Kennebecasis Watershed Restoration Committee

RIPARIAN READS

Newsletter of the Kennebecasis Watershed Restoration Committee

Winter 2025

Photo by Kate Vey

Manager's Message

There has been a lot of talk in the news lately about how to improve processes for getting development projects approved. You may have heard the acronym "EIA", but may be uncertain about what that means or how it impacts you. Maybe you do know what EIA is but have no idea how to become engaged in the process. Maybe you don't feel the need to be engaged. Read further for a crash course on New Brunswick's EIA, or Environmental Impact Assessment process, and why it matters.

Recently the Canadian Federal Government and New Brunswick Provincial Government signed a cooperation agreement that is meant to streamline and create efficiencies through the EIA process. I won't argue the pros and cons of such an agreement, but I will state that having an EIA is an important level of environmental protection. The fact that the public is provided an opportunity to review and comment on large projects within their region/community is an important level of accountability. Of course, this accountability is only effective if the public or stakeholders participate.

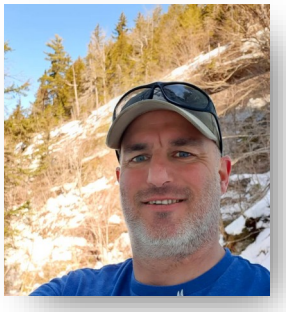
You can find a great deal of information on the current EIA process here. The information posted on this page is for both those seeking to complete an EIA (developer) or those seeking to review projects in their area. If a developer is considering a project where certain environmental impacts are going to occur, they have to inform the Provincial Government how they have assessed the risks that the project poses, and what they will do to mitigate these risks. When they have that information prepared, they submit it for review. Now that the Federal/Provincial cooperation agreement is in place, there may be changes to the process, but the need for public access to this information is still very important and will likely remain intact.

During the review stage, the public are encouraged to be engaged in the process. Read the report submitted by the proponents (those who are proposing the project) and voice through the proper channels any questions or concerns you might have. Click here for a list of projects currently being considered.

If you have read this far and clicked the last link, you'll find a page with a list of project numbers. The most recent projects are in the first listed item, and the lists are usually done by year. Click the top project number and it takes you to the projects most recently listed. This list has a number of columns: the date the project was registered, the project #, the proponent, a project description, the county it is in, the government contact, and the project status. The list also contains a hyperlink to the full EIA document registered by the proponent. You can find this by clicking on the proponent's name. It is here where hard work begins. You will need to read the EIA information provided by the proponent and take notes about any uncertainties or concerns you might have. The document should provide an address as to where to send your comments, but if not, send them to the government contact listed for the project and be sure to include the project #. It is through this review stage that various government departments review the project as well as create "approval conditions" for the proponent to follow if they wish to continue. The number of government departments varies depending on the project but currently, both federal and provincial departments review projects, and this has been a strength of our EIA process.

Why go through this process? Good question. It is about keeping proponents accountable about how they develop projects in NB. If we want businesses to maintain a high level of environmental protection within our communities then we need to let them and our government know that we are watching and demanding just that, a healthy and protected environment. This process gives us that opportunity. If we choose not to engage, then the company can state they received no notes of objection and may only do the minimum protection procedures required, which ultimately relates to our health and wellbeing—government leaders would have no valid argument to push back with if no one had voiced their objections.

People like to blame the government or industry for not protecting the environment, but that job falls on all of us. The KWRC frequently submits letters stating concerns and asking questions on various EIAs within our jurisdiction, and we like to think it makes a difference, or at least pushes proponents to take a second look at their assessments. We encourage everyone to take similar actions, not to stand in the way of development but rather to ensure we are developing responsibly in a way that can truly benefit our communities and ecosystems.



~ Ben Whalen

Project Manager

Amazing Adaptability: How NB Wildlife Survive the Winter

Have you ever noticed a chickadee singing amongst snow-covered branches, or watched a moose lumber across frozen fields? Even in the harshest of winters, New Brunswick's wildlife has adapted to survive and thrive—many can even be seen in your own back yard.

While migrating birds head south to warmer weather once the season turns, many familiar birds like Northern cardinals, blue jays, and black-capped chickadees stick around all winter, toughing out the harsh conditions.

