

RIPARIAN READS

Newsletter of the Kennebecasis Watershed Restoration Committee

WINTER 2019 -2020



RIVERWATCH – Monitoring winter water levels, ice cover and ice break-up

Water quality monitoring is an important tool that we use to keep track of where problem areas are within the watershed. It is also important to gather baseline data so that we know what conditions exist currently and then we strive to maintain those baseline levels. This is important as industrial and urban landscapes change within the watershed.

Now that our rivers and streams are mostly frozen over, you might think the KWRC doesn't have too much to do outdoors - but think again! During the winter months, the KWRC monitoring team is proud to partner with the [Department of Environment and Local Government](#) (DELG) to carry out their [River Watch](#) and snow monitoring programs in the Sussex region. DELG provides us with the monitoring dates and locations for each program.

During a River Watch survey, the team will assess ice cover and ice break-up at 12-15 check points throughout the watershed. The data is entered into an online database and DELG will be contacted immediately if we spot an ice jam. This data helps scientists predict when

flooding could occur and warn residents when necessary. Find a map of these checkpoints on the Riverwatch [website](https://www2.gnb.ca/content/gnb/en/news/public_alerts/river_watch.html) at: https://www2.gnb.ca/content/gnb/en/news/public_alerts/river_watch.html

With snow monitoring, the team will visit eight predetermined sites and take 5 cores of snow. DELG provides us with an aluminum tube with serrated teeth to cut through thick and crusty snowpack. The tube is also weighed to calculate the snow-water equivalent. This snowpack data also helps with flood prediction and tracking changing precipitation patterns over time.

~ Melissa Rafuse, KWRC Monitoring Coordinator

UPCOMING KWRC WORKSHOPS & EVENTS

Jan. 17th – KWRC's 25th Anniversary Celebration
(11:00am – 2:00pm, 5 Moffett Avenue, Sussex)

Jan. 23rd - Night of Environmental Science!
(presented by Science East)
(6:30-7:00pm, Sussex Corner Elementary School,
12 Dutch Valley Rd)

Songbird and Duck Box Maintenance – where birds come to life!

I don't know about you, but when I get the chance to observe wildlife I get excited - and the fact that part of my job is to work at improving wildlife habitat is just Awesome!

Habitat restoration and enhancement is a big part of what we do here at the KWRC and in the past few years we have been working on enhancing the breeding habitat of many cavity nesting songbird and waterfowl species that spend their breeding season in the watershed by building and installing nest boxes.

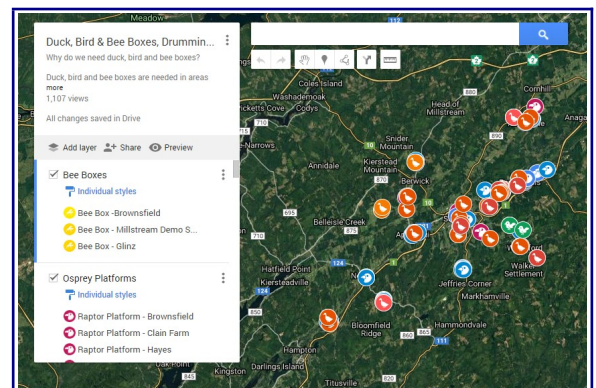
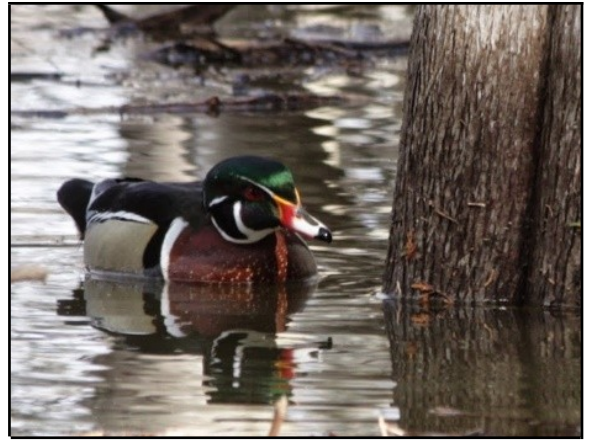
Duck and songbird nest boxes increase the places where birds can safely lay their eggs or if they need a safe place to nest from predators. Some duck species do not nest on the ground, but in the cavities of trees. If no tree cavities are present due to natural causes (such as decay) or are taken by other species, they may not have anywhere to nest.

