Kennebecasis Watershed Restoration Committee

RIPARIAN READS

Newsletter of the Kennebecasis Watershed Restoration Committee

SUMMER 2020

Keeping our "boots in the water" in 2020

The past three months have been challenging for all of New Brunswick. The reality of a pandemic is something not many of us expected to endure, but here we are. As a small, environmental, non-profit organization we have felt the impacts that uncertainty and increased health risks can bring. We are fortunate to be able to continue to work even if it is with a reduced staff component.

The need for government and industry to continue monitoring snow pack, ice flow, and water quality conditions resulted in the KWRC being able to continue operating as stewards and monitors of the ecological health of the watershed through this pandemic. As New Brunswick continues to adapt to the challenges of the pandemic, the KWRC will rise stronger and more resilient than ever.

Being able to work outdoors, maintain physical distance while in our office, and having contracts that provide essential information to government and industry was key in keeping us operating. Our contract with Department of Environment and Local Government for RiverWatch activities was an important monitoring service to ensure public safety as the local waterways underwent their spring thaw. Snow pack monitoring provided the Department with information on the amount of water remaining on the landscape at that same time. This was made more important as government had limited resources for such activities as they were shifting priorities in response to the pandemic.

Many industries operate with environmental policies that must be followed to keep them in compliance with regulations. Our relationships with our industrial partners resulted in us keeping our boots "in the water" during the pandemic and provide those companies with water quality sampling so they could continue to operate even at a reduced capacity. Further, we worked hard to provide people with a recreational and community outlet as we organized a few small work projects and activities that families could complete while maintaining social distance or bubbles. They could achieve a sense of accomplishment and self worth by helping their local environment while coping with the pandemic.

As we continue to move forward in 2020, the KWRC is working hard to meet our planned goals. Some sacrifices have been made but we are working hard to offset those with gains in other areas. With your help and support we will continue to be able to maintain and enhance our waterway which we feel is #worthwadinginto.

~ Ben Whalen, KWRC Project Manager

UPCOMING KWRC WORKSHOPS & EVENTS

Friday, July 10 – Anglers Social
(6:30-8:30pm, McCully Station Road, Penobsquis NB)

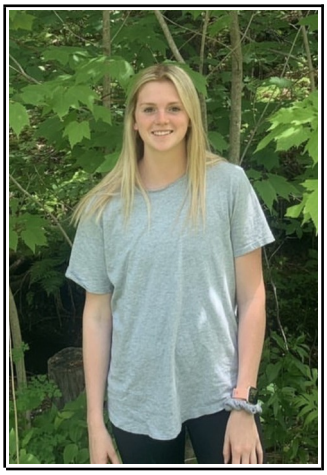
Cover photo: A willow stake planted at one of our bioengineering restoration sites in 2019

2020 Summer Students

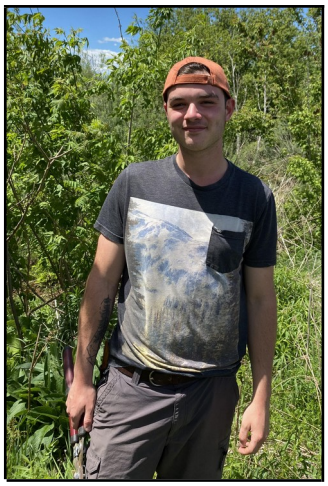
Every summer, we are fortunate to secure funding to hire summer students to help us with our restoration, monitoring and education outreach programs. Much of this funding comes through **Canada Summer Jobs**, New Brunswick
Student Employment Experience Development and the **Clean Foundation** with additional financial support from our many funding sources.

The summer students are able to help us get a lot of work completed over the summer when we need extra hands on deck to complete the work within a tight time frame. These students come from diverse backgrounds with a common thread of wanting to take action to help us restore the watershed where they gain great work experience to build their future careers in their respective fields of study.

We are excited and grateful to have them join our team!



Lezley McAllister is our lead Monitoring Technician for the summer. She is from Bathurst, NB and just graduated from **Environmental Management** at UNB. She will be collecting important information about water quality and characteristics of the Kennebecasis River and its tributaries as well as assisting with restoration projects.