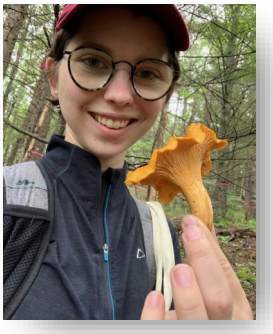
This is easier said than done; in fact, non-migrating birds have developed some incredible adaptations to survive the coldest months of the year. For example, black-capped chickadees secure their winter food supply by stockpiling seeds in several carefully hidden caches. To remember the locations of these stores, and find them beneath the snow, chickadees have evolved a relatively large brain—pretty impressive for a bird barely larger than a golf ball! They also benefit from carefully selecting roosting cavities and puffing up their dense coats of plumage for insulation. Perhaps most incredibly, chickadees are able to enter a state of regulated hypothermia at night. The birds actually lower their own body temperature and slow their metabolic processes when outside temperatures are around freezing—this allows them to conserve energy that would otherwise be used up from trying to maintain a high core temperature. Even with these metabolic demands lowered, chickadees can still lose 10% or more of their body fat on cold nights from

shivering—fat that they then regain by foraging during the day. The human equivalent of this would be a 165 lb man losing ~15 lbs of bodyweight after a cold night outside and then regaining that lost weight by suppertime.

In addition to birds, many mammal species are commonly seen during the winter. An iconic NB animal and largest member of the deer family, the Eastern Canadian moose was made for winter. Due to their huge size, moose have a low body-surface-area-to-volume ratio, meaning they naturally lose less heat relative to their body size than smaller animals do. This, combined with the insulating effect of their thick hollow-haired winter coat, allows moose to retain heat very effectively—so effectively that this can actually cause moose to overheat if winters are not cold *enough*. The moose's long snout also heats inhaled air to protect its lung from the cold, and its long thin legs help it to wade through deep snow. But it's not all smooth sailing for the moose in wintertime. The lack of greenery deprives moose of their preferred food source, so moose transition from eating leaves and grass to chowing down on woody material: branches, buds, and bark. As a ruminant, moose have extra stomachs that allow them to digest this tough material. This is important because woody material is far less nutritious than their usual diet, so to keep up their fat reserves they must constantly be on the search for food.

All that is well and good for endothermic animals, but what if you're cold-blooded? Amphibians and reptiles need unique strategies and physiological adaptations to make it through the winter months. For example, painted turtles, like many other turtle species, hibernate on the bottom of ponds or lakes by slowing their heart rate, metabolism, and oxygen consumption to save energy. The turtles will not eat during this hibernation period, so they stock up on fat reserves before winter. Despite this dormancy, the turtles seem to be aware of their environment even in this state, and can move a limited distance—albeit very slowly—when they need to. Even more interesting, painted turtle hatchlings can have their body temperatures drop down to -10 °C without freezing—a process called "supercooling"—by accumulating cryoprotectant molecules like glucose in their internal fluids. Cryoprotectants prevent ice crystals from forming in the turtles' tissues, and if crystals do form, the cryoprotectants protect cells and help prevent tissue damage. With these high concentrations of cryoprotectants, painted turtle hatchlings can even survive being frozen for several days at -4 °C—temperatures that would kill adult turtles. Adult or hatchling, winter is a dangerous time for reptiles like turtles. In their hibernation state, they are more vulnerable to predation, and they themselves can starve during this period if they were unable to build up enough fat during the summer. Additionally, in particularly cold winters, unlucky turtles in shallower waters can freeze solid—which is certain death—if ice reaches the bottom of the water body. However, by using these overwintering strategies, painted turtles maximize their chances of surviving through to Spring.

Surviving in the cold and desolation of Canada's winters is no small feat, but animals like those discussed above rise to the challenge in ingenious, and sometimes unbelievable ways. So, the next time you see a chickadee at your bird feeder, find moose tracks in the snow, or traverse a frozen pond where turtles may be overwintering, you can appreciate the amazing adaptability that allows life to persist even in the harshest environments.



