

# Water Quality Monitoring in the Cape Tormentine Watershed



Project Number 190228

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## Acknowledgements

EOS Eco-Energy wishes to thank and acknowledge the following groups and individuals for their support and assistance with the project:

- The New Brunswick Environmental Trust Fund, which funded this project
- RPC Laboratory Michael Lawlor, Peter Crowhurst, and support staff for their support in analyzing our water samples
- Members of the Chignecto Watersheds Committee for their expertise
- Volunteers who came out water sampling for our long-term water quality monitoring program (Lauren Clark, Peter Higham)
- Mount Allison University for loaning sampling equipment to assist in our long-term water quality monitoring program
- And countless others for supporting EOS in establishing the Chignecto Watersheds Committee and starting up a long-term water quality monitoring program

## Executive Summary

EOS was awarded a New Brunswick Environmental Trust Fund grant to implement a long-term water quality monitoring program in the Cape Tormentine Peninsula Watershed. The main goals of the project were to:

1. Implement a long-term water quality monitoring program in the Cape Tormentine Peninsula Watershed
2. Produce an annual water quality report
3. Provide education on water quality & climate change impacts
4. Plan a monitoring program for the Cape Maringouin and Dorchester area

The key results of this project were:

1. Started a long-term water quality monitoring program in the Cape Tormentine Peninsula Watershed
2. Reviewed and assessed data to produce an annual water quality report
3. Educated the public on the importance of a healthy watershed and the connection to climate change
4. Planned a monitoring program for the Cape Maringouin and Dorchester area

In the future we plan to continue to monitor water quality, aquatic habitat, and educate local landowners. These are critically important to the long-term sustainability of a watershed, its ecosystem, and its communities.

Overall, EOS had a very successful year of water quality monitoring. This project provided us with valuable baseline data that was used to produce an annual water quality report. EOS also engaged a wide variety of youth and local community members by teaching them how to collect water quality samples and how climate change is impacting our watersheds.

EOS recommends that our water quality monitoring program should extend to the Maringouin Peninsula & Dorchester area in 2020-2021 to obtain information about the current state of the watershed in remaining unmonitored parts of the Chignecto Isthmus.

## Introduction

Water is a health and natural resource concern for New Brunswickers. Water quality faces ongoing and increasing threats as climate change impacts such as sea level rise, floods, storm surges, droughts, and warmer temperatures are forecasted to increase in frequency and intensity. We are aware of a number of water quality concerns across our Chignecto region watersheds including algal blooms, agriculture, erosion, siltation, pollution, clear cutting, extreme rainfall and runoff, droughts, etc. These issues have varying degrees of impact on waterways and these impacts can be made worse with climate change and the Tantramar region is one of the most vulnerable regions in the province to climate change impacts due to its low-lying, coastal location.

The New Brunswick Water Strategy (2017), as well as local sustainability, climate change adaptation, and emissions reduction plans (all funded by ETF) highlight the growing need to monitor water quality and maintain a healthy aquatic environment within the Tantramar. Water quality and quantity monitoring is essential in managing and protecting our water resources in the face of climate change. Monitoring provides data that can be used to provide benchmarks of water quality that we can strive to maintain and identify problem areas within our watersheds that we can work on improving. EOS began by monitoring water quality in the Tantramar River Watershed in summer of 2018. Water monitoring took place in the Cape Tormentine Peninsula region during summer 2019. Having a monitoring program is vital in enhancing and protecting water quality in our area while adapting to climate changes. Baseline data collection, and ongoing monitoring, is critical to analyze the ongoing impacts on the water quality and quantity within our province. If left unattended, our watershed may face increasing threats from climate change, as well as land use change and other environmental factors.

EOS is a long-trusted resource in climate issues and formed the Chignecto Watersheds Committee in 2017, a committee dedicated to the long-term sustainability and resiliency of our local Chignecto region watersheds and preparing our communities for the combined impacts of climate and land use change by promoting watershed awareness through public education, conducting long-term inland water monitoring, and performing subsequent restoration and protection activities. Members include representatives of Ducks Unlimited, NatureNB, professors & research groups from Mount Allison University, Chignecto Soil & Crop Association, local Farmers, Fort Folly Habitat Recovery, Petitcodiac Watershed Association, and the local Planning Commission. This wide range of expertise provides the capacity, mentorships, partnerships, networks, and volunteer bases to be successful in establishing a long-term monitoring program. Having a long-term monitoring program will help us maintain healthy, productive aquatic environments that will continue to ensure dependable, safe, high quality water to recreational, agricultural, municipal, and industrial users. Thus, this project will contribute to the overall long-term health of the environment and quality of life of New Brunswickers.