Connor McAlary is back for his third summer as our lead Restoration Technician. He lives in Berwick and just graduated from the Maritime College of Forest Technology (**MCFT**) and plans to attend UPEI in the fall to pursue his Bachelor of Science in **Wildlife Conservation**. He will be working with our other team members to complete restoration projects (willow staking, installing fencing, etc.) which will help stabilize and rebuild the riparian zones within our watershed.

Meg Snider is also back for her third summer and will be working primarily as our Education Outreach Assistant, but also assisting with restoration and monitoring projects. She is from Sussex and is going into her second year of **Chemical Engineering** at UNB. Meg will be working on producing educational videos, managing our social media accounts and assisting the Education Outreach Coordinator to deliver outreach programs and support volunteers to help us restore the watershed.

Water Quality Monitoring

The health of the watershed is our top priority here at the KWRC, and with the help of water quality monitoring we can readily identify problem areas within the river. By testing different parameters, such as phosphorus, nitrates, E.Coli, fluorides and metals, we get a better understanding of the issues we need to address, and can take action as needed through our restoration projects.

The KWRC has many water quality testing sites. At these sites we use a YSI Meter to test the temperature, pH, dissolved oxygen and conductivity. We also collect samples using sterilized bottles which are sent to a lab for further analysis of 38 different parameters and monitor the flow rates of the river.

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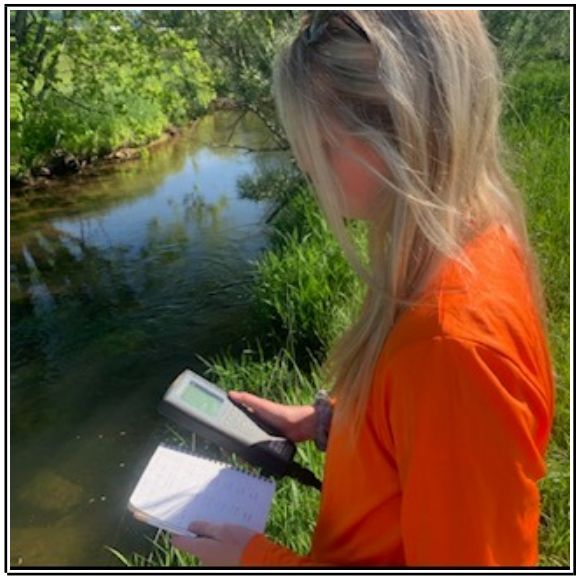


Lezley, our Monitoring Technician, measuring and recording YSI readings at one of our water quality sampling sites

Water Quality continued...

All of these parameters are very important to monitor because they influence water chemistry, and therefore they influence the survival of different aquatic species. The **Canadian Council of Ministers of the Environment** (CCME) has a set of guidelines that watersheds must meet to ensure the health of aquatic species. For example, the optimal pH range identified by CCME is in between 6.5 – 9.0. When the pH levels get too high, or too low, it causes stress on the animal's system and reduced their hatching and survival rates. There are many factors that can influence the pH of water, such as precipitation (acid rain) and wastewater, so it is important that we monitor these levels.

Water quality monitoring is essential to the health of the watershed because it allows us to identify problems, predict emerging issues, and to maintain current levels. Without water quality monitoring we wouldn't have baseline data, and therefore no way to track our success! If you want to learn more about water quality and our other monitoring programs, please visit ***kennebecasisriver.org/monitoring***