~ Rebecca Mader

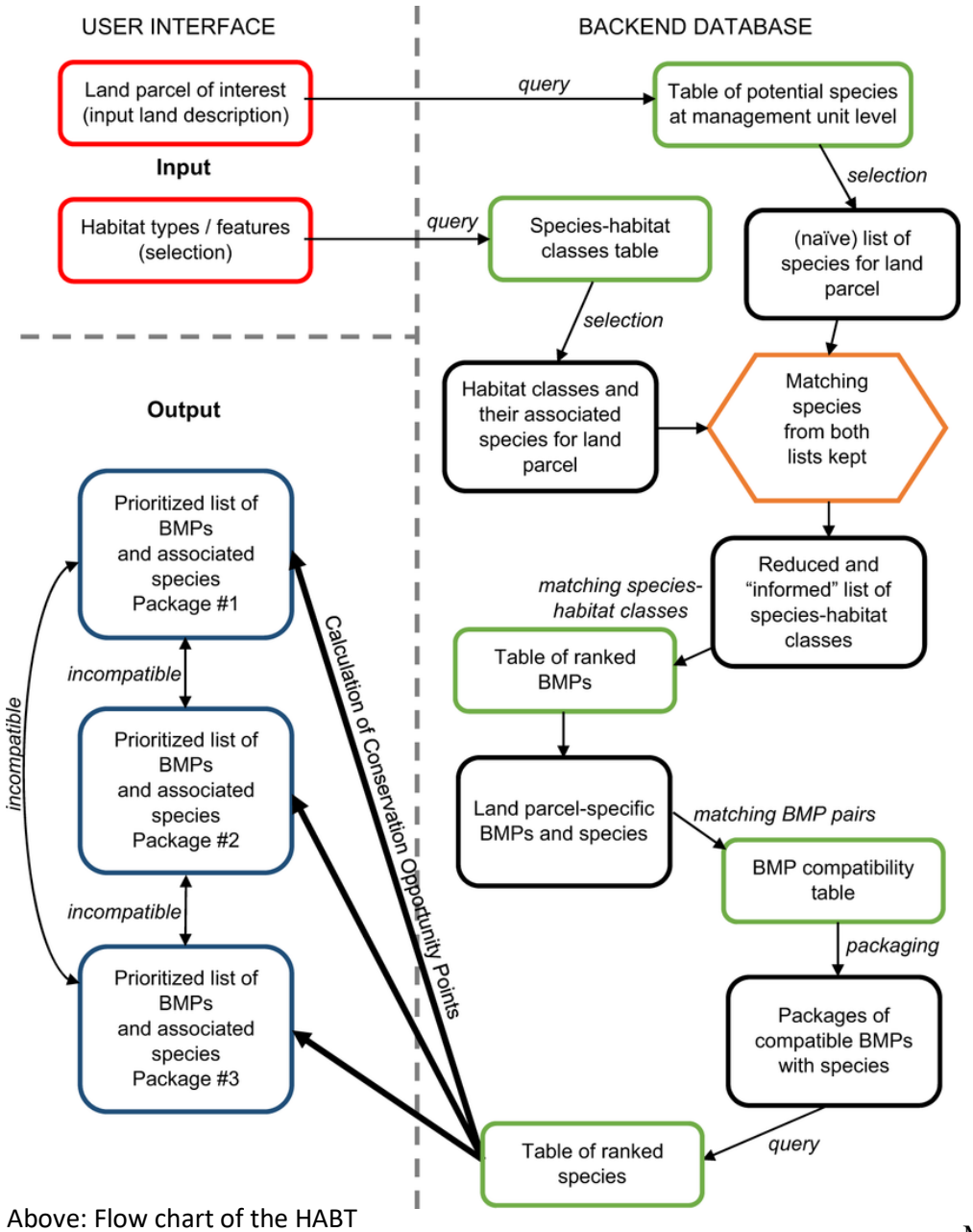
Biodiversity Coordinator

Photos in this article were taken within the Kennebecasis Watershed—see these observations on our iNat project.

Habitat and Biodiversity Assessment Tool (HBAT)

The Habitat and Biodiversity Assessment Tool (HBAT) is a free online farm-level conservation tool developed by the Canadian Forage and Grassland Association (CFGA). HABT was initially launched in Alberta but has since expanded to include eight additional provinces, including New Brunswick as of Fall 2025. The purpose of the HABT is to help farmers understand what kinds of natural habitat and biodiversity may already exist—and could be supported—on their land, based on the farm's location, landscape features, and land-use patterns. The HABT is completely voluntary and confidential and is to be used by farmers and/or extension specialists on the farmer's behalf.

Once the land location and land cover information are inputted into the HABT for a property, users will then receive three separate packages that include beneficial management practices (BMPs), available conservation programs, and associated funding opportunities. The packages are arranged into compatible BMPs based on the habitat and potential species (with a focus on species at risk) that may be present on the property. The user will then select one package and choose which BMPs from within the selected package they want to implement, if any. If there is a certain habitat and a group of species of interest (e.g., pollinators), the user can filter the results accordingly. See flowchart (left) of how results are generated.



Above: Flow chart of the HABT between its user interface and backend database
© Blouin, François & Wilmhurst, John & Harder, Jeff & Bloom, Robin & Johns, David & Watson, Paul (2021).

