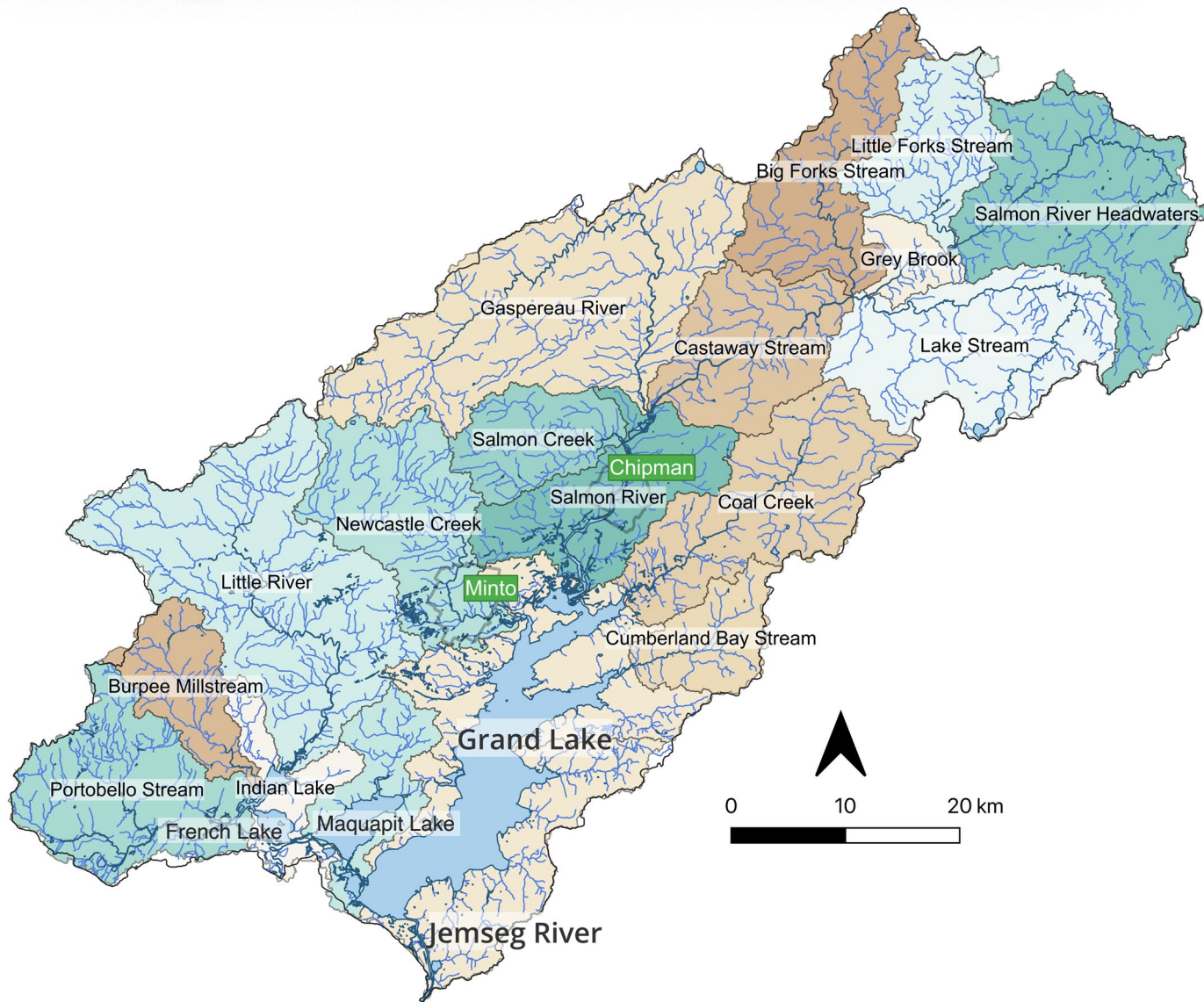


# Watershed News

JAN-MAY  
2024

The Jemseg Grand Lake Watershed Association Newsletter



Welcome to the **Jemseg Grand Lake Watershed Association**. We are a committed group of volunteers working to create and maintain a healthy watershed for all, while fostering a culture of shared responsibility and stewardship of this wonderful resource. Our watershed covers 3,950 square kilometres, and is home to Grand Lake, the largest freshwater lake in the Maritimes (171 square km).

The above image shows the Jemseg Grand Lake Watershed as defined by the New Brunswick Hydrographic Network. Grand Lake is the largest body of water, with the other shaded areas indicating subwatersheds named after brooks, streams, creeks and rivers whose water eventually flows downstream

into the Jemseg River. Minto and Chipman are the two largest communities in the watershed. In 2023, Chipman and Minto became part of the Municipality of Grand Lake that encompasses around 1,200 square km primarily on the west side of Grand Lake and northeast of Chipman.

We care about about the Jemseg Grand Lake Watershed ecosystem. The natural beauty, history, water activities and unique flora, fauna and wetlands of our watershed have attracted generations of summer and permanent residents, starting with the First Nations Wəlastəkwewiyik, people of the Wəlastəkw (Saint John River). Wəlastəkw is the Wolastoqey name meaning "beautiful river".