Research by Louise Comeau (CCNB) shows that the number one concern of New Brunswickers is water quality. Providing educational programming, engaging citizen science, and holding activities within our watershed will help local residents understand water quality and climate change impacts. Citizen science is a great way to increase environmental stewardship and help local citizens gain an appreciation of their local watershed.

This project has benefited both the environment and communities within the Tantramar region through the collection of baseline water quality data in the Cape Tormentine Peninsula watersheds, a more aware, educated and resilient population regarding watershed health in the face of climate change; and enhanced and maintained watershed health. Our monitoring efforts will also be supporting the province in implementing their Climate Change Action Plan, in particular action #97 “Examining the relationship between watershed condition, land use and peak flow events associated with extreme precipitation”.

## Goals

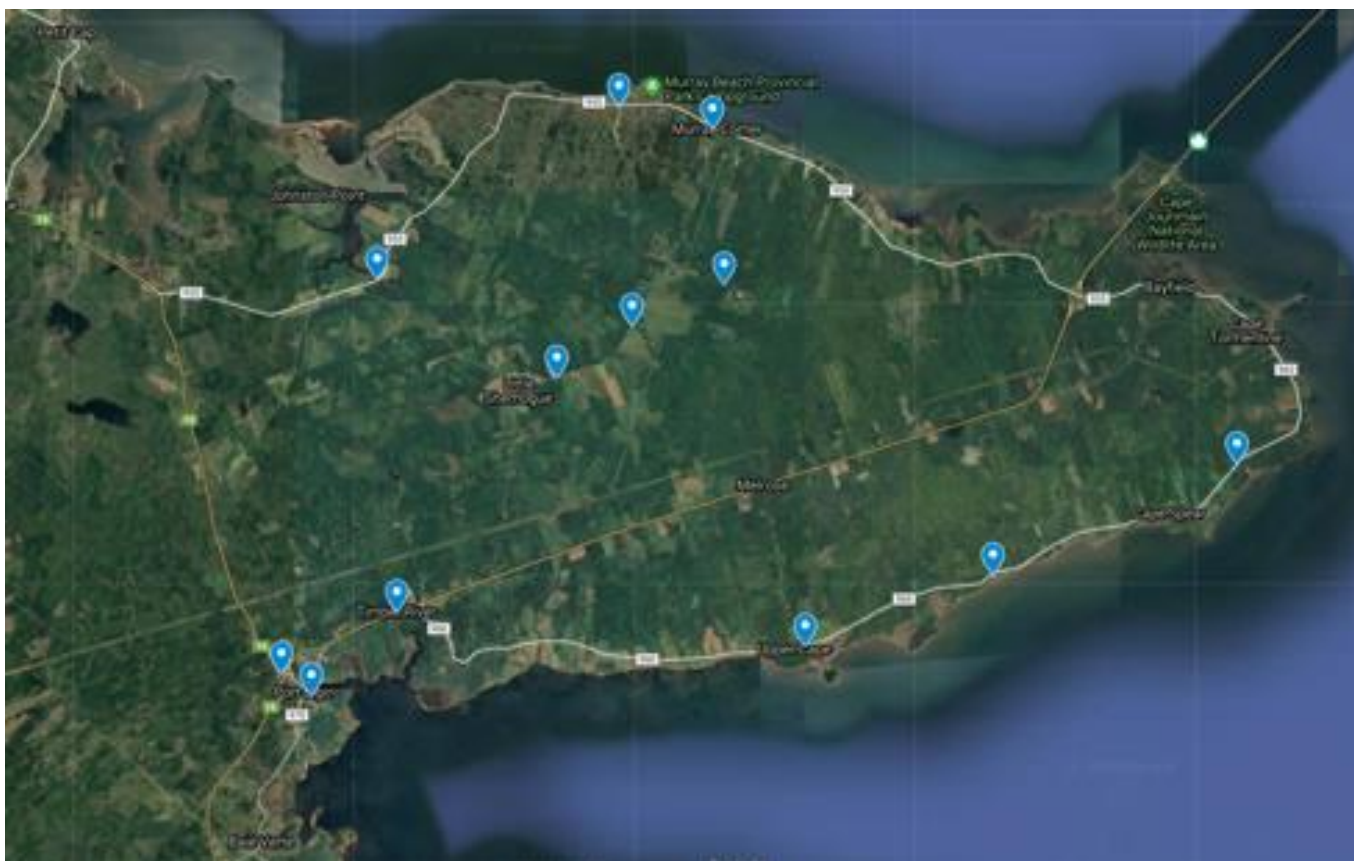
The project goals in 2019-2020 were to:

1. Implement a long-term water quality monitoring program in the Cape Tormentine Peninsula Watershed
2. Produce an annual water quality report
3. Provide education on water quality & climate change impacts
4. Plan a monitoring program for the Cape Maringouin and Dorchester area

## Long-term Water Quality Monitoring Program

Last year our Chignecto Watersheds Committee worked together to choose 12 sample sites throughout the Cape Tormentine Peninsula Watershed based off of maps, existing data, and advice given from other watershed groups and the NB department of environment and local government. Initial site visits were conducted in May 2018 to finalize the sample sites.

Water quality samples were collected from 12 sampling sites throughout the Cape Tormentine Peninsula Watershed once a month from June to September 2019. In-situ water quality parameters (pH, temperature, dissolved oxygen (DO), conductivity, salinity, and total dissolved solids (TDS)) were collected using a Hanna HI9829 Multiparameter meter from the 12 sampling sites from May to October 2019. The Hanna Meter was calibrated prior to each field outing. The water sampling was performed according to the New Brunswick Department of Environment and Local Government protocols. Water samples were sent to RPC Laboratory Moncton for surface water quality parameters and *E. Coli* analysis. Sterile sample bottles were provided by RPC prior to sampling to ensure no sample contamination occurred. Collected samples were stored in a cooler at ~ 4°C until they were transported to RPC at the end of the sampling day. The lab analyzed the samples for 58 parameters for each sample resulting in 3016 data points. In addition to the lab water samples, in-situ measurements were collected using a Hanna Multiparameter Meter from the 12 sites from May to October resulting in 432 additional data points, for a total of 3448 data points collected over the course of the field season.



*Map of Cape Tormentine Peninsula Watershed Sample Sites*

All data collected was analyzed and summarized into a report providing an overview on the current state of the Cape Tormentine Peninsula Watershed. It can be found on the EOS website in March 2020 at: <https://eosecoenergy.com/en/projects/chignecto-watersheds-committee/>

## Outreach and Education

Educating the public on the importance of watershed health in the face of climate change is key to enhancing not only watershed health, but also sustainable communities across Tantramar. We aim to reach as much of the public as possible through a variety of mediums including engaging information booths, participating in community events, interactive educational programs for local schools and summer camps, social media postings, and encouraging volunteers to come out sampling with us for our long-term water quality monitoring program.

### **May 15, 2019 – Mount Allison Sustainable Communities class**

Guest lectured to a class of 9 students on water quality monitoring, why it is important for our communities, EOS' water monitoring program, stormwater management, and what actions communities can take for a healthy watershed.

### **May 15, 2019 – Port Elgin Wellness Fair**

Promoted watershed monitoring in Cape Tormentine Peninsula Area, citizen science, and watershed education opportunities. Gathered anecdotal information on the watershed from community members.





*EOS Staff at Port Elgin Wellness Fair (Photo: KN Croucher)*

### **May 21, 2019 – Water testing with Sackville Girl Guides**

Led the Sackville Girl Guides group through an activity of taking water quality samples throughout Sackville and measuring water chemistry using our Hanna Multiparameter Meter, handheld Oakton Multiparameter Meters, and Water Rangers test-kits.



*Girl Guides Testing Water Samples Collected Around Sackville (Photo: KN Croucher)*

### **May 22, 2019 – EOS AGM**

Gave a presentation on the Tantramar River Watershed water quality monitoring results & the Cape Tormentine Peninsula Watershed monitoring plans.

