

The NWAI tested water quality at 12 sites monthly between May and September. Overall, water quality has been excellent with occasional exceedances in metal or nutrient levels. Due to the warm water temperatures dissolved oxygen content of the water was below recommended values at all sites in August. There were no exceedances in E. Coli readings this summer, but based on previous years' samples, E Coli tends to be high after heavy rain. The NWAI recommends not swimming for 48 hours after a rain event.

Thirty-seven temperature loggers were installed in May and collected in October. They measure the water temperature at six-hour intervals and will continue to help us identify important cold-water tributaries to protect and restore. Water temperatures were high this year due to weather. Stay tuned for our monitoring report to be released at the end of 2020.

MEMBERSHIP

The Nashwaak Watershed Association aims to promote, conserve, and restore the Nashwaak ecosystem by using science-based methods, community collaboration, and advocacy for the watershed and its inhabitants.

If you share this objective, we would appreciate your membership. There is a \$10 fee.

Membership is available through our website or by sending us your name, address, phone number and e-mail address to: info@nashwaakwatershed.ca or to:

Nashwaak Watershed Association Inc.
PO Box 314, Station "A"
Fredericton, NB, E3B 4Y2

Let us know if you're interested in volunteering on committees, at the tree nursery, or in other outdoor activities.



2019-2020 Board of Directors from L to R: William Millar, Brian Perry, Julia Carpenter, Dr. Peter Toner, Melony McCarthy, Josh Noseworthy, Stephanie Merrill (via Skype), Mike Chamberlain and Jean-Guy Leaman

Staff



Marieka Chaplin
Executive Director



Jillian Hudgins
Project Coordinator



Natalie Deseta
Restoration &
Outreach Coordinator

With thanks for continued support



You are invited to attend the NWAIA ANNUAL GENERAL MEETING

25th Anniversary CELEBRATION

We have a special evening planned, offered to you in the comfort of your own home. Grab a mug of something warm to drink and tune into our online event. We want to celebrate with a lot of people!

**Tuesday,
November 10, 2020
7-9pm**

In addition to short presentations on the work of the Association, the 25th anniversary celebration, we will have a guest speaker, Dr. Josh Kurek of Mount Allison University to discuss his work on microplastics in the Nashwaak River. Microplastics are very small pieces of plastic found in the environment. Their presence in aquatic and terrestrial habitats are thought to pose a threat to wildlife, and the effects on the ecosystem are just starting to be understood. Please register for the event in advance using Eventbrite at this link:

<https://bit.ly/3nGet4l>

You can also register on our website on the event page.

Connect with us



info@nashwaakwatershed.ca
www.nashwaakwatershed.ca

WaterWays



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WaterWays

NEWSLETTER OF THE NASHWAAK WATERSHED ASSOCIATION, INC.



Fall
2020

President's Report

The COVID-19 pandemic has created unprecedented challenges across the globe, and in our communities along the Nashwaak. COVID-19 has forced society to reflect on many issues that are relevant to the NWAI's mandate, including the resiliency of our communities and our capacity to cope with drastic and widespread change. The societal changes required are a "dress rehearsal" for the kinds of adaptations that will be needed in the face of climate change. We have had to fly less, drive less, work remotely, vacation locally, and spend more of our leisure time with our families and close friends enjoying the simpler pleasures of life. These lifestyle changes resulted in a temporary reduction in carbon emissions earlier in the pandemic, but it will require more permanent adjustments, as well as a truly "green" plan for global economic recovery, to really begin to address climate change. Many of the NWAI's programs along the Nashwaak, especially our floodplain forest restoration work, represent important moves in that direction.

COVID-19 has also underscored the need for evidence-based policy and decision-making, which provides an opportunity for organizations like the NWAI to continue to develop programming and to lobby policy-makers about dozens of crucial environmental practices. We have a unique opportunity to insist that our

elected representatives use the best available scientific evidence to inform policy development and decision making on all matters of public interest, and to treat the health and future of our rivers with the same seriousness as they have with public health initiatives.