# Summary of Progress on Programs Initiated in 2023

This has been a transitional year for our program leadership, with former president Brad Nickerson stepping back and several of our members stepping forward to lead and participate in programs. During this calendar year, we completed our annual report to the New Brunswick Environmental Trust Fund (NB ETF) in March and in June we were pleased to receive \$60,000 in funding from NB ETF for the fiscal year of April 1, 2023, to March 31, 2024. An interim report to NB ETF for the current funding year was submitted in November and an application to NB ETF for the next funding year was also submitted in November.

The NB ETF funding for the current funding year was ear-marked for the following programs:

## 1. Water Quality Monitoring

This program was led by Eric Luiker and involved monthly sampling (June to September) of surface water at three lake sites and three river sites in the Jemseg Grand Lake Watershed.

Sampling was conducted by volunteers Eric Luiker, Mike Kelly and Mary Murdoch,

and by contractors Aaron Faser and Mikael Gyllstrom. Water samples were analyzed for general chemistry, nutrients, and trace metals, and site water was measured for oxygen concentration, conductivity, pH and temperature. In cooperation with the New Brunswick Alliance of Lake Associations (NBALA), water temperature loggers were deployed at a deep water site (Grand Point) in Grand Lake. We will analyze the results and compare to the previous years (2020 to 2022) to learn about quality of the water in our watershed to support aquatic life.

In September, surface water samples from four sites (two river sites and two in Grand Lake) were analyzed for fecal contamination which could present a public health risk if there are fecal pathogens present.

## 2. Cyanotoxins

This program was led by John Welsman. In cooperation with the Atlantic Canada Action Plan (ACAP) Saint John, we obtained desk-top cyanotoxin test kits and analyzed six water samples that were collected from locations of suspected cyanobacteria blooms

to determine if cyanotoxins were present. Cyanotoxins can present a health risk to humans and animals if present. There was no evidence of cyanotoxin presence (microcystin and anatoxin-a) in the water samples tested. Results were reported to ACAP Saint John.

## 3. Algae Tracker

Led by Eric Luiker, we partnered with the Hammond River Angling Association (HRAA) to deploy an Algae Tracker at Cumberland Point to track water quality parameters in real time, including chlorophyll a (pigment associated with green algae), phycocyanin (pigment associated with cyanobacteria), solar light, wind, rain, turbidity, and location. By deploying Algae Trackers at several sites in the Wolastoq (Saint John River) watershed, HRAA aims to learn more about environmental conditions that can lead to cyanobacteria blooms. The Algae Tracker results were available in real time on a website and will be compared with five other locations in the Wolastoq and summarized in our annual report. Information about the Algae Tracker was sent in a "Newsbyte" email update to members and posted on our website.

## 4. Eurasian Watermilfoil

This program focused on this invasive rooted underwater plant species in Grand Lake. The program was led by John Welsman, with support from contract biologists Laura Lavigne and Mikael Gyllstrom, and had two parts. The first part was a survey of Dykeman Cove and Douglas Harbour in late September for the presence of Eurasian watermilfoil (EWM) and made use of a remote operated vessel (ROV) deployed by Mako Diving. We wanted to learn if the ROV approach could improve detection of Eurasian watermilfoil, especially under high water conditions when the plant would be fully under water and difficult to detect or identify visually from the surface by boat. The second part of the program was a removal project to look at methods to manage EWM in sites where it has become established, with the goal of slowing its spread to new areas. SCUBA divers from Mako Diving conducted a pilot removal test of EWM in late October. A follow-up visit to the removal sites is planned for 2024 to learn if the methods were effective in reducing regrowth.

## 5. eDNA Environmental Deoxyribonucleic Acid

In cooperation with the New Brunswick Invasive Species Council (NBISC), in October, Mary Murdoch and Eric Luiker sampled for the presence of invasive Zebra and Quagga mussels in the Jemseg Grand Lake watershed. We collected water samples for EDNA from several associations around the lake for the

detection of these two species. Financial support for sample collection was provided by NBISC. Samples will be analyzed by Fisheries and Oceans Canada and results will be incorporated into a report prepared by NBISC as part of a larger sampling initiative they are leading in the Wolastekw watershed.

We conducted an eDNA pilot study for fish presence in Winter 2024 on the western side of the watershed. The sampling design was developed based on guidance from Abbott et al. (2021). Mary Murdoch and Greg Gillis traveled to several ice fishing locations in February 2024 and sampled water under the ice or in open water beside the ice. Mary has experience with sampling for eDNA from water and she led the sampling effort.

## 6. Education and Outreach

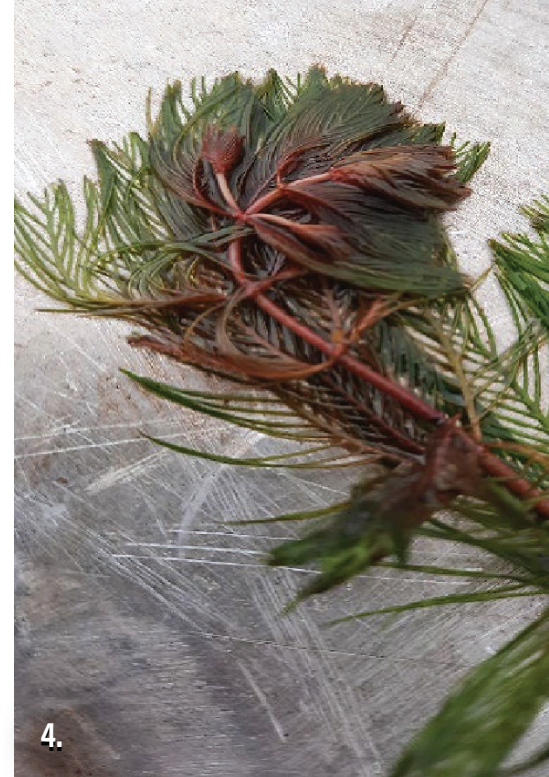
Education and outreach are central to our association, to share what we know and what we are learning about the health of the Jemseg Grand Lake watershed. We make use of emails to members, our website, meetings and webinars, newsletters, social media, and targeted outreach events to learn more about what the public knows and values about our watershed and to communicate what we are learning. Given the broad scope of this activity, this is a shared leadership effort, involving several of our members, including John Welsman, Greg Gillis, Mike Kelly, Joy Thomas, Eric Luiker, Mary Murdoch.

In addition to monthly meetings with program updates and special topics, the association has conducted five outreach activities this year, including an outreach event at the Douglas Harbour Community Centre in July (about 40 attendants), participation in the "Life at the Lake" festival at the Pines (Cambridge Narrows) in August (about 50 attendants), a volunteer appreciation and engagement event at Berties Café in October (about 25 attendants), and two meetings with local governments - Arcadia in July (about 10 attendants) and Grand Lake in August (about 40 attendants).

Additional engagement activities with year-round residents are planned for Q1 2024 to recruit interest, gain input on what is known and valued about the watershed, and to share what we are learning about water quality, shoreline erosion/vulnerability, cyanobacteria, and invasive species.

## 7. Climate Change Adaptation

This part of the project planned to encompass red-tip willow planting to provide erosion protection from increasing storms and water levels. Unfortunately, the program had to be postponed this year due to the lack of sufficient resources to carry out the practical work and report plantings to NBDELG.



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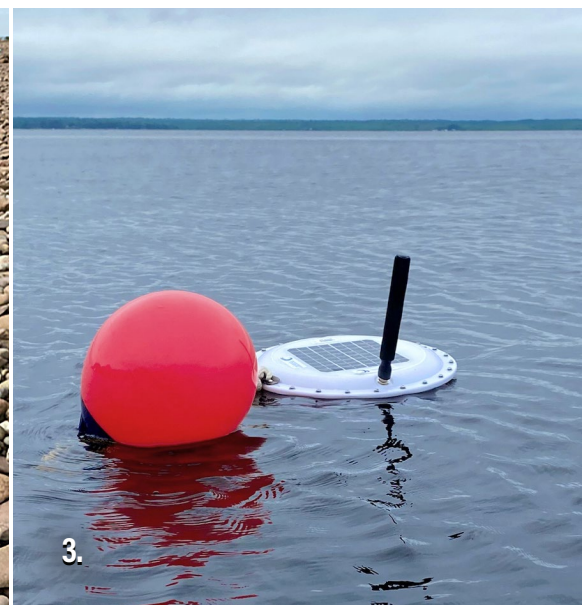
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# Become a Member!

***The Jemseg Grand Lake Watershed Association is a community focused on education, sharing best practices, measuring water quality, and adapting to climate change.***

**OUR GOAL: A Healthy Watershed Ecosystem for All**

Become a member of the Jemseg Grand Lake Watershed Association and enjoy these benefits:

- Access to free workshops, webinars and information regarding our watershed
- Access to water quality data
- Obtain native trees for planting on your shoreline to help protect and improve it
- Have a voice in plans and projects that support the health of the watershed ecosystem
- Share ideas and concerns with a committed watershed group
- Stay informed on issues that affect the health of our watershed's lakes, rivers and streams
- Participate in volunteer opportunities that help our watershed
- Engage with a community who cares about the health of our watershed
- Support important projects that positively impact the health of our watershed ecosystem

Send an image (e.g. from your mobile phone) or scanned copy of the completed form to our e-mail address below, or send the completed form by paper mail to the address below. To pay, send an Interac eTransfer payment to **jemseggrandlakewatershed@gmail.com**. Any Interac eTransfers to this email address will be auto-deposited directly to our bank account. Cheques payable to Jemseg Grand Lake Watershed Association accompanying your completed form by paper mail are fine, as is cash paid in person. A receipt will be sent to you.

**19 Fennell Drive, Plumwaseep, N.B. E4G 2N1  
ATTN: Treasurer, Jemseg Grand Lake Watershed Association**

**The annual membership fee is \$10 CAD per person.**

**Scan the QR code to download our membership form or go to:**

<https://bit.ly/JemsegWatershed>