### **July 6, 2019 – EOS Sustainable Home Show**

Gave a presentation to sustainable home show attendees on the Tantramar River Watershed water quality monitoring results and the ongoing Cape Tormentine Peninsula water quality monitoring.

### **June 22, 2019 – Sackville Farmer's Market**

EOS set up an information booth at the Sackville Farmer's Market to promote the new permeable pavement pilot site as well as EOS' watershed projects.

### **July 11, 2019 – Sackville Rotary Club**

Gave a presentation to over 20 Sackville Rotary Club members on the Tantramar River Watershed water quality monitoring results and the ongoing Cape Tormentine Peninsula water quality monitoring.

**July 11, 2019 – SHAD Mount Allison Student Networking Event with Local Professionals**

Attended a networking event as a local professional for high school students from across the country participating in SHAD Mount Allison. This was a great opportunity for high school students to ask questions about what a watershed coordinator job entails and how they can get into the same line of work.

**July 14, 2019 – Johnson Mill’s Beach Clean-up**

EOS helped out with the Johnson’s Mills Beach Clean-up. This was a great opportunity to talk to local community members about our water monitoring program and scope out potential sample sites for next year’s monitoring program since the Johnson Creek Watershed is within the Cape Maringouin and the Dorchester Area.



**July 15, 2019 – Mount Allison Summer Camp**

EOS visited the Mount Allison Science summer camp, which was at full capacity, with 100 kids signed up. Kids got to learn about the water cycle through water cycle tag and also got to learn all about water quality through using handheld multiparameter meters to analyze various water samples and trying out different filtration techniques to see what produces the cleanest water.



*Kids Playing Water Cycle Tag at Mount Allison Summer Camp (Photo: KN Croucher)*

**July 18, 2019 – Sackville Library Summer Camp**

EOS visited the Sackville Library summer camp for an afternoon of water activities. The kids got read a story about watersheds across Canada, learned about watersheds and pollution sources through a watershed table demonstration, learned all about stormwater and the benefits of permeable pavement through a hands-on demonstration at our depaving site in Sackville, and finally played a water themed game.

**August 7, 2019 – Cape Jourimain Speaker Series**

EOS was invited to present on the impacts of climate change on freshwater ecosystems as part of the Cape Jourimain Speaker Series on Climate Change and Community Resilience in Atlantic Canada.



**August 15, 2019 – Sackville Girl Empowerment Camp**

EOS led a group of sixteen 10 to 13-year-old girls through a series of activities on climate change mitigation & adaptation, as well as water quality sampling.



*Sackville Girls Empowerment Camp (Photo: KN Croucher)*

**September 3 & 4, 2019 – Mount Allison Environmental Microbiology class**

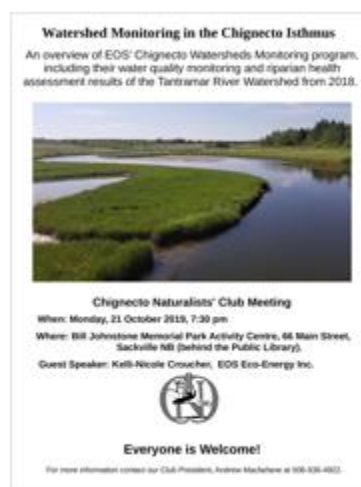
EOS helped lead a 3<sup>rd</sup> year Environmental Microbiology class (30 students) at Mount Allison through a teaching laboratory to analyze water samples for coliforms, E. coli, and Enterococci. Students also learned about EOS’ watershed work and how to sample water quality in order to collect additional samples to be samples in the second teaching lab.

### **September 25 & 26, 2019 – CWN-SYPC meeting**

EOS' watershed coordinator gave a webinar presentation on "A Day in the Life of a Watershed Coordinator" to the Canadian Water Network Student and Young Professional Committee. This committee is made up of 28 representatives from across the country, as well as members from the Canadian Water Network. The presentation included an overview of all of EOS' water related projects.

### **October 21, 2019 – Chignecto Naturalists' Club Presentation**

EOS was invited to give a presentation to 20 Chignecto Naturalists' Club members, a group of local naturalists from the whole Chignecto area. This presentation gave an overview of our watersheds monitoring program, including the water quality results from the Tantramar River Watershed last year and preliminary results on our Cape Tormentine Peninsula Watershed monitoring.