To learn more about the HABT, you can visit the CFGA website and/or enroll in the free HBAT course, which includes information on the background of the HABT and instructions on how to use the HBAT tool for New Brunswick, which can also be accessed on the CFGA website along with the other provincial tools.

~ Megan Thorpe
Agricultural Stewardship Coordinator

Monitoring River Ice Conditions

Hooded merganser spotted during a River Watch run, floating along an opening in the ice on Smiths Creek

During the winter months, when I'm not analyzing data and writing reports, I am monitoring ice conditions across the watershed for the Department of Environment and Local Government's (DELG) River Watch program. From a safe distance, our team observes five waterways, checking for ice formations, ice jams, and flooding. We collect information on where and how the ice is forming on the rivers across the watershed.

Different ice formations will start to occur once the water begins to freeze. These ice formations can be frazil ice (slush), frazil pans, border ice, anchor ice, and intact ice. KWRC staff are trained to identify these ice types in order to accurately report our findings. Frazil ice floats on the surface of the water and will form on faster moving rivers. Frazil pans develop when there is an accumulation of frazil ice. Border ice forms along the banks on slower moving rivers. Anchor ice forms on the substrate of a river when the water level is very low. This ice can be difficult to see, especially when observing from a distance. Intact ice cover is commonly seen during the middle of winter when the surface of the river is completely frozen.

Ice jams can develop when a high rate of snowmelt occurs causing ice to break up. This most often occurs in March and April. Ice jams are formed when the broken ice accumulates at a section of the river, backing up the flow of water. Ice jams are a concern because they can cause damage to bridges and other infrastructure, as well as trees and shrubs of the riparian zone, and cause significant flooding upstream, which is a risk for people, livestock, buildings and roads. Flooding can be difficult to predict, which is why organizations like the KWRC monitor flood-prone areas on a regular basis.

If an ice jam or flood is observed, our team will snap photos at the upstream and downstream ends of the jam and report it to the New Brunswick Emergency Measures Organization (EMO) so they can respond accordingly.

We take pictures even when there are no jams; documenting river ice conditions at the same locations each time we do a River Watch run is important for showing change over time, and helps contribute to flood forecasting models and land-use planning and infrastructure design. The flood forecasting models can be used to prepare for impending flood risks. This program was designed to keep the public informed about changing river conditions in flood-prone areas within our province. Learn more about River Watch here!

~ Kate Vey

Monitoring Coordinator

Education & Engagement Plans for 2026

Just before the holidays, the KWRC submitted our 2026 project proposals, which encompass a variety of restoration, monitoring, and educational goals that will keep us busy through the rest of the year (reports on previous projects are being written while we wait for approval!). Though our funders have been continuously supportive, we try not to rely solely on their sponsorship because funding pools can dry up, priorities change, etc. Being able to generate support through other avenues is a huge advantage, but not easy. Every time we can engage volunteers or participants in events or workshops, it demonstrates to funders the value of that event or effort. Plus, volunteer hours contribute more directly to our capacity in the form of in-kind support, which means we can con-

vert volunteer hours contributed to a monetary value which helps us match the funding we request.

The KWRC hosts multiple volunteer events each year, most typically tree planting and litter cleanup, with occasional garden maintenance or monitoring opportunities as well. We consider these opportunities because they allow community members to contribute meaningfully or gain the volunteer hours required for a scholarship or resume, which is especially useful for students. Even so, your volunteer efforts are a huge favour to *us*, so we thank those who have continuously come out to lend their time and labour and show their support.

Our events are never to benefit the KWRC only; it is our goal to offer learning opportunities, community connection, environmental experiences, and fun! This way we can build up stewardship and resilience in our communities and ecosystems alike. Our 2026 events aim to educate while providing unique experiences you may wish to try! Provided our proposed 2026 projects are approved, we hope to offer our recurring events that folks have come to look forward to, such as our Beginner's Fly Fishing Workshop and Youth Angling Day Camp. Last year we carried out some new ideas which we would like to offer again, such as a bioblitz event, an aquatic invasive species 'plant paddle' in partnership with NBISC, a restoration site tour for our partners (though feel free to reach out anytime if you are interested in a tour), and our Ripples & Roots nature camp for high school students, which aims to provide preliminary field skills and open the door for environmental career paths!

If any of these sound interesting to you, please do follow us on social media to stay updated about upcoming events. Next week we will be sitting down to plan it all out, so be sure to check for an updated calendar on our website as well!

~ Ellen MacGillivray

Education Outreach Coordinator

Kennebecasis Watershed Restoration Committee

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