Over the past 5 years, the KWRC has been partnering with local elementary schools and community youth groups to build nest boxes through our [Habitat in a Box](#) program. With funding from the [NB Wildlife Trust Fund](#), [NB Environmental Trust Fund](#) and [Nutrien](#), the KWRC helps elementary school children build the boxes and then our habitat restoration crew places the boxes at restoration sites throughout the watershed to enhance the breeding habitat for many bird species. To date, we have installed 58 songbird and approximately 45 duck nesting boxes at restoration sites, school yards and private properties throughout the watershed. Duck boxes are mainly used by [Wood Duck](#), [Common Goldeneye](#) and [Hooded Merganser](#) where songbird boxes tend to get used mainly by [Eastern Bluebirds](#), [Tree Swallows](#), [Black-Capped Chickadees](#) and [European Starlings](#).

Nest boxes need to be checked between each breeding season to ensure they are in good condition for new residents to use them in the next year - this is often done in the winter or early spring when they are not in use. When we check the boxes, we inspect them for damage, ensure they are mounted securely in an adequate location, and then clean them by removing any old and contaminated nesting materials.

Some of the nest boxes are used year after year, which is a good sign the nest boxes are helpful to the birds that use them. If you would like to see a map of the locations of all the habitat enhancement structures the KWRC has installed throughout the watershed, check out our Google Map at: https://www.google.com/maps/d/edit?mid=1iUVssfpY2SkdG3M8_Mk8xFYShQ&ll=45.728020791333904%2C-65.472263099999996&z=10

~ Paul Martin, KWRC Restoration Supervisor



Why Monitoring Matters – keeping an eye on water quality and flood risk

We collect A LOT of data at the Kennebecasis Watershed Restoration Committee. For example, in 2019, we collected over 17,860 data points on water quality as well as data on precipitation, water temperature, and flow rates. So why do we collect all this data? In a nutshell – to keep an eye on water conditions that are important to our health and safety.

Our water quality data is reviewed by a working committee that help staff generate an annual water quality report. The New Brunswick Department of Environment and Local Government (DELG) also receive our raw data and use it in their assessments of provincial surface water quality. This raw data is also uploaded to the [Atlantic Data Stream](#) where it is made available to the public and can be used in scientific research.

The KWRC also perform snow and ice observations on local waterways which is reported to and used by DELG and Emergency Measures (EMO) to help determine the risk of flooding from storm water run-off.

By collecting data on snow depth and water equivalence, the KWRC helps DELG calculate how much water will come off the landscape as the snow melts. Ice conditions can change quickly and although we don't have enough resources to be on all the rivers all the time, our effort provides EMO with an effective scanning tool.

The KWRC also coordinate and support volunteers to collect precipitation data across the watershed through

the Community Collaborative Rain Hail and Snow (CoCoRaHS) monitoring network. These volunteers report daily precipitation and snowfall amounts to the network which is publicly available and is often used by meteorologists as part of their daily reports. The KWRC also use this data to fill gaps in our flow and discharge contribution analysis for our sub-watersheds.