Despite COVID-19, the NWAI has been busy. We have continued our monitoring and assessment programs, and have extended our floodplain restoration activities to include sites on Neil's Flats. Our staff members and NWAI board of directors held a series of virtual workshops to finalize our Operational Plan, which will enable

us to do systematic long-term planning into the next decade.

I feel confident that the NWAI is making substantial progress toward the achievement of our goals. As always, we welcome your input, and encourage you to stay engaged, volunteer, and consider becoming a member. I also encourage you to get out and enjoy some beautiful fall weather along the Nashwaak in its most glorious season, knowing that we are working hard on your behalf.

— Peter Toner

Upstream/Downstream Youth Education

— Natalie Deseta

Despite an unsteady start to the season due to the pandemic, we had great participation in our “Upstream/Downstream” outdoor education program. This summer we partnered with the Nashwaak Valley Farm School summer camp program at the Homestead. We could not have asked for

a better venue. The program was led by Ian Smith, who brought with him years of experience working for Parks New Brunswick. The pandemic has brought to light the value of experiential outdoor education, and the importance of fostering children’s connection to nature. This fall, we adjusted our program

by visiting students on site as well as carrying out fieldtrips. The goal of the school program is to teach students about the variety of habitats in our watershed, the fundamentals of conservation and stewardship and most of all, how to enjoy being outside in nature.



12 sites in the watershed monitored for water quality monthly

Over 1,920 red-tipped willows planted, mostly planted by landowners

11 Floodplain Forest Restoration signs installed on private properties

Over 3,753 trees planted: 2,327 silver maple, 532 bur oak, 324 balsam poplar, 300 butternut and 270 red osier dogwood

Field trips and summer camps provided to over 250 students



37 temperature loggers deployed

Water levels reached record lows of 17.665 m above sea level at Durham Bridge

Continued partnership with St. Mary’s First Nation and new partnerships with Woodstock, Kingsclear and Oromocto First Nations

Aquatic Connectivity

— Jill Hudgins, Photos: Hilcon Ltd.

We visited 62 stream crossings this summer and 24 culverts were surveyed for fish passage bringing our total number surveyed to 216. Approximately 65% are partial or full barriers to fish. We have worked with NBDTI and HILCON Ltd. on the design of fish passage structures for three barrier culverts, which were built and installed by Tek Steel this summer. We completed electrofishing above and below

these barriers with the help of DFO and Kingsclear, Oromocto, and Woodstock First Nations.

We are working together with many partners to remove the biggest barrier to fish in the watershed: the 100-year old Campbell Creek Dam. Work was completed this fall to drain the headpond and notch the dam. Design work for the demolition will be completed this

winter and the dam will be removed in 2021. The NWA I has created a management plan for the replanting of native vegetation in the former headpond.

Our long-term goals are to increase fish populations and biodiversity by managing human actions that impeded access to high-quality aquatic habitat and to foster a more engaged watershed community.



Campbell Creek Dam

Strategic Plan

— Natalie Deseta and Marieka Chaplin

Starting in 2019 and throughout 2020, the NWA I staff and board held numerous strategic planning sessions facilitated by Treasurer Josh Noseworthy. This process was designed to help guide the overall direction of the organization for the decade to come (2021–2030). The strategic planning process follows the Open Standards for Conservation guidelines. Over the course of this process, we examined our biodiversity targets and developed strategies on how to meet them in detail. We have designated five target areas on which we will focus our restoration, conservation and outreach efforts: floodplain forest, wetland, riparian zone, aquatic habitat, and Acadian forest. We developed nine strategies for reaching our goals regarding these five target areas, which has provided us with a clear roadmap on how we will move ahead in the coming years.

Strategy One is to restore priority ecosystems and we have set a lofty goal of increasing the extent of floodplain forest in the watershed by seventy one hectares by 2030. We are going to need all the help we can get to meet this target and will be looking for volunteers for tree-planting events next spring.