### **October 25, 2019 – Salem Elementary School Outdoor Day**

EOS spent the day at Salem Elementary School's Outdoor Education Day teaching ~ 400 students about climate change, sea level rise, flooding, and dykes. Students got to test out different materials and build their own dykes to see if they could protect their house from the impending storm!

### **November 19, 2019 – NBEN Water Caucus Conference**

The New Brunswick Environmental Network Water Caucus has an annual in person meeting. This year EOS hosted the one-day conference in Sackville for the first time. EOS' watershed coordinator gave a presentation on "Freshwater and Climate Change: Framing Climate Change in a Watershed Context" to the participants.

### **December 9, 2019 – Marshview Middle School visit**

Grade 5 students at Marshview Middle School were led through a series of demonstrations and discussions on the amount of water on earth, how students can conserve water at home and at school, and how students can protect water quality within their watershed. The students also went through a hands-on activity using the watershed table to learn about watersheds, water pollution, nature-based solutions to climate change, and more! The visit was later featured in the Marshview Parents' Newsletter.

### EOS Presentation



Students in grade 5 had a presentation from EOS on Monday and worked hands on with their model watershed table. They discussed water pollution and other impacts on water, adaptation measures/wetlands, healthy watersheds, and how watersheds work.

*Article in Marshview Parents' Newsletter on EOS School Visit*

### February 3, 2020 – Tantramar High School

As part of Tantramar Climate Change Week, the Chignecto Climate Change Collaborative went into Tantramar Regional High School to engage 460 students and staff about local climate change issues, impacts, projects, and solutions. EOS set up a booth on watershed issues, water quality monitoring and citizen science.

### February 4, 2020 – Water Trivia

EOS co-hosted Water Trivia with the Petitcodiac Watershed Alliance as another event for Tantramar Climate Change Week.

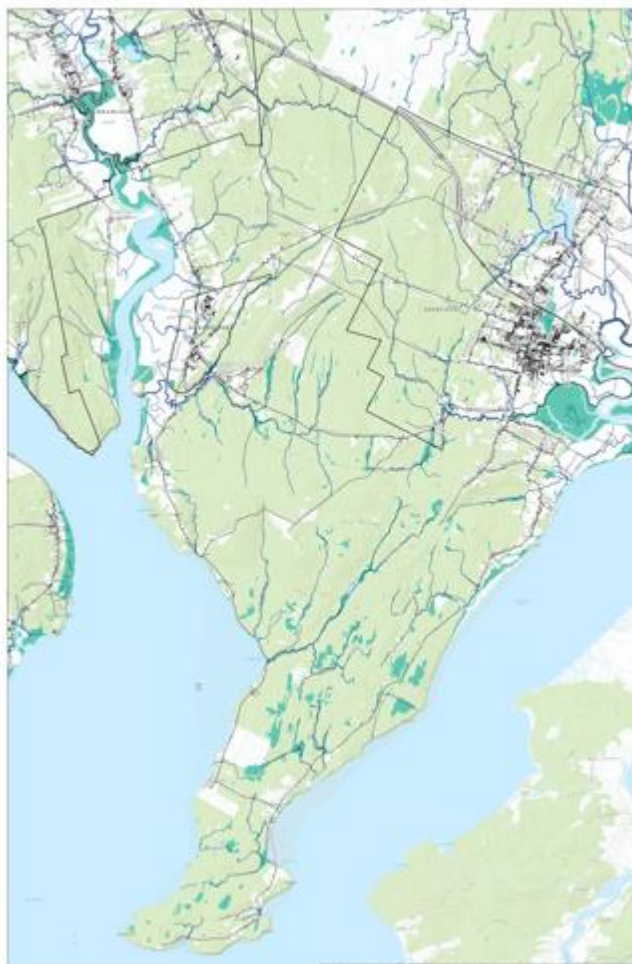


### March 2020 – Presentation to Port Elgin Rotary Club on Cape Tormentine Watershed water quality results

A presentation on the Cape Tormentine Watershed water quality results has been requested by the Port Elgin Rotary Club. It was decided to hold the presentation off until March 2020 after the snowy winter weather has settled down a bit. This presentation will be advertised and open to all community members throughout the watershed (Port Elgin, Baie Verte, Murray Corner, Cape Tormentine, Cape Spear).

