



RIPARIAN READS

Newsletter of the Kennebecasis Watershed Restoration Committee

Fall 2023



Entering Sussex on an Autumn morning

Photo by Ellen MacGillivray

Manager's Message

I've probably said this before, but it bears repeating: diversity is key to a healthy environment and to a healthy organization. At the KWRC we work hard to improve diversity at our enhancement sites, and we do the same when it comes to building partnerships. Through this edition of our newsletter, take note of the breadth of projects and partners we've engaged. This array of activity and funders is crucial to our success and will hopefully help us continue our work for many years to come.

To carry out such a variety of projects, it means that our staff must keep up with a lot of different information, understand several ecological threats, carry out various monitoring exercises, and track many budgets. These aspects serve as excellent learning opportunities to many young professionals seeking to get their start in the environmental field. Staff gain a great deal of experience, improving their value in the organization and increasing employability for future ventures. When they apply their growing skills to the landscape for monitoring or implementing restoration projects, the watershed benefits.

You might be impressed to learn about how much monitoring we are doing, but keep in mind that we are not monitoring without intention. When we collect benthic samples, we are not only determining the habitat health for that area but also deciding whether the results warrant more restoration work there. When we survey mussels (see more on that in this newsletter), we are again assessing habitat health, but attempting to track the presence of invasive species and act accordingly. Temperature monitoring allows us to gauge the success of our riparian planting efforts, and so on.

While diversity helps our organization, it also helps our ecosystems to thrive. By planting various native tree species, we ensure our riparian zones can flourish even when threatened by insects or infections. By working on a variety of landscapes, we can address more than one threat; planting improves soil stabilization and carbon sequestration, and creates resilience against invasive species or weather events; and implementing rain gardens allows us to increase flood retention, improve

water quality, and even provide additional support for native pollinators. Much of our work recognizes the connections present in ecosystems and we strive to improve these connections for a more sustainable balance.

This newsletter will highlight a few of the key projects we are working on through 2023, and with our diverse partner and funder support, we plan to keep a good thing going, as they say.

Planting Important Trees is Important

Continuing with the topic of diversity: it is a key contributor to healthy riparian zones and floodplain forests, systems which face increasing hardships due to climate change. Maintaining habitats for threatened tree species is a great role for our riparian planting projects and one we have fully embraced in 2023. Thanks to funding from the NB Wildlife Trust Fund and the World Wildlife Fund Canada, we have been able to plant numerous trees along degraded riparian areas and floodplains, and we have plans to continue with this work in the Fall.

Historically, floodplains of the Kennebecasis watershed have been home to butternut and bur oak trees, the populations of which are declining due to harvesting, development and climate change. The KWRC is hoping to take steps to help keep these important species present.

It is no coincidence that we have a municipality called Butternut Valley in our watershed. Butternut (*Juglans cinerea*) is a walnut species that is listed as endangered, and the New Brunswick population is at its northern most extent. It grows along stream banks and well drained soils with a canopy that reaches on average 20m high. Its nut provides a good source of food to many forest animals and humans. This species is susceptible to a disease called butternut canker; this along with habitat

loss have caused numbers to decline. The KWRC will plant 250 butternuts for the next two seasons, although the saplings have been increasingly difficult to get a hold of.

Over the past two years the KWRC has been working as part of the NB Bur Oak Restoration Team. This team of respected stakeholders and experts is putting together a framework to reestablish bur oak in its native NB habitat. Bur Oak (*Quercus macrocarpa*) is one of the largest oaks; however, it is slow growing and prone to browsing wildlife, so its numbers in NB have been severely diminished. With its large stature, the bur oak is an important shade tree for our riparian zones, so we have a plan to plant 350 of these trees over the next two seasons. Our work with the Bur Oak Restoration Team means that we have a support system with experience when planting this species, so we can maximize our chance of success.

We have worked with local nurseries to help source seed supply for these ecologically significant tree species. We are also aware of locations where these species occur already in our watershed, and will be engaging with landowners to ensure these mature trees are protected and can provide seeds for the future.



Frank Bramley, New England Wild Flower Society

Butternut *Juglans Cinerea*



Paul Rothrock, SEINet

Bur Oak *Quercus macrocarpa*

Farms Capturing Carbon

Our watershed is home to the Dairy Center of the Maritimes, and some of our biggest partners are farmers and farm organizations. It can be a struggle for farms to justify undertaking riparian management programs when it often means giving up many acres of grazing or crop ground to do so. At the KWRC we are always working to develop programs that make it easier for farmers to take actions for the protection or enhancement of our riparian areas.

In 2022, we began our Carbon Capture Collective project to investigate how much carbon can be sequestered in an improved riparian area. The goal is the creation of possible carbon credits for farms and a quantitative understanding of how healthy riparian zones improve farm production. Supported by the World Wildlife Fund Canada, along with the NB Environmental Trust Fund, and Agriculture Alliance of NB, the KWRC and our partners Hammond River Angling Association (HRAA) and Belleisle Watershed Coalition (BWC) are working with landowners to better assess how healthy riparian zones act as a carbon sink and thus contribute to combatting the effects of climate change.



