

New Brunswick's draft Water Strategy is now open for **your** input!

We think we need a **stronger, more ambitious strategy** that commits to modernized water laws that are enforced to protect the Nashwaak River and the fish, wildlife and recreational activities we all enjoy. The draft strategy is available on the **News** page of our website at nashwaakwatershed.ca

What do you think?

Comments will be received until Nov. 20 and can be submitted to:

waterstrategy-strategiedeleau@gnb.ca
or
Department of Environment and Local Government,
Policy and Planning Division,
P.O. Box 6000
Fredericton, N.B., E3B 5H1

MEMBERSHIP

The Nashwaak Watershed Association is committed to the management of the Nashwaak River watershed as a healthy ecosystem that balances a variety of economic, recreational, social, and landowner interests.

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

You can become a member by sending us your name, address, phone number and e-mail address to:
info@nashwaakwatershed.ca or to:

Nashwaak Watershed Association Inc.
P.O. 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.



Marieka Chaplin
Executive Director



Jillian Hudgins
Project Coordinator



Kristin MacKenzie
Education Coordinator



Kristin Elton
Outreach Coordinator

2016-17 Board of Directors

Peter Toner, President
Paul McLaughlin, Past President
Joanna Nickerson, Treasurer
Monique LeBlanc, Secretary
Kent Fackenthall
Stephanie Merrill
Jean-Guy Leaman
Peter Salenius
Nicola Johnson

All are invited to attend the NWA ANNUAL GENERAL MEETING

Wednesday,
November 22nd
7:00 PM – 9:00 PM

The Ville Cooperative
(former Alexander Gibson
Memorial School)

241 Canada Street
Fredericton, N.B.

In addition to short presentations on the work of the Association, we will have a guest speaker, Nathan Wilbur, from the Atlantic Salmon Federation.

OPEN TO THE PUBLIC
ALL ARE WELCOME

Connect with us



info@nashwaakwatershed.ca
www.nashwaakwatershed.ca

WaterWays

NEWSLETTER OF THE NASHWAAK WATERSHED ASSOCIATION, INC.



Fall
2017

President's Report

I am pleased to write this, my first ever President's Report, to provide our valuable members with an update on the Nashwaak Watershed Association and how we have been striving to achieve our mandate over the past year. This has been a busy and ambitious year for our organization, and there is much to report, with a wide range of projects supported by more than a dozen grants totaling over \$250,000. We are moving steadily from a volunteer-based organization to a professionalized one, and have much to be proud of.

My reflections upon our work in 2017 have led me to identify three overarching themes that provide structure and continuity in advancing our mission: conservation, restoration, and education. In one way or another, all of our projects contribute to one, two, or all three of these themes, and they provide a framework for all that we do.

Conservation is a foundational principle for any watershed group, and for us this means the protection of the Nashwaak River, its tributaries, and its surrounding watershed. The Nashwaak is relatively pristine along much of its length, from its headwaters to Taymouth, with water quality that can support aquatic life as it occurs naturally. Our goals and anticipated challenges for the upper and middle stretches of the Nashwaak centre around conservation in many respects, in order to maintain this

high standard. Water quality monitoring is essential in this respect, and the NWA has resumed regular water quality testing at eleven sites along the length of the river. This is essential work in order to provide a baseline of scientific knowledge about water quality that can be used to inform our response to any future threats to water quality. Additionally, the NWA is regularly working to identify areas along the Nashwaak which present high conservation values that demand our attention to preserve them.

Restoration activities have grown to become a major part of our organization's work. This is most evident in our continuing commitment to the Nashwaak Greenway, a major effort to restore city-owned properties in the lower Nashwaak to their original condition as silver maple floodplain forests. To date we have planted thousands of trees that thrive in this important natural ecosystem according to a detailed and scientifically-based reforestation plan. Our restoration activities have expanded this year to include riverbank restoration to deal with problematic areas of erosion on the Marysville Flats and at MacPherson Brook, as well as the detailed assessment of sixty-two culverts to determine what needs to be done to allow fish passage. Our vision is to use the best possible scientific evidence and techniques to identify and restore sections of the Nashwaak that have been

degraded but can be improved.

