



## Message from the Association's Manager



**Rémi Donelle is the Manager of the Shediac Bay Watershed Association since 2013. A board of directors, consisting of 20 citizens from the region, is responsible for administering the organization.**

The year 2020 has been a success despite COVID-19. I would like to thank my team for their resilience in adapting their work during a pandemic. The field projects could be accomplished by a small team in accordance with public health guidelines. Unfortunately, our educational activities with schools were suspended this fall. However, these partnerships will be resumed as soon as possible.

In the new year, the Association will work on the implementation of a new management plan for the Shediac Bay watershed. The plan that was developed by the Ministry of Environment and Local Governments will be available for public consultation in February. You will be able to comment on the [Government of NB site](#).

## Water Quality Sampling Results for 2020

In 2020, the Shediac Bay Watershed Association was able to increase the number of sample sites thanks to a partnership with the Coalition for the Sustainability of the Southern Gulf of Saint Lawrence. The new sites targeted agricultural areas and small streams to help determine the impact of nutrients and bacteria in the Shediac Bay Estuary.

Reports summarizing the samples will be released in March 2021. However the data collected is currently available on the [Atlantic Datastream portal](#). The portal regroups water quality data collected by governments, academics and environmental organizations.

The Atlantic Datastream allows you to view and compare data from different [sites](#). A new feature was added to apply national water quality guidelines to certain datasets. The portal uses the Canadian Water Quality Guidelines for the Protection of Aquatic Life, which are national standards set by the Canadian Council of Ministers of the Environment (CCME). These guidelines provide recommended ranges for some of the physical, chemical and biological characteristics that are commonly monitored in rivers.

These tools allow us to rapidly see whether our data falls within the range of acceptable water quality for aquatic life. Other guidelines are also used for recreational waters and drinking water. To view a sample pH guideline, follow this [link](#).







## The Association constructed 3 residential rain gardens in the watershed

As part of our Stormwater Management project, the Shediac Bay Watershed Association sought out landowners in the Town of Shediac and Pointe-du-Chêne who were experiencing standing water or flooding issues on their property. As a pilot project, 3 rain gardens were constructed on 3 homeowner's properties in an effort to help control these water issues. Each rain garden is unique and tailored to the homeowner's needs.

### Project #1

This homeowner in Pointe-du-Chêne is receiving surface water runoff from surrounding properties, whose yards are built up higher than theirs. A bioswale was installed along the backyard property line, to enhance the infiltration of the water into the ground and the absorption of the water by the plants. This bioswale offered the opportunity to beautify the homeowner's backyard by choosing a grassy plant that will grow tall to hide the fence. Only one species was used in this project:

- Karl Foerster grass (*Calamagrostis acutiflora*)

### Project #2

A homeowner in Pointe-du-Chêne's "The Bluff" has been experiencing standing water and flooding issues for many years. A large rain garden was built in a low point of the backyard. A pipe will be installed to redirect the water from their sump pump and downspout towards the rain garden. The location of the rain garden is partially shaded by trees. A mixture of flood tolerant grasses and flowers for pollinators were used in this project:

- Karl Foerster grass (*Calamagrostis acutiflora*)
- Common Rush (*Juncus effusus*)
- Ostrich Ferns (*Matteuccia struthiopteris*)
- Goldenrod (*Solidago sp.*)
- Aster (*Aster sp.*)
- Swamp Milkweed (*Asclepias incarnata*)
- Rose Bush (*Rosa rugosa*)

### Project #3

The third rain garden was built on the neighbouring property from project #2, for the same standing water and flooding issues.

The standing water in this area created a habitat for mosquitoes and odour-causing bacteria. This rain garden will help absorb surface standing water and encourage the infiltration into the ground. This rain garden is located in a fully shaded area between the two homes. A mixture of flood and shade-tolerant plants were chosen for this project:

- Karl Foerster grass (*Calamagrostis acutiflora*)
- Common Rush (*Juncus effusus*)
- Ostrich Ferns (*Matteuccia struthiopteris*)
- Sensitive Ferns (*Onoclea sensibilis*)
- Swamp Milkweed (*Asclepias incarnata*)

If you are a landowner living within the Town of Shediac or Pointe-du-Chêne who is experiencing standing water or flooding issues around your home, or who is interested in reducing the stormwater running off your property, contact us through our website at [www.shediacbawatershed.org](http://www.shediacbawatershed.org) to participate in our residential rain garden program.

## Adopt a Stream Program - 420 kg of litter collected along the Pellerin Road

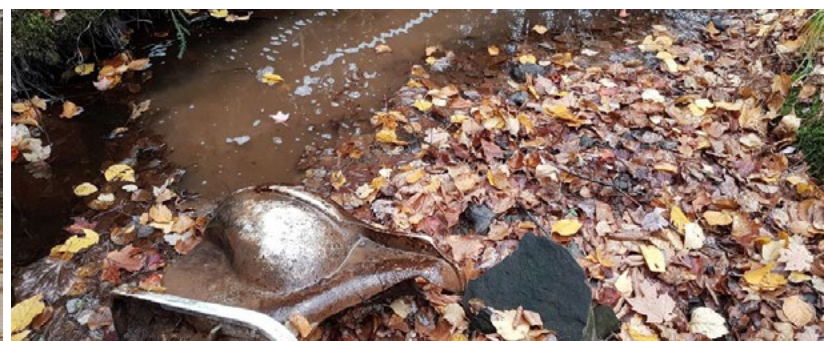
In October of 2020, a trash cleanup initiative took place along the Pellerin Road, a publicly accessible dirt road in Shediac. The road is used by camp owners, recreational all-terrain vehicles, road vehicles, hunters, and logging companies. This part of our watershed includes several small streams that flow into the Scoudouc River.