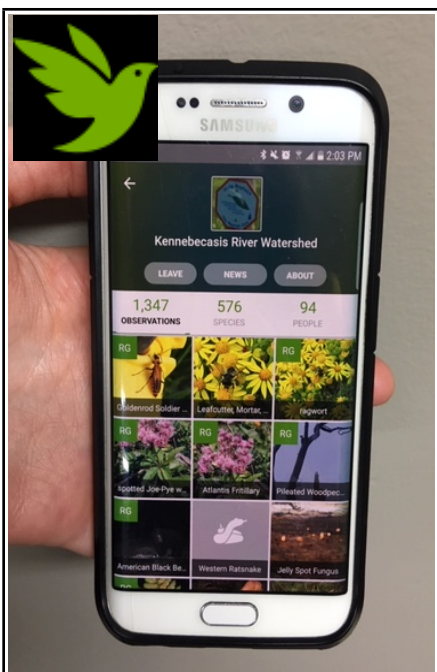
There are many watershed groups collecting data on NB waterways that contributes to the water quality and flood risk of New Brunswick. We use it in many ways and work in partnership with organizations to make it available to the public. If you want to know more about our efforts please reach out to us.

~ Ben Whalen, KWRC Project Manager



Ben Whalen taking a snow core sample for snow monitoring

iNaturalist.org – monitoring biodiversity in the watershed using citizen science



If you are looking for a fun way to combine your love of nature with technology while contributing to the scientific community - you should check out [iNaturalist](#)!

The iNaturalist platform is used by people around the world to “record and organize nature findings, meet other nature enthusiasts, and learn about the natural world”. In the summer of 2019, the KWRC started making observations to explore the biodiversity of our watershed. We have had so much fun using it and made so many observations that we created the [Kennebecasis River Watershed](#) project where other observations made by iNaturalist users within the boundaries of the Kennebecasis watershed are automatically uploaded to our project.

To date, we have had over 1300 observations of nearly 600 species by 94 observers added to our project since it was launched in July 2019!

If you would like to learn more about iNaturalist and how you can become an observer that contributes to our biodiversity monitoring efforts in the watershed, please contact us at 506-433-4394 or education@kennebecasisriver.ca.

~ Sarah Glinz, KWRC Education Outreach Coordinator

Summer Student Employment Opportunities with the KWRC in 2020



If you are (or know) a high school or university student that is looking to gain experience in the fields of environmental science, monitoring, or education, please consider coming to work with the KWRC for the summer of 2020! Applications for habitat technicians, a monitoring technician and education outreach assistant will open in February, so be sure to check out our website at www.kennebecasisriver.org for details and deadlines as they become available!

"This summer I worked as a monitoring tech alongside the monitoring coordinator, Melissa Rafuse, at the KWRC. As a monitoring tech, I've assisted Melissa with collecting surface water samples for PCS, KWRC, and Wocawson, biweekly flow samples for the KWRC, deployed temperature loggers at 20 stations within the Kennebecasis Watershed, electrofishing, collecting benthic samples, compiled large quantities of data, and many other tasks. Working with the KWRC as a monitoring technician has been a great opportunity to build many skill sets, enhance my knowledge in several respects, and to increase my social/networking skills within the local community."

~ Miranda Morrison, KWRC Education Outreach Assistant 2018 / Monitoring Tech 2019



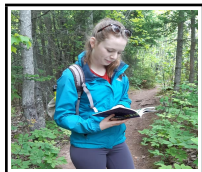
"As this summer's Education Outreach Assistant, I helped to organize events and programs to engage people in the community with the work we do at the KWRC to protect and maintain our watershed. I was responsible for developing activities for our new "Pitching Watershed Stewardship to Campers" project, which was a great learning experience in building educational materials and being able to deliver a full 1-2 hour program suited for a wide audience. I had a great summer and was able to build on some new skills, form connections with local groups, and learn more about riparian zone restoration and stormwater management! I loved working with the school groups, and had fun teaching kids how to use a drill (not as scary as you'd think!) to assemble habitat boxes for birds."

~ Hannah Kienzle, KWRC Education Outreach Assistant 2019

KWRC STAFF



Ben Whalen
Project Manager



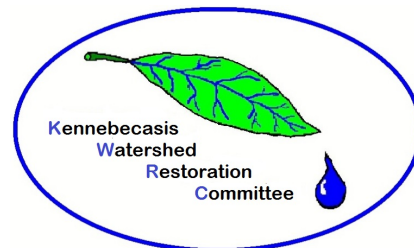
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