~ Lezley McAllister, Monitoring Technician

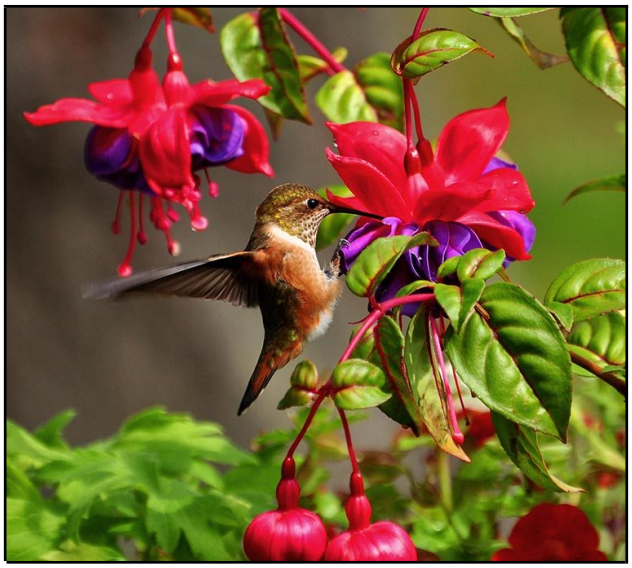
The Importance of Pollinators

Pollinators play a critical part in nature. Without them, humans and wildlife would have very little to eat or look at. Pollinators are animals that move pollen between the male and female plants of the same species in order to produce seeds and fruit. Pollination ensures that a new generation of plants will grow from seeds and provides pollinators with sugary nectar and pollen which they use as food.

Honeybees may be the first to come to mind when we think of pollinators, but nature houses thousands of these important species. Butterflies, beetles, flies and other bee species also play a vital role, as well as some bird and bat species. Our world is built around these creatures, in fact, three quarters of our major food crops are reliant on pollinators! Our diets would be severely limited without the many fruits, vegetables and nuts we enjoy that are animal pollinated. They are also the foundation of our ecosystems. Plants are pollinated, producing fruit and foliage, which are then eaten by herbivores who are then hunted by predators. Furthermore, the plants also provide shelter and nesting habitat for many different animal species. Therefore, it is essential that we help protect and restore these critically important pollinator species.

Planting a pollinator garden can be a good way to help. This provides pollinators with nectar and pollen to feed on throughout the season. Be sure to include plants native to North America that are conditioned to our climate. Minimize the use of pesticides as well, even organic ones. Participating in *No Mow May* is another idea. During spring, before many plants have bloomed, pollinators may struggle to find food. Lawn "weeds" like white clover and dandelions provide a source of food for pollinators when they're in bloom. Now you shouldn't feel bad about not mowing your lawn! Overall, pollinators are critical to the environment and our world today. Do your part and help these creatures thrive.

~ Meg Snider, Education Outreach Assistant



Hummingbirds are important pollinators that migrate great distances to spend their summers feeding on flower nectar in our northern summers. They are beautifully unique birds and fascinating to watch!

Pollinator garden at Sussex Corner Elementary School, planted by grade 4 students in the spring of 2018

Using willow as a natural bank stabilizer

One of the KWRC's most prominent tasks is to mitigate the effects of erosion on the Kennebecasis River and its tributaries. The degradation of stream banks results in loss of land for many landowners which also introduces sediment into the waterways that would not be present naturally. This sediment deposit from erosion sites creates issues for many fish, amphibian and benthic species that require optimal water quality conditions to flourish. To help prevent and repair areas of concern within our watershed, the KWRC is utilizing "**willow staking**" - an effective, natural and cost efficient solution which has delivered great success over the years.

Willow staking is a non-invasive method of erosion control that quickly and effectively provides bank support for many years to come. Willow is a native tree species that inhabits almost every tributary in the Kennebecasis watershed and is an essential species for healthy stream bank structure. Staking is as easy as taking a 6 inch cutting of fresh growth from a mature willow and driving it, with its buds pointing up, into areas that require stabilization. The subsurface growth of this species of shrub is comprised of a very dense, net-like array of roots that can provide an impressive amount of sediment retention capabilities. This root network paired with the willows tendency to be readily available for harvest and sprout easily from cuttings makes it an extremely effective resource when it comes to stream bank stabilization and erosion control projects.

There are many species of shrubs and trees that line the banks of our rivers and streams that help provide the structure necessary to remain intact in the event of heavy rainfall events and ice scouring. Without this vegetation within the riparian zone, these areas have an increased susceptibility to severe erosion and ice scour and with increased annual flow and human land use activities, it is becoming even more important to protect this vegetation. In areas that have been affected by riparian damage, there is a need to rebuild a healthy composition of tree and shrub cover that will protect the banks from further damage. The productivity of a stream ecosystem begins with the environment it is contained within, making the restoration of damaged sites essential to the overall heath of biota within the Kennebecasis River and connecting waterways.

~ Connor McAlary, Restoration Technician

Willow stakes were driven into this degrading stream bank and are now putting up shoots indicating they are rooting into the soil.

THANK YOU TO OUR SPONSORS

Kennebecasis Watershed Restoration Committee

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