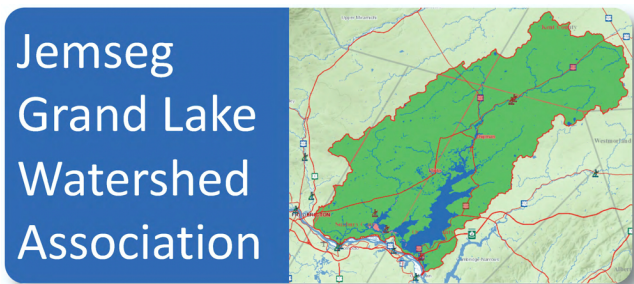


Jemseg Grand Lake Watershed Association
2023 Annual Report
by
Mary Murdoch and Peter Davidson
January 4, 2024

Jemseg Grand Lake Watershed Association Report 24-01



www.jemseggrandlakewatershed.ca



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Annual Report with Summary of Progress on Programs Initiated in 2023



Current Board of Directors:

Peter Davidson, Treasurer

Greg Gillis

Hazen Hughes

Dieter Kromm

Brad Longard

Jennifer McPhail

Neil Orchard

Joy Thomas, Secretary

John Welsman

This has been a transitional year for our program leadership, with 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.

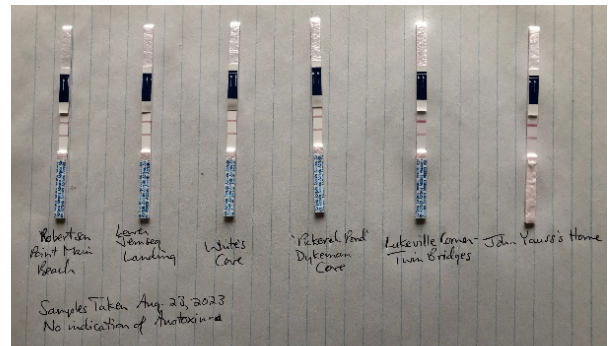


Sampling was conducted by volunteers Eric Luiker, Mike Kelly and Mary Murdoch, and by contractors Aaron Faser and Mikael Gyllstrom. Water samples were analyzed for general chemistry, nutrients, and trace metals, and site water was measured for oxygen concentration, conductivity, pH and temperature. In 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



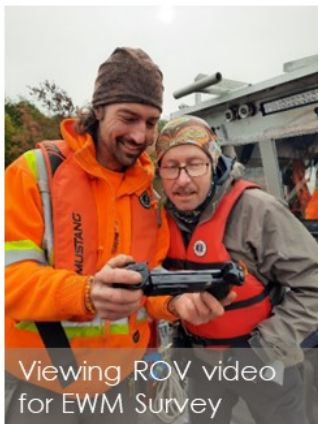
Led by Eric Luiker, we partnered with the Hammond River Angling Association (HRAA) to deploy an Algae Tracker at Cumberland Point to track water quality parameters in real time, including chlorophyll *a* (pigment associated with green algae), phycocyanin (pigment associated with cyanobacteria), solar 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.

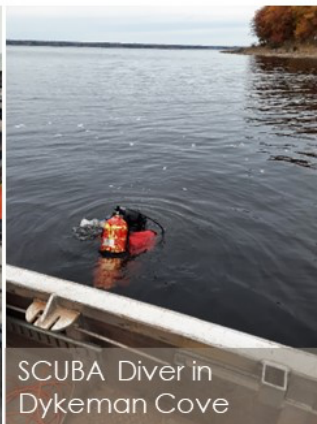
4. Eurasian Watermilfoil

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



Viewing ROV video for EWM Survey



SCUBA Diver in Dykeman Cove



EWM removed from Dykeman Cove

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. Zebra Mussel and Quagga Mussel

In cooperation with the New Brunswick Invasive Species Council (NBISC), in October, Mary Murdoch and Eric Luiker sampled for the presence of these two invasive mussel species in the Jemseg Grand Lake watershed. We collected water samples for environmental DNA 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 Wolastoq watershed.



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.

Jemseg Grand Lake Watershed Association						
Financial Statement						
December 31, 2023						
	Chk	Inv	Combined	General	2023 Project	Status / Comment
Project Number					230254	
Project Budget					60,000	
Revenue						
Membership Fees 2023 Deposits			710.00	710.00		
Membership Fees 2024 Deposits			370.00	370.00		
ACAP Contribution			2,000.00	2,000.00		
NB Invasive Species Council			431.51	431.51		
2022 ETF Projects- claims processed & paid			15,495.65		15,495.65	
2023 ETF Projects- claims processed & paid			18,811.62		18,811.62	
2023 ETF Projects- expenses to be claimed			11,451.69	-	11,451.69	
			49,270.47	3,511.51	45,758.96	
Expenses						
2022 ETF Project Expenses Jan - Mar			14,979.53	-	14,979.53	
BNI Daily Gleaner			516.12		516.12	Outstanding
Joy Thomas	271		149.83	149.83		Certificate
Brad Nickerson	211		24.62	24.62		3 USB Backups
Zoom Licence	226		839.50		839.50	Zoom
NB Alliance of Lake Associations	275		150.00		150.00	Membership
Hoskins Scientific	227		2,065.40		2,065.40	YSI Repairs paid by Eric
Mary Murdoch	228		311.55		311.55	Travel expenses
Willowbrook Watershed Services	229		1,782.32		1,782.32	Services June & July
NB RPC	230	392714	1,562.85		1,562.85	Samples Analysis June 30
NB RPC	231	394553	1,252.35		1,252.35	Samples Analysis July 25
Laura Lavigne	232	00001	564.22		564.22	Services August & September
Joy Thomas	233		207.42		207.42	Travel to Municipal meeting & copying
NB RPC	234	397482	1,823.33		1,823.33	Samples Analysis Aug 23
Willowbrook Watershed Services	238		2,241.05		2,241.05	August & September
MAKO Diving & Marine Services	243		6,011.63		6,011.63	
Mary Murdoch	235		152.86	21.75	131.11	Travel expenses
Mary Murdoch	236		181.51	181.51		Travel expenses NBISC
Mary Murdoch	237		430.77	430.77		Expenses Volunteer Event
Mikael Gyllstrom	239		366.51		366.51	Mileage to Oct 11
Laura Lavigne	240		531.14		531.14	Services Oct 2023
MAKO Diving & Marine Services	247		3,956.00		3,956.00	2 Dives
NB RPC	248		1,988.93		1,988.93	Samples Analysis Sept 28 & 29
Laura Lavigne	250		168.00		168.00	Services
MEEKOI Ecological Consultancy	276		4,310.00		4,310.00	Services
Peter Davidson	277		52.90	52.90		Stamps Jan- Dec 2023
			46,620.34	861.38	45,758.96	
Surplus (deficit)			2,650.13	2,650.13	-	
Opening Bank Balance Jan 1, 2023			9,523.15			
Book Balance			12,173.28			
Outstanding Cheques			569.02			
Expenses to be claimed			(11,451.69)			
Actual Bank Dec 31 2023			1,290.61			
2023 Environment Trust Fund Project						
2023 Project Budget			60,000.00		60,000.00	
Expenditures to date			30,263.31		30,263.31	
2023 Project Balance not yet spent			29,736.69		29,736.69	