Early this summer, we met with our Carbon Capture Collective partners to review the sampling procedure

To go one step further, the KWRC, with our aforementioned partners, are monitoring pollinator diversity on these riparian sites and working Agriculture and Agri-Foods Canada (AAFC) to determine which habitats are favoured by pollinators and whether an increase in their presence will lead to improved crop production. This work, under the Living Laboratories Initiative of NB, will again add a quantitative value and benefit to help entice farmers to incorporate riparian management on their farms.

Our team visits each site a minimum of twice per month, although we have been working on one of our newest sites throughout most of the summer. Having cooperate landowners and farmers is integral to the successful and sustainable restoration work we do. Maintaining these sites is a challenge for our team and the landowner, so we try to make it as simple a process as possible for the farmer to maintain his newly established riparian management area.

This project is only possible thanks to the many partners contributing and to our funders for supporting the work. Having ties to the Agriculture Alliance of NB and the Living Labs program means that we are working side by side with our farm community. Given that they are one of the biggest stakeholder groups in our watershed, this is crucial for future success and our ability to continue creating climate solutions and sustainable farms for the future.

~ Ben Whalen

Project Manager



How to Support Pollinators in the Fall

As Fall arrives, everyone seems to be preparing for the winter months, humans and pollinators alike. One common Fall activity is garden pruning and maintenance. This activity can actually be beneficial to pollinators if done in a certain way. Many garden plants like perennials leave behind dry stalks with hollow centers, and these are usually cut down to the base in the fall time as a way of tidying a garden's appearance. However, if you leave

Approximately 6" of stem above ground when trimming, pollinators such as mason and leaf-cutter bees will nest inside the stem for the winter. This is most beneficial if the stems are located in the morning sun's pathway, to help warm the bees to waking in the Spring. Another great way to help overwintering pollinators is to 'leave the leaves', instead of raking them up. These act as insulation for pollinators, providing shelter and warmth.

When preparing for winter, pollinators still seek out nutrition to keep themselves going. Unfortunately, this time of year doesn't provide the abundance of food they are used to in summer months, so planting native, late-blooming plants can be a huge supportive gesture for these important creatures. Native plants of varying shapes, sizes and colours are best, and add a pleasing touch to your garden late into the year.

Supporting pollinators in the fall is fairly simple and can make a bigger difference than one might think. Pollinators, a vessel for reproduction that most plants rely on, provide significant service to the function of our ecosystems. A drastic decline in their numbers would be detrimental to everyone, yet we are already seeing depleted populations due to pesticide use and habitat loss. If we work together, implementing small steps to support them through the colder seasons, we can make an incredibly positive impact on the environment around us.



Two bees and a fly resting on goldenrod flowers. This sight is more common as the season winds down.

New at the KWRC: Mussel Surveys

This month, the KWRC is going to begin conducting its first-ever freshwater mussel survey, thanks to the financial support from the NB Wildlife Trust Fund. Last month, Mary Sollows from the New Brunswick Museum came to our office and gave a one-day freshwater mussel identification workshop in order to prepare us for our upcoming surveys. The workshop consisted of an informational presentation and hands-on ID training with various specimens from the museum. Staff learned the key identifying features of all the potential mussel species we could find within the province.



Dave Britton, US Fish & Wildlife

The small but extremely invasive zebra mussel has made its first appearance in New Brunswick.

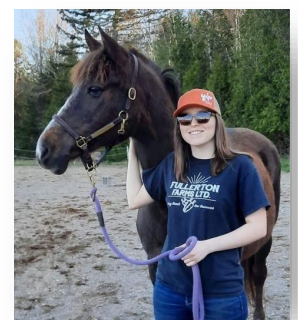
The goal of these surveys is to gain an understanding of which freshwater mussel species are currently living within the Kennebecasis watershed, specifically Trout

Creek, Smiths Creek, and the Millstream River. We hope to survey 3 sites in each of these rivers. Freshwater mussels are bioindicator species, meaning they are a living indicator of environmental conditions. In our case, they will be indicators of water quality. We will also be on the lookout for the invasive zebra mussel, which hasn't yet been found in the Kennebecasis watershed, but has recently been declared to have entered the province. These mussels are highly destructive of ecosystem balance and infrastructure, so we are choosing to be proactive about monitoring their presence in our watershed. We are grateful to the Petitcodiac Watershed Alliance for lending us their bathyscopes (aquatic viewing scopes) to complete these surveys.

We look forward to getting started with this project and are excited to discover what mussels reside within the waters of our watershed. Keep an eye on our social media to tag along with these adventures as we plan to put together a Watershed Walk video on this subject.