Education has also become an increasingly important part of our mandate, with the expansion and formalization of our Upstream/Downstream schools program. Having identified sections of the Grade 3 and Grade 4 curricula that correspond to watershed issues, we have developed detailed lesson plans and field trip guides for teachers and for volunteers, and have begun to develop very productive working relationships with many different elementary schools along the Nashwaak. Of course, education doesn't stop with formal schooling, and we continue to be committed to educating both our elected officials and the general public about the importance of the Nashwaak River and its watershed for our environmental and social health.

The Nashwaak Watershed Association is in the midst of a very important period of growth and development, and I invite you all to be actively involved. We still rely upon our many wonderful volunteers to achieve our goals, as it is at the grassroots level that the most significant gains can be made. If you have the time and energy, we would be thrilled for you to join us in some of our many important activities, and to help us to protect and maintain the beauty and health of the Nashwaak for generations to come.

Conserve. Restore. Educate.

- Peter Toner

With thanks for continued support



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada



Your Environmental
Trust Fund at Work



Fisheries and Oceans
Canada
Pêches et Océans
Canada



EDUCATION & Community



This year saw considerable growth in our “Upstream/Downstream” educational programming. **Kristin MacKenzie** was hired as our Education Coordinator and has done a fantastic job developing curriculum-based

science programming for Grades 3 & 4, to be rolled out this school year. While the finishing touches are being put on these programs, we have continued to engage with students through field trips hosted at the Marysville Flats & our tree nursery in Durham Bridge. Here students learn about the fundamentals of what a watershed is, the benefits of silver maples, explore benthic macro-invertebrates by critter-dipping, and even assist us with our restoration efforts by planting trees.

We are also working on expanding our community outreach, with the hiring of **Kristin Elton** as our new Outreach Coordinator. This past spring we held a ceremonial tree planting event in celebration of Canada 150, and had incredible volunteers from the **Fredericton North Rotary Club** and **Fredericton Christian Academy** who helped us plant 150 trees during our National Tree Day event on September

27th. With more happenings in the works, make sure to keep an eye-out for our event notifications on social media!

over 1000 trees planted at our native tree nursery

eleven sites in the watershed monitored for water quality from May to October

thirty temperature loggers deployed around the watershed and monitored regularly

over 7,500 live willow stakes planted, predominantly in the Nashwaak Greenway

sixty-two culverts assessed for fish passage with eleven major debris removals

Highlights 2016-2017

continued partnership with **St. Mary's First Nation** (over 300 volunteer hours contributed to NWAJ projects)

two bioengineered riverbank restoration projects completed

donations from **DM White Architecture** and **McInnes Cooper**

funding for projects from **six NEW funders:**

Eco-Action (Environment and Climate Change Canada), Department of Fisheries and Oceans Canada Recreational Fisheries Conservation Partnerships Program, Wildlife Habitat Canada, Mountain Equipment Co-op, Youth Employment Fund (Province of NB) and APEGNB (Association of Professional Engineers and Geoscientists of NB)

record-breaking summer with **low water levels** made for **challenging conditions** for our activities

field trips provided to **over 600 students** attending schools within the watershed

first year that NWAJ had **year-round staff**

ongoing **stewardship of a City of Fredericton property** (Marysville Flats) in the Nashwaak Greenway



MONITORING

In 2017 NWAJ resumed monitoring water quality after a 14-year hiatus. Eleven sites were monitored monthly from May to October. Water quality in the Nashwaak is overall very good with high background levels of some metals due to the geology of the region and occasional spikes in bacteria and nutrients, likely due to run-off from urban or agricultural land.

Stay tuned for our water quality report to be released at the end of 2017.

Thirty temperature loggers were deployed in May and collected in October. These measure the water temperature at two-hour intervals and will give us an idea of where the important cold water tributaries are located so that we can better focus our restoration efforts. Cold water sources are important refuges for salmonids in mid-summer when the temperatures in the main river become lethally high. Temperatures in the Nashwaak rose to at least 28° this year.