Unfortunately, trash is frequently left behind by recreational users of this wooded area. In addition, there are old household dumps still present on an unknown number of private lots, and ongoing problems with illegal dumping.

Thanks to a partnership with the New Brunswick Wildlife Federation's

Adopt-A-Stream program, the Shediac Bay Watershed Association's planned an initial cleanup of litter along the road. We would also like to thank Southeast Eco360 for waiving the tipping fee for this environmental cleanup.

Over approximately 3 days, the SBWA staff collected 420 kg (926 lbs) of trash over a distance of 3.8 km. Items collected ranged from everyday consumer products (plastic bottles, aluminum cans, coffee cups, takeout containers, plastic bags, food wrappers, etc.) to household and construction trash (clothing, cleaning supplies, porcelain toilet, plumbing pipes, roofing shingles, etc.)





## Annual Results of the Green Crab Sampling Program

For the uninitiated or novice green crab enthusiasts, we present a brief summary of the green crab issue in the Shediac Bay area. The first catches of green crab as an invasive species begin 9 years ago as they moved up the coast from Cape Jourmain. They were first seen as a result of monthly beach seine surveys from the CAMP (Community Aquatic Monitoring Program) program. A year later, funding was secured to collect, count and sex the population of the spring to fall season the following year (2013).

This study of the population dynamics allowed us to monitor the ups and downs of the population around 10 stations of the inner Shediac Bay area. The same study sites have been revisited once a month for the last 8 years.

This invasive species has been the cause of detrimental habitat destruction in other parts of the Maritime Provinces. They are well established in parts of Nova Scotia and Prince Edward Island. They feed primarily on shellfish species, especially the younger stages. This has an adverse effect on population survival and results in fewer shellfish species being able to reach adulthood. If populations of the crab exceed certain levels, they start detrimental disruption of eelgrass habitat in the search for food.

### Study Results

Our staff has collected May, June, July, August, September and October samples this year as in previous years. For comparison, the numbers

below will be for those same months and times for the last four years. The format will be (month/year) 2017-2018-2019-2020 and they will represent the overall totals (male plus females) for the month.

	May	June	July	Aug.	Sept.	Oct.	Total
2017	65	72	116	197	158	218	826
2018	39	49	222	99	162	68	639
2019	3	9	23	29	40	23	127
2020	4	10	34	30	62	28	168

The figures in the table indicate the total number of crabs for each of the sampling periods.

The highest counts of green crab were during the 2017 and 2018 season. We suspect that more severe winters and thicker ice were probably the cause of subsequent number drops shown in 2019 and 2020. Thicker ice tends to crush the green crab burrowed in the eelgrass/mud habitat over the winter. The drop in 2018 was not as drastic as were totals in 2019 and in 2020. Usually another explosive increase occurs after the drop the year before. This has not happened in the last two years and the reasons why are purely speculative at this point.

So the pattern this year indicates the population levels are very similar but only slightly higher compared to 2019 totals, and that the population has shown no sign of exponential growth.

More detailed interpretation of the overall results can be found on the [green crab report](#) available online.

## The Association Produces and Publishes More Educational Videos

Nowadays, educational videos are more and more necessary to showcase our projects on our website, on social media and during presentations. Our communications coordinator is now equipped with professional video equipment and is perfecting his know-how in video production and recording. These educational videos allow us to increase our online presence.

This summer, the New Brunswick Aquarium approached us to produce a video on the importance of water quality for aquatic life. The theme of dissolved oxygen in water was addressed for the capsule which is available on the [NB Aquarium Facebook page](#).

Other videos on rain gardens, stream restoration and living coastlines are available on our Facebook page and the Association's [YouTube page](#).

## A section of the Cornwall Brook restored with 60 native trees

The buffer zone along a section of the Cornwall Brook was modified during the construction of the new traffic circle in Shediac. Armour stone was placed on the stream banks and the natural vegetation was removed. The Shediac Bay Watershed Association contacted the Department of Transportation to reforest the buffer zone around the brook.

On November 10th, a total of 60 native trees were planted along the brook. Large wooden stakes and a sign was installed to signal and

protect the newly planted trees. This habitat restoration project will continue in the spring of 2021 by planting hundreds of willows between the rocks on the stream banks. This will help protect the bare banks from eroding from rain runoff on both sides and also increase biodiversity.

Planting trees along riverbanks has many advantages. The trees will provide shade to the stream to keep waters cool. The trees also benefit fish by providing food sources such as insects and seeds. Healthy buffer zones

also help improve water quality by filtering pollutants before they can flow into waterways.

The Association wants to work with landowners who own land along a degraded watercourse to restore it to a healthy ecosystem. If you own a property along a watercourse in need of reforestation, we are always looking for places to do projects.

A [video](#) of this project is available on our [Youtube page](#).



## Tar clean up on a beach in Beaubassin-est

The Shediac Bay Watershