – Originally opened to the public in 2019, this 0.8 mile loop trail off Green Mountain Road now features educational signage describing the natural and historic features of this unique 41-acre tract that GMCG’s founding leaders and donors helped save from becoming the site for a solid waste transfer station.

A 27-acre conservation easement on the shore of Berry Bay – In collaboration with the Lakes Region Conservation Trust, GMCG will help protect in perpetuity 27 acres at the mouth of Square Brook on Berry Bay which includes loon nesting grounds, wetlands, pine barren forest and some of the last undeveloped land on Berry Bay.

As illustrated by the pie chart below, GMCG relies on a variety of funding sources to compensate our staff, deliver our programs, maintain our buildings, and monitor our lands. The importance of Individual gifts cannot be overstated, not only in dollars, but in the message your support sends to funders, government agencies and town officials that GMCG is an organization embedded in local communities and embraced by the people who live here or come here to recreate and enjoy the quality of our natural environment. Thank you!

GMCG 2022 Funding for Operations \$311,500.00

To view GMCG’s FY22 Balance Sheet and Profit & Loss Statement, visit www.gmcg.org/finance



A teen's environmental education

By David Smith
Co-Executive Director and Board
Member of Ossipee Lake Alliance

Published on March 7, 2023 on the
OssipeeLake.org website

Stella Lunt is 15, a sophomore at Kingswood Regional High School. She lives in Ossipee, a stone's throw from Leavitt Bay, where she and her family swim in the warm months off a small piece of shore they own.

In grade school she attended Green Mountain Conservation Group's Volunteer Biological Assessment Program, which got her interested in the natural world and started her on a habit that continues today—picking up litter along Old Route 25 and Leavitt Road, especially around Phillips Brook, which empties into the lake.

"Every day is Earth Day," she says with a laugh about her litter routine. "Another opportunity to show respect for the environment."

For the past two years, Stella has ramped-up her environmental commitment by being a visible and vocal attendee at the Meena gas station hearings. She has written letters, spoken out, and learned from observing the proceedings, which she attends with her mother, Billie Lunt. She is a notable young presence in a sea of adults.

She says she knows the issues in the Meena case are complicated, and appreciates that the ZBA and Planning Board have always listened to her respectfully. But she's disappointed at what she has seen.

"At one meeting there was a discussion about bushes and landscaping that went on forever," she says. "There hasn't been enough discussion about why it's dangerous to have a gas station on top of the water supply for ten towns."

Most people learned about Meena's application by reading about it. Stella learned about it first-



Stella Lunt, high school student from Ossipee is learning a lot from the Meena gas station case.

hand because her school bus stop is directly in front of the Meena site, which is the former Boyle's Market. That likely made her the first in her neighborhood to see construction workers arrive one day two years ago and start digging things up.

She asked her mother what was going on, and her mom asked the workmen, who told her to mind her own business. That got their attention. Later it was found the work was illegal and had to be shut down by the town.

By then, Stella had learned a lot about the owner and the application and the hearing process by which Effingham will decide whether a gas station will be safe for the public, including her family, friends and neighbors. She and her mom have attended all of the hearings except one when Stella had a school conflict.

At first, the idea of speaking in front of a crowd was scary. But after writing a few letters and reading them aloud, she got the hang of it. Teachers at school and her friends encouraged her.

"It's hard to be the one who says what other people are afraid to say," she says, "but I learned to do it."

At the hearings, her comments are always respectful but to the point. Having witnessed Meena's construction workers start building a gas station without town approvals, she felt justified in giving the ZBA a candid opinion of Meena's trustworthiness.

"They've already proven that they don't follow the rules," she said at the special use permit hearing in January.

"A special use permit would at least allow the community to understand how the applicant intends to protect the aquifer."

Stella is committed but realistic. She knows some people are reluctant to make the gas station their issue because it's not near where they live, or they think it won't affect them if something goes wrong. She says she wishes more people would attend the hearings when they start up again.

"Experiencing the hearings is different from reading about them," she says.

"If more people attended, they would see that you can't just pretend a development like this won't affect you because you don't live near it."

Save the date! 2023 spring calendar

To register for all programs below email education@gmcg.org unless otherwise noted

Thursdays 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 on spring, frogs, Earth Day, moose, forests and trees, pollinators, turtles 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 03882.

Saturday, April 15 and Tuesday, April 18: RIVERS Volunteer Training Sessions from 10 a.m. to 12 p.m 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.

Wednesday, April 19: "Saco River Watershed Stream Crossings Assessment Project" on Zoom from 6 to 7:30 p.m. Learn how your community can improve water quality and restore wildlife habitat while increasing public health and safety. Representatives from New Hampshire Fish and Game, New Hampshire Geological Survey of the Department of Environmental Services, North Country Council, Saco Headwaters Alliance, GMCG and the NH Association of Conservation Commissions will present the summary of the results of stream crossings surveys completed from 2020-2022 across the upper Saco River Watershed for the towns of Albany, Bartlett, Chatham, Conway, Eaton, Effingham, Freedom, Jackson, Madison, Ossipee, Sandwich, Tamworth and Wakefield. This program is geared towards municipal officials, road agents, town DPWs, conservation committees, and other stakeholders and is free and open to the public. Preregistration is required at www.gmcg.org.

Saturday, April 29: Keep Effingham Litter Free (KELF) with the Effingham Conservation Commission. Volunteers meet between 8-9:30 at the Effingham Town offices to receive a road assignment, trash bags and disposable gloves. After picking up roadside trash in Effingham, they will meet back at the Town Offices at noon to enjoy a BBQ.