~ Abby Lamrock

Restoration Coordinator



The Importance of Partnerships

As a non-profit organization, the KWRC would simply cease to work without the support of our partners. When we talk about partnerships, we are referring to an array of connections we have built over the years: our funding sponsors, who contribute significantly to the work we are able to accomplish; other watershed groups who share their insight, resources and equipment; our communities and volunteers who lend their time and show their support time and time again, whether we are hosting an event or being hosted at a school or youth summer camp. Because these partnerships are so crucial, we put a lot of value on recurring relationships: we rely on funding bodies that sponsor our projects each season, as they rely on us to follow through. However, we also recognize the importance of creating new funding opportunities and project possibilities, especially when anticipated funding falls through, as discussed in our previous newsletter.

Not only do we strive to form new funding partners, but new partnerships within our communities as well. Not long ago we met with the folks of AX, The Arts and Culture Centre of Sussex, to discuss ways we could collaborate to bring environmental awareness into the art world and vice versa. In August, we teamed up with AX to host a free rock painting activity, where participants attended a presentation put on by the KWRC about the important relationship between pollinators and native plants, then painted images of native plants on rocks which will be used as identifying markers in pollinator gardens and rain gardens throughout the watershed! We look forward to collaborating with the AX team further and hope to reach new artistic audiences who would benefit from participating in environmentally oriented events.

We have also been in contact with Fundy National Park about possible collaboration on a bat box building workshop. The details are yet to be decided, but we would love to secure a partnership with the Park and reach more nature-loving groups. Speaking of nature-loving groups, the KWRC staff attended the Wolastoq / Saint John River Summit last week hosted by the Nashwaak Watershed Association with WWF-Canada, and heard some interesting perspectives from presentations about a variety of topics. Being part of an event that connects people working in watersheds, forests and municipalities means we exchange thoughts and challenges and form

relationships that may not have happened otherwise, but which can be extremely beneficial. For instance, Nashwaak shared tips about tree seed collection, preparation, and sapling care which, with their help, we may integrate into future projects to maximize our own numbers. Another benefit to attending the River Summit, is that it exposes staff to networking opportunities for future career aspirations.



Attendees of the Wolastoq River Summit gathered on a restoration site of the Nashwaak Watershed Association

Finally, we love being able to connect with our communities and spread the most up-to-date information about current environmental concerns and solutions. One way we do this is by participating in local markets. The Sussex Farmers' Market has hosted our booth many times, and last year we were able to make a couple of appearances at Lupine eco-market in Hampton for the first time. This allowed us to connect with two communities and expand our understanding of which topics people are interested in learning more about. Unfortunately, with some funding shortfalls in our education budget we struggled to fit in our usual market visits, but may make an appearance at the Kingston Farmers' Market for the first time at the end of this month! The Kennebecasis side of the Peninsula makes up a portion of the Kennebecasis Bay Composite sub-watershed, yet we rarely get a chance to conduct work there as we focus on more headwater regions. Coming up soon is a cyanobacteria information session which will also be hosted within the Kingston community, at the Royal Canadian Legion. This is an event we are hosting in collaboration with our long-time partner ACAP Saint John, who are doing important monitoring work regarding cyanobacteria, a topic many people are beginning to hear about as it poses problems for public safety.

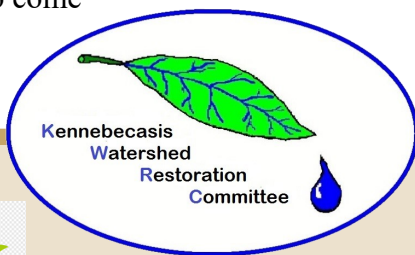
Another method of forming partnerships within our communities is by hosting volunteer events. These events connect people, and provide opportunities for volunteer hours while benefiting our organization and the health of our watershed. In recent years we have formed partnerships with youth groups, such as the 4H Sussex Outdoors Club and the Sussex Pathfinders, who have both contributed to our efforts of bank stabilization and wildlife habitat enhancement. This summer we hosted two one-day angling workshops for youth, and hope that we have sparked a new passion in someone who could potentially partner with us in the future on some dream conservation project, or what have you. We aim to make these educational workshops available on a somewhat consistent basis so that our communities can begin to rely on us as we rely on them. Our annual Shoreline Cleanup, taking place this weekend, has seen recurring volunteers, and we are extremely grateful for those people who see our efforts and actively participate in them. We are additionally grateful for those who come out once, or for those who share our posts

to let others know. Even those who may not follow the goings-on at the KWRC yet still take personal steps to better the health of our environment—your stewardship makes you a partner in what we are aiming to accomplish.

Because we rely so heavily on diverse partnerships, we strive to act as a reliable community resource, too. Rest assured we will continue to take advantage of various funding avenues and develop relationships wherever we can to reach higher, further, deeper into the best strategies for riparian restoration, wildlife conservation and habitat enhancement, monitoring, and environmental education for all ages. Thanks for keeping up with us, it means a lot to our organization to have an audience who show continuous support!

~ Ellen MacGillivray

Education Outreach Coordinator



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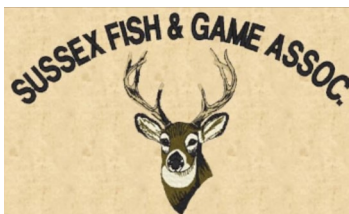
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