RIPARIAN READS

Newsletter of the Kennebecasis Watershed Restoration Committee

Summer 2021

Manager's Message

I know summer is here when I have a hard time getting my waders dried out, and they've been wet a great deal! We have been doing site visits and engaging landowners to confirm final restoration site plans, visiting monitoring sites and discussing logistics and equipment needs, and on many evenings I'm lucky to live here in the watershed where I can wet a fly line and enjoy the rewards of the hard work of our organization.

This coming season is shaping up to be a very successful one with many partners on board and landowners willing to take a stewardship approach to the way they manage the riparian areas on their property.

We have to thank some great funding partners for helping us carry out our restoration, monitoring, and educational projects. The NB Environmental Trust Fund, NB Wildlife Trust Fund, World Wildlife Fund, and Atlantic Salmon Conservation Council, and many others have all backed projects we have set to go in 2021.

On our restoration file we have work to complete on Passekeag Creek, Millstream River, and Trout Creek. This work will see us stabilize more than 180m of eroding stream banks while enhancing more than 5000m^2 of riparian area. We have 5 sites we will be working on to reach these goals and will have 5 wetland and watercourse alteration permits to do it.

Our monitoring efforts will see us undertake lake habitat monitoring for the first time and we are excited to see what interesting data this project will provide. We will be placing some prism traps to help watch for the invasive Emerald Ash Borer. We will continue our water quality monitoring where we take over 400 samples a year along our watershed from at least 18 different locations. Flow and temperature data is also going to be measured throughout 2021. In all, we are anticipating adding an additional 25,000 data points to our database.

Following a slow down due to the pandemic in 2020, we are hoping we can start to plan and host some of our regular engagement and volunteer events. We have completed some rain garden work but we will have tree planting and litter clean up to do. We are also considering a fly fishing workshop this Fall.

These are just the highlights and I've managed to fill this page pretty quickly, so you can imagine how busy we will be this summer! But as the old saying goes, "You gotta make hay while the sun shines."

See you on the water!

~ Ben Whalen

Project Manager

A Day in the Life of a KWRC Member

The KWRC crew assessing erosion damage along the banks of Trout Creek this June. Check out our latest Watershed Walk video to see the day's activities!

https://www.youtube.com/watch?v=sEWd9hsFP6o&t=3s

Hello everyone! My name is Abby Lamrock and I am a habitat technician at the KWRC for the summer. This is my first year working at the KWRC and in Sussex. I am enjoying exploring this little town and surrounding areas. I used to wonder what it would be like to work with this organization, so I've decided to let you in on what a day of work looks like here at the KWRC — as I'm sure you're all as curious as I was!

The KWRC focuses on three main areas: restoration, monitoring, and education outreach. With tasks falling under each category, our work can vary day to day. We start at 8 am to discuss our plans before carrying them out. Sometimes this involves office work, but more certainly we head out to one of our restoration sites for maintenance or to put our backs into repairing riparian zones!

A lot goes into riparian restoration, so there is always work to be done. If the site is located in a cattle pasture, such as the one we are currently working at in Passekeag, the work involves installation of electric fencing to keep the cows from eroding the creek bank; we also plant trees and stake willow to help stabilize the bank; we then water the trees, whipper-snip the fence line, and trim branches that may inhibit the electric circuit. Each chore is an important component to establishing a healthy riparian zone.

I recently had the opportunity to join the KWRC monitoring coordinator in collecting the weekly water samples from different areas around Sussex. I learned all about proper sampling techniques and how to calibrate the YSI, a device used to measure the temperature, dissolved oxygen, and conductivity of the water.

I was also able to join in on the monthly water sampling. Once a month, water samples are collected from 11 different sites and sent to a lab for analysis. Since the sites are so widespread, it can take the whole day to complete the sampling. The work is worth it for the importance these samples play in water quality monitoring here in the Kennebecasis watershed.

Education and outreach are also important at the KWRC. Since beginning my work here, I have been able to experience three different outreach events: rain garden planting in Hampton, critter dipping for Fish NB day, and a few riverside walks with students from Sussex Elementary School. It is so great to see the community's interest in nature and what they can do to protect it. At these events, it is my responsibility to be available to the public for discussion or to answer any questions they may have. This has helped me further develop my communication skills.

We often outline the activities of these outreach events in our Watershed Walk videos — head over to our YouTube channel to see what was involved in our rain garden planting and critter dipping events in Hampton, NB!

https://www.youtube.com/channel/UCsZUrXwsWRSFpYhlqzr3RVA

The KWRC is a great place to work and an excellent team to be a part of. I cannot believe how much I have learned in such a short period of time. I'm excited to see what the rest of the summer has in store for me!

Don't hesitate to reach out if you're interested in volunteering with us!

~ Abby Lamrock

Habitat Technician

The Benefits of Riparian Tree Planting

Bank enhancement at Trout Creek done by the KWRC in previous years. This barrier of pine trees helps to stabilize the soil and keep livestock from degrading the area.

Several methods of restoration are used at the KWRC in an effort to combat streambank erosion. Erosion is the result of an unstable bank that introduces new and unnatural sediments into the water, decreasing water quality and habitat availability for native aquatic species. It also lowers soil quality, thus reducing its ability to transport nutrients and hold water, negatively impacting the health of the Kennebecasis River. Our job is to do everything we can to restore healthy riparian zones and stabilize areas of erosion in our watershed.

One way we successfully repair a heavily eroded bank is by planting native tree species. Planting provides many benefits to a riparian zone. Trees are largely responsible for stabilizing banks, as they soak up precipitation and lessen the impact of heavy rainfall. As they mature, their root system prevents soil displacement while adding nutrients to the earth for surrounding riparian vegetation. Trees also give shade that helps keep water temperatures cool, which is critical for the health of our native fish species as our climate continues to rise in temperature.

An eroded bank along Trout Creek

Planting a variety of tree species helps create a biodiverse environment, which is essential for a healthy riparian zone. At the KWRC, it is important that we plant trees which are able to thrive in a wet environment. One species we often plant is Silver Maple (*Acer saccharinum*). This variety of maple is a great choice for a streambank as it is capable of withstanding floods and can live in standing water for long periods of time. It is a fast growing species and once mature, its large crown is a great source of shade. Other trees we regularly plant to compliment this resilient maple are spruce (*Picea* spp.), Eastern White Pine (*Pinus strobus*), and Bur Oak (*Quercus macrocarpa*).

Thanks to the Government of Canada and their commitment to planting 2 billion trees in order to reduce the negative effects of deforestation and to provide funding to non-profit organizations to aid in the cost of tree planting in pursuit of reaching this goal. This has allowed for small organizations like us to boost the number of trees we plant and increase the density of our local riparian forests. So far, the 2021 planting season has seen over a hundred trees planted by the KWRC, and yet we plan to reach a goal of over 11,000 native trees planted on numerous restoration sites with support from WWF Canada, NB ETF, NB WTF, ASCF, and ECCC.

Tree planting is an essential component of the restoration work we undertake at the KWRC. Trees stabilize eroded banks, create a biodiverse riparian zone, and help to regulate water temperatures. While it is not light work, tree planting is a fulfilling experience that gives you the ability to use your hands for something truly helpful, which is the most rewarding part of the restoration work we complete daily.

~ Lindsay Spinney

Restoration

The Impact of Cattle on Our Waterways

A big thank you to farmers, who are some of our most cooperative landowners!

(Below) A designated crossing site for cattle shows the wear on the land. A real mess on wet days!

The Sussex area is home to many farms whose fields are full of cattle, giving this town the appropriate title of the Dairy Centre of the Maritimes. Have you ever wondered what role these cows play in the health and sustainability of the local Kennebecasis watershed? They can have direct physical effects such as speeding up the erosion of banks, and indirect impacts in the form of polluted runoff: fecal matter and natural fertilizers end up in our waterways.

There are often streams that run through livestock pastures where it is necessary for cattle to cross the water to access fresh grass. As many heavy cows move up and down the banks, they cause large amounts of silt and mud to slide into the water. This leads to much quicker damage of the riparian zone than would occur naturally from flowing water alone. The disruption of soil along the water's edge exposes the roots of trees and grasses, causing their death and detachment from the land. This vegetation is essential for the wellbeing of the waterway and its inhabitants because their roots reduce erosion and their foliage can provide shade and shelter. Grazing close to the water's edge can also destroy small trees which would otherwise grow into big benefactors for riparian health.