## Monitoring Plan for the Maringouin Peninsula & Dorchester Area

During this past year, the Chignecto Watershed Committee also started planning the long-term water quality monitoring program for the Maringouin Peninsula & Dorchester Area to start monitoring in 2020-21. There has been no previous monitoring in this area. Sample sites will be selected based off land-use maps, site accessibility, and consulting with local groups (e.g. the Village of Dorchester, Fort Folly First Nation, Nature Conservancy of Canada Johnson Mills Centre, and the British Settlement Local Service District Committee).



*Figure 7: Map of the Maringouin Peninsula & Dorchester Area*

## Workshops/Conferences Attended & Training Completed

During the past year EOS staff took part in numerous training, networking and professional development opportunities in order to build capacity for our long-term water monitoring work. We learned more about community based social marketing, backyard & aquatic birds, fish tagging, salt marsh restoration, data management & analysis, climate change adaptation, and networked with experts across New Brunswick, the Maritimes and Canada. The information received has been invaluable to our work on local watersheds. Below is a list of the events that were attended:

**Rain as a Resource Community of Practice (monthly meetings)**

**NBEN Water Caucus (monthly meetings)**

**Canadian Water Network Student and Young Professional Committee (monthly meetings)**

**Chignecto Watersheds Committee meetings**

**Chignecto Climate Change Collaborative meetings**

## **Sackville Mayor’s Roundtable on Climate Change meetings**

**May 2-3, 2019 – Community Based Social Marketing (CBSM) Workshop**

**May 22, 2019 – Backyard & Aquatic Bird Training through GDDPC**

**May 24, 2019 – Bay of Fundy Shorebird Meeting**

**May 28, 2019 – Gaspereau tagging with DUC**

**July 8, 2019 – In-field Aquatic Bird Training through GDDPC**

**July 27, 2019 – Clean Foundation Salt Marsh Restoration Workshop**

**December 11 & 12, 2019 – Atlantic DataStream Data Workshop**

**January 31, 2020 – CWRA Workshop, “Beyond the banks: an interdisciplinary review of water management in Atlantic Canada”**

**March 18, 2020 – NBEN Climate Change Adaptation Conference**

## **Key Results**

The key results of this project:

1. Started a long-term water quality monitoring program in the Cape Tormentine Peninsula Watershed
2. Reviewed and assessed data to produce an annual water quality report
3. Educated the public on the importance of a healthy watershed and the connection to climate change
4. Planned a monitoring program for the Cape Maringouin and Dorchester area

The success of the results was determined in the following ways:

- Water samples were collected from 12 sites across the Cape Tormentine Peninsula Watershed from June to September which resulted in 52 samples being collected. Samples were analyzed at the RPC Laboratory in Moncton. The lab analyzed the samples for 58 parameters for each sample resulting in 3016 data points. In addition to the lab water samples, in-situ measurements were collected using a Hanna Multiparameter Meter from the 12 sites from May to October resulting in 432 additional data points, for a total of 3448 data points collected over the course of the field season.
- An annual water quality report of the Cape Tormentine Peninsula Watershed was created from data collected from our long-term water quality monitoring. It will be available in March at: <https://eosecoenergy.com/en/projects/chignecto-watersheds-committee/>
- 10 active Chignecto Watersheds Committee members during 2019-2020
- Increased knowledge of water quality among the public from 100s of people who visited information booths at community events and presentations.

- Educated ~670 youth on watershed science and provided hands-on water quality sampling through school visits, summer camps, information booths, community events, and local girl guides groups.
- In addition to the 500+ people who read our quarterly newsletters that include articles on our watershed projects, we made a number of social media posts on facebook, Instagram, and twitter.
- Participated in a number of capacity building and watershed training through workshops and conferences.

## Challenges

Due to not receiving as much funding as requested and high lab analysis costs, we had to decrease the scope of our project and not do CABIN sampling.

Despite collecting water samples at low-tide to ensure that samples were representative of the freshwater quality coming from upstream of the sample site, a number of water samples collected this summer had high salinity. According to RPC, this was a common problem with water samples this summer as water levels were so low that there wasn't enough water flowing out of some waterbodies, and even at low tide the tidal influence was overpowering the freshwater. Another potential explanation could be salt water intrusion with sea level rise since one of the sites was far enough upstream that it should not have been tidally influenced.