Tuesday, May 16: NH Department of Environmental Services 2023 Source Water Protection Conference at Edward Cross Training Complex 722 Riverwood Drive, Pembroke, NH. This year's conference will feature discussions and presentations including: US EPA's National Strategic Roadmap for PFAS; state legislative and drinking water program funding updates; UNH research on the distribution and fate of PFAS in surface water; how to adopt municipal water use restriction codes applicable during drought; examples and partnerships to conserve critical water supply lands; case studies on adopting effective local zoning that protects groundwater quality; and public water system monitoring and response to cyanobacteria blooms. The conference fee is \$45.00 (includes light breakfast and lunch). Register early as attendance is limited. Register at the American Ground Water Trust website: www.agwt.org. NH Water Works Operators May Earn 3.75 Technical Credit Hours.

Thursday, May 4 & Saturday, May 6: Vernal Pool Ecology with Dr. Rick Van de Poll. Thursday's program will be on Zoom at 7 p.m. presented by Tin Mountain Conservation Center, and Saturday's program will be a field day at GMCG's Blue Heron House from 9 to 11:30 a.m. Dr. Rick Van de Poll is the principal of Ecosystem Management Consultants (EMC) of Sandwich, NH and provides quality inventories, assessments, and knowledge of natural resources to promote biodiversity conservation in New England for the public and private sector. The Saturday field session will identify the aspects of vernal pool ecology discussed in the slide show, including their landscape position, basin characteristics, typical breeding species, and their importance for local and regional biodiversity. Participants will explore the vernal pool for evidence of amphibians, fairy shrimp, and other macroinvertebrates that are typically found in such habitats. Get ready for getting your hands wet and your eyes amazed! Rain or shine! To pre-register for the Zoom session visit tinmountain.org. To register for the GMCG field program, contact education@gmcg.org. Space is limited.

Saturday, June 24 from 10 a.m. to 1 p.m. Friends of Constitution Park Celebration at Constitution Park located on Long Sands Road in Center Ossipee. The event will feature 'Touch a Truck' hosted by Ossipee Recreation, children's games, nature hikes on the new interpretive trail with GMCG AmeriCorps members, food trucks, disc golf, cornhole and spike ball, a pickleball demo and dog demonstrations. Children under seven must be accompanied by an adult. This program is free and open to the public.

Wednesday, June 28: Creating Habitat for Native Pollinators from 10 a.m. to 12 p.m. at GMCG. How can you help make your property more appealing and beneficial to native pollinators? Pollinators are vital to our food system, and with research showing significant declines in native species, we can all help native pollinators by considering their habitat needs as we landscape our properties. Even small areas can provide important food sources and nesting sites for pollinators like native bees, butterflies, moths and other insects, as well as birds and bats. Experts Wendy Scribner, Natural Resources Field Specialist with UNH Cooperative Extension, Debra Marnich, Stewardship Director of Chocorua Lake Conservancy, and Catherine Dufault, District Manager of Carroll County Conservation District, will explore the importance of native pollinators, share first-hand research experience and examples of how to create habitat for native pollinators. This program will be held at GMCG's Blue Heron house located at 236 Huntress Bridge Road in Effingham, where participants can see an example of a pollinator garden, bee hotel and pollinator field. This program is free and open to the public. Pre-register at www.gmcg.org as space is limited.

4th Annual "Wonders of Water" Community Art Exhibition to feature photography

GMCG is happy to announce the fourth annual, 2023 "Wonders of Water" (WOW) community art exhibition happening this August and into the fall as an online show and traveling banner, viewable at GMCG and your local library. This year GMCG is switching up the WOW format! GMCG welcomes artists of all ages and inclinations to explore the meaning of water through the medium of **photography**. Submissions will be accepted through Tuesday August 1, 2023. Submissions must be made through email. Send a digital file of your artwork to info@gmcg.org. No files over 10 megabits in size will be accepted. Submissions are limited to just one photograph, so pick your best! Photographs must contain fresh water and be located within the state of New Hampshire or Maine. In the email include your name, title of your photograph, location or site description, and anything else you would like the viewer to know about how captured the photograph and what it means to you. Completing a submission does not guarantee inclusion in the exhibition. Selected photographers will be notified of their acceptance by August 11.



"Sunset at Pennesseewassee Lake" by Heather Pierson featured in WOW 2022.

Please renew your support today. Every dollar makes a difference!

Make checks payable to Green Mountain Conservation Group Box 95, Effingham, NH 03882

You may also donate online at www.gmcg.org/donate

My/our gift of \$ _____ is enclosed.

NAME _____

ADDRESS _____

PHONE _____ EMAIL _____



Thank you!

GMCG is a nonprofit 501(c)(3) tax-exempt organization.

GMCG's Federal Tax Identification Number is: 02-0498020





THE WATERSHED NEWS

A Quarterly Publication for the Ossipee Watershed

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

SAVE THE DATE

**Annual GMCG
Watershed Celebration**
at The Preserve at Chocorua
July 25, 2023 at 4 p.m.

In This Issue:

- 2023 One Aquifer initiative begins!
- Clean water is not free, even in the country
- Observing animals with web cams
- 2022 GMCG in review
- Town officials share natural resource priorities and challenges in watershed survey
- "GMCG in action" photo gallery
- Ossipee's Constitution Park gets a makeover
- Ossipee teen advocates for aquifer
- Tamworth adopts Ground Water Protection Ordinance
- "Crankie" tells the aquifer story

Contributors:

Jill Emerson, Matt Howe, Nancy Walser, Tara Schroeder, Moselle Spiller, Grace Kennedy, Hailey Williams, Barbara Bald, David Smith, Tim White (cartoon)

YOU WALK ON WATER EVERY DAY