Another concern is that runoff carrying cattle waste into nearby water can promote algal growth, such as toxic cyanobacteria blooms, by causing a surge in nutrient levels.

Restoration efforts by the KWRC have helped mitigate the effects that cattle can have on the fragile riparian ecosystem. These efforts include fence installation, willow staking and tree planting along with creating designated crossing zones to reduce damage. We will soon work at sloping the banks of those crossing sites more gradually so that cows can cross safely and less dirt will be knocked off into the water, keeping the cattle happy and healthy while imitating as best as we can a natural setting for the creek.

~ Micah Lea

Restoration

New for the KWRC: Lake Monitoring

Monitoring streams and rivers has always been a priority of the KWRC. However, the water quality of lakes is another critical component of ensuring we have a healthy watershed. This summer, the KWRC will expand its monitoring efforts to lakes in the region, beginning in July and continuing into August. The KWRC will partner with the Hammond River Angling Association (HRAA) on this project to collect and share data on local lakes.

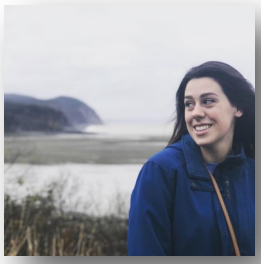
The goal of the lake monitoring project is to collect data over the next five years through water sampling, water parameters, and various temperature depths, which will create baseline information to determine the typical water quality of the lake. The staff will also collect information on fish species and macrophyte coverage (aquatic vegetation) which will allow us to better understand the health and environmental impacts of our lakes.

Based on funding allowances, we will collect data from six to eight public lakes. The lakes of interest, based on factors such as size, importance to the community, and possible environmental issues in the area, are Hamilton Lake, Mud Lake, Byrne Lake, Darling's Lake, Erb's Lake, and McManus Lake. The KWRC and HRAA will work together on Darling's Lake and gather information on the spread of invasive Eurasian watermilfoil through the Kennebecasis River.

The lake monitoring program will provide the KWRC with additional opportunities to determine if lakes are impacted by land-use degradation, point source pollution, or invasive species. Furthermore, the project will highlight significant ecological changes to the lakes over time. After baseline information is collected, staff can develop a long-term monitoring and resource management plan to improve or maintain the health of our lakes.

~Ashton Howe

Monitoring Coordinator



The headwaters of the Upper Kennebecasis sub-watershed flow out of Hamilton Lake

Protect and Connect in Summer 2021

Here at the KWRC we are constantly considering ways to engage the community in learning opportunities. We recognize that an informed public is more likely to respect our waterways and act against harmful environmental impacts, which is an important mindset to maintain for the collective benefit of the communities that call the Kennebecasis watershed home.

Our 2021 motto, "protect and connect", describes our motives behind the summer activities we have planned. The goal is to establish connections with a wider audience while strengthening our existing partnerships in order to expand our outreach for environmental education. This summer we are focusing on the protection of waterways and their inhabitants, such as fish and riparian songbirds,

through activities that promote awareness: volunteer recruitment for tree planting and willow staking, informational booths at local markets and events, and presentations at schools and summer camps.

So what can you look forward to?

Our Youth Angling Day Camp designed for kids aged 7+ is available online for COVID-considerate learning about safety on the river, fishing technique, fish of the Kennebecasis, and identifying and protecting fish habitats! All you have to do is watch the videos and complete the accompanying worksheets to land yourself an awesome KWRC crewneck sweater! Visit our website to check it out: www.kennebecasisriver.org/youth-angling-series

We also encourage more experienced anglers to let us know what you caught—check out the Creel Census survey: www.kennebecasisriver.org/creel-census. This data helps us monitor the health and abundance of the fish population in our watershed.

As always, you can look out for our weekly Watershed Walk videos on our YouTube channel! This series is a fun and easy way for followers to check in on our environmental endeavours and see for themselves the work we do at the Kennebecasis Watershed Restoration Committee!

~Ellen MacGillivray

Education Outreach Coordinator

Kennebecasis Watershed Restoration Committee

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For questions regarding content and operations, contact us at (506) 433-4394, info@kennebecasisriver.org, or write 5 Moffett Avenue, Unit E, Sussex, NB, E4E 1E9.

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