## Conclusions and Recommendations

Overall, it was a successful first year of water quality monitoring throughout the Cape Tormentine Peninsula. This project provided us with valuable baseline data that can be used to ensure the health of our watershed. Collecting this baseline data throughout our watersheds is helping EOS work towards building a long-term water quality monitoring program for the Inner Bay of Fundy and Cape Tormentine Watersheds. EOS believes that this program should extend to the Maringouin Peninsula & Dorchester area in 2020-2021 in order to obtain information about the current state of water quality within the watershed. Local groups (e.g. the Village of Dorchester, Fort Folly First Nation, Nature Conservancy of Canada Johnson Mills Centre, and the British Settlement Local Service District Committee) are excited about the prospect of a watershed monitoring program in their area next year and have agreed to help with sampling site selection if funding is received.

EOS Eco-Energy recommends that the knowledge gaps in our watersheds continue to be addressed through our long-term water quality monitoring plan. We would also like to expand our knowledge of our watersheds through the collection of CABIN data, hydrological data, riparian health data, and fish & habitat data.

General public outreach and education needs to continue as it is key to increasing peoples' understanding of the risks associated with poor watershed health and low preparedness for climate change. EOS will continue inviting community members to volunteer with our long-term water quality monitoring program. EOS will also continue to educate the public about the importance of watershed health in the face of climate change.



Appendix 1 – Media Articles

SACKVILLETRIBUNEPOST.COM

WEDNESDAY, MAY 15, 2019 • COMMUNITY/OBITUARIES

A5

**GREEN FUNDS**

# Tantramar region receives \$234,000 boost for environmental projects

Community groups awarded funding from Environmental Trust Fund

**KATIE TOWER**  
SACKVILLE TRIBUNE-POST

SACKVILLE, N.B. – The Tantramar region will once again receive an infusion of provincial funds to invest in environmentally-friendly projects this year.

More than \$230,000 will be injected into the local region for a variety of environmental initiatives in 2019, ranging from wetlands education to climate change adaptation and water-quality monitoring.

The money will come from this year's Environmental Trust Fund (ETF), which will see investments of more than \$8.4 million put into 230 community-based projects provincewide.

EOS Eco-Energy Inc. is one of the local organizations being granted funds through this year's ETF, receiving two grants to support their work.



EOS Eco-Energy has been awarded funds this year for water quality monitoring in the Cape Tormentine Watershed. Last summer, EOS did water quality monitoring in the Tantramar River Watershed. Here, Catherine Prismar, foreground, takes a sample at Silver Lake, while EOS watershed coordinator Kelli-Nicole Croucher prepares to board a sailboat to obtain samples out on the lake.



The Tantramar Wetlands Centre has been awarded a grant again this year to continue its youth education programs, including the always-popular critter dipping.

**FURTHER BENEFITS**

Other projects to receive ETF funding include:

- The Tantramar Wetlands Centre (TWC), located at Tantramar Regional High School, will receive \$30,000 for its ongoing youth education programs. TWC offers wetlands education to over 3,000 students and visitors each year, while assisting teachers in incorporating the lessons into their classrooms, and involving young people in scientific monitoring.
- The Atlantic Canada Conservation Data Centre, based in Sackville on the Mount Allison University campus, will receive \$10,000 to enhance its biodiversity database and make information available to regulators.
- The Atlantic Canadian Organic Regional Network (ACORN), also in Sackville, will receive \$20,000 for a project called Cultivating Climate Resilience in New Brunswick, working toward fostering a network for collaboration among farmers, to build resilience to climate change in the local food systems.

• One of those grants (\$49,000) will be used to help EOS continue to implement local climate plans across Tantramar that will address climate mitigation and adaptation and build community resiliency.

"We plan to offer a sustainable home show in early July, a solar home tour and a community air sealing workshop in the fall, and Tantramar Climate Change Week 2020 in the winter," said Amanda Marlin, executive director of EOS. Marlin said the sustainable home show will be a 'one-stop shop' for everything sustainable for your home.