To meet our restoration goals this year we purchased trees and shrubs from three local tree nurseries; all dedicated growers of native hardwood trees. Please contact the office if you live in the watershed and would like to plant bur oak on your waterfront or wetland property next year.

Highlights 2019-2020

Cyanobacteria

— Roxanne McKinnon

I was excited to partner with the Nashwaak Watershed Association on a large cyanotoxin monitoring project this year through my work at ACAP Saint John. Together, with other watershed organizations and researchers, we are examining the occurrence of cyanotoxins – toxins made by cyanobacteria, in the lower Wolastoq [St. John River] watershed including the Nashwaak River. Starting in June, partners put out collectors monthly. This winter the collectors will be analyzed for two common types of cyanotoxins. Loggers have also been placed at each site to collect data on nutrient loads and water temperatures to further support research into this issue. Since cyanotoxins can have varying effects on humans, pets, and wildlife, and there is a known presence of these toxins in the main stem of the river, the data collected from this project are vital to better understanding cyanotoxins in the watershed.



cyanotoxin collector

Liberty Tree Nursery

— Jesse Saindron, RPF

There’s so much potential in a tree seedling; given the right conditions and time, a tree you plant today could be feeding wildlife and providing habitat and natural beauty for hundreds of years. I’ve been fascinated with that idea since I was very young, and have been growing anything I could get my hands on for as long as I can remember. After spending seven years working as a grower in industrial conifer nurseries, I decided to start a nursery focused on deciduous species like oaks, walnuts, and chestnuts.

I’ve been particularly fascinated with growing bur oak (*Quercus macrocarpa*) for a number of years because of its beauty and the special place it occupies in our Province’s floodplain ecosystem.

New Brunswick is home to a disjunct population of bur oak that is isolated from the main continuous range in Eastern and Central North



America by a great distance. Our bur oaks have incredible diversity in leaf shape, branching structure, and acorn morphology. It seems like every bur oak you come across has something unique about it that distinguishes it from the one next to it. Long may they grow!

Diversity of leaf shapes from New Brunswick bur oaks. Leaves were collected from ten different trees. Each tree generally has its own specific leaf shape ‘type’, but the tree-to-tree differences are huge.

Water temperatures were high and dissolved oxygen low due to a hot, dry summer

3 fish passage retrofits completed on barrier culverts



A public information session was held and work began on the removal of the Campbell Creek Dam

24 culverts assessed for fish passage

City of Fredericton legal team drafted the conservation easement for Marysville Flats

Our first strategic plan developed: 2021-2030



Atlantic SALMON

— Sherisse McWilliams

While we all work to find our new normal and ensure everyone’s safety, our annual Department of Fisheries and Oceans monitoring programs on the Nashwaak and Tay were significantly impacted. Self-isolation requirements prevented our assessment of migrating Atlantic salmon smolts. Electrofishing surveys, to provide juvenile abundance estimates, and the counting fence, to monitor returning adults, were also cancelled.

On a positive note, adult counts in 2019 resulted in population estimates of 306 returning adults: 238 grilse and 68 multi-sea-winter salmon. This estimate is higher

than 2018 and resulted in an estimated egg deposition of 5% of the conservation requirement (5.35 million eggs), an increase of 160,500 eggs from 2018 (107,000 eggs). We anxiously await approval to conduct swim and seine surveys on the Nashwaak, which will potentially provide information on returning adults and egg deposition in the absence of a counting fence.

Although monitoring activities were affected, this provided opportunities for our partnering Aboriginal Fisheries Strategy staff, coordinated through DFO’s Collaborations with Indigenous Partners in Science program, to assist with other projects in the watershed such as electrofishing, fish ladder installations, and floodplain restoration with NWA I. We hope this will lead to other opportunities for collaboration with NWA I and other organizations in the future.