Sixty-two culverts in the lower watershed were assessed for fish passage. Preliminary results show that ~66% of them are partial or full barriers to fish. We removed large debris jams from eleven culverts and we are working on a larger culvert rehabilitation on Manzer Brook with help from **DTI, UNB, and HILCON Ltd.**



Two restoration sites were chosen based on the results of our 2016 geomorphic survey - Marysville Flats and MacPherson Brook. The aim was to restore the eroding riverbanks to look as natural as possible but still withstand the flow of water and ice. In doing so, water quality will improve as less sediment will enter the stream; vegetation will provide shade; and riparian habitat is created. In addition, the restoration at MacPherson Brook will protect and restore an important cold water refuge for salmonids. Both restorations followed the same basic approach: a rock toe was installed, the bank was re-sloped, and erosion control

geotextile blankets were stapled on top. The area was seeded with grasses, live willow stakes were planted in the bank, with native trees and shrubs on top. The geotextile blankets will hold the soil in place and prevent further erosion until vegetation has time to take hold. They will biodegrade in three years.

We would like to thank **HILCON Ltd.**, who did the design work, **Malcolm Foster Ltd.**, for the earth and rock work, **Save a (native) Plant** who helped us choose native shrubs for the Marysville site, and to **all our hard-working volunteers** who helped with the restoration.

Sisson Project

Since 2008, the NWAJ has actively participated in the environmental review process of the Sisson mine project.

In December 2015, the Province of New Brunswick issued an environmental impact assessment approval to Sisson Mines Ltd. subject to forty conditions to protect the environment. In June 2017, the federal Minister of Environment and Climate Change issued an Environmental Assessment Decision Statement, finding the mitigation measures described in the Comprehensive Study Report appropriate and the project could proceed.

The Nashwaak Watershed Association Inc. (NWAJ) acknowledges that mining is an essential activity of civil society; however, for a mining project to proceed in the watershed, conditions pertaining to consultation, environmental protection, and remediation must be met. The NWAJ will continue to follow this project closely and is putting in place measures to monitor impacts including the reintroduction, this year, of regular water quality testing at eleven sites along the length of the river. This will provide a baseline of scientific knowledge about water quality to inform our response to any future threats.

For more information on the NWAJ's position on resource and economic development in the Nashwaak Watershed, please visit our website, or contact our office.

LANDOWNER Conservation Program

One of our goals as an organization is to revegetate riverbanks and floodplains, in order to protect water quality and wildlife habitat. Our objectives are simple: conserve and restore. Maintaining an intact strip of trees and vegetation along the riverbank, called a riparian buffer zone, can naturally protect valuable property as well as the river. We are working with landowners to communicate the benefits of doing so by leaving the area along the riverbank un-mowed, and by planting native species of trees, shrubs and grasses along the banks.

However, in cases where severe erosion has already occurred, restoration may be required. This summer saw the completion of our first bioengineered riverbank restoration project in Marysville; the project

now acts as a demonstration site to show landowners how bioengineered solutions can be an effective way to stabilize undercut banks. In October we hosted a landowner tour of the site.

We are looking to meet with other landowners in the watershed with waterfront property, to talk about working together to protect the land and waters of the Nashwaak. We would be happy to talk with you about our riverbank restoration programs and how we can work together. Please feel free to call our office to book a waterfront property assessment at **261-4664** or email **info@nashwaakwatershed.ca**.



The preliminary estimate for 2017 returns is eighty grilse and forty large salmon. This does not represent extirpation, but it is very worrying considering that returns were in the thousands a few years ago when the aquaculture industry in the Bay of Fundy achieved temporary control of the sea lice that decimate smolt as they enter salt water. Since 2009 sea lice have developed increasing resistance to the chemicals that were so successful during the 2000s, and adult returns have slipped back to the low levels that were characteristic of the situation when numbers of sea lice-infested farmed salmon expanded exponentially during the 1990s. The association between salmon decline (even stronger for sea trout) and an expanding salmon sea cage aquaculture exists in all areas in the North Atlantic.