EOS also hopes to calculate emissions reductions for Tantramar municipalities and offer two bulk purchases this year - one for back-flow valves, and the other a solar panel bulk purchase and installation.

• EOS was awarded \$40,000 for water quality monitoring and watershed-related education and outreach in the Cape Tormentine Peninsula Watershed, which spans from the Baie Verte area to just beyond Murray Corner.

"We are looking forward to learning more about the Cape Tormentine Peninsula Watershed as it has never been monitored before," said Marlin, noting EOS began water quality monitoring last year in the Tantramar River Watershed.

EOS will be sampling 12 randomly-selected sites across the region for a full suite of water quality parameters and analyzing the results.

• Funding of \$25,000 has been granted for the design and implementation of an outdoor environmental education program at Dorchester Consolidated School.

Awarded to the Tantramar Regional Centre of Expertise for Education for Sustainable Development (RCE-Tantramar), the project was developed by Mount Allison honours student Laura Manuge as part of an experiential learning project over the past year.

"The school is ideally suited to outdoor environmental learning and these funds will allow for the development of new learning spaces in the woods...using the outdoors as (the students') classroom," said Michael Fox, director of RCE-Tantramar.

Fox said Manuge formulated several grant applications for the project - and received not only the \$25,000 from the province but also a \$10,000 grant from the Mount Allison Student Union green investment fund.

• A partnership between Nature NB, EOS Eco-Energy and the village of Port Elgin was awarded \$30,000. Nature NB will work with the partners on integrating nature-based solutions into climate change adaptation planning for the village.

"The project aims to reduce shoreline erosion to protect critical infrastructure using nature-based approaches, while educating residents about positive changes they can make on their property to reduce erosion," said Adam Cheeseman, climate change project officer at Nature NB's Sackville-based office.

• The Cape Jourimain Nature Centre has been awarded \$30,000 to offer a new educational program - a professional speakers' series titled Climate Change and Community Resilience in Atlantic Canada.

"The objective of the program is to explore some of the challenges that our communities are facing in the wake of climate change and to investigate innovative solutions for adapting to them," said Daniel DeLong, education and outreach

manager at the centre.

DeLong said many communities in the southeastern region are located along the coast and are at greater risk from climate-related impacts such as sea level rise and increased storm activity.

"Exploring options for sustainable infrastructure, adopting eco-conscious legislation, and redesigning local economies to be more adaptable, is crucial for helping local communities to sur-

vive..." he said.

The free public sessions take place at the centre Wednesday evenings throughout July and August, 6-8 p.m. and will be led by local environmental experts.

A portion of the funds will be used to fund a new program for visiting schools and youth groups.

Revenue for the ETF comes from about half of the environmental fees paid on redeemable beverage containers.

Parent Partnership Newsletter from the Principal

# Marshview Middle

19 Queens Road, Sackville NB, E4L 4G4  
marshview.nbed.nb.ca T: 364-4086

Friday December 13<sup>th</sup>, 2019

Here we go into our last week of 2019! We have had a busy and successful fall and look forward to what is to come!

Mrs. Dixon

### Mental Health Fair!

On Wednesday our students were treated to a Mental Health Fair led by our wonderful Child and Youth Team Clinicians. Classes rotated through two sessions ranging in topics such as Friendships, Mindfulness, Coping Skills, Choices, Addiction, Balance, Self-Love and Kindness. We love working together with our ISD Child and Youth team to ensure our students learn the skills they need to be happy healthy kids!



### EOS Presentation



Students in grade 5 had a presentation from EOS on Monday and worked hands on with their model watershed table. They discussed water pollution and other impacts on water, adaptation measures/wetlands, healthy watersheds, and how watersheds work.



### MMS Upcoming Dates

#### December 16

Guess the Candy's in the Jar Contest at the office

Food drive Delivery to the Food Bank

#### December 17

ER day

#### December 18

Tromboni!  
School Trivia Contest

#### December 19

MMS Elf Arrives

#### December 20

**Last day before the Break**  
School Holiday Assembly  
Periods 3 and 4

Holiday Sweater day!

### Volleyball Season ends

Great job to our boys and girls volleyball teams on a great season. Teams had a great time on the court and supported each other well.

Thank you to our coaches – we appreciate the time and talent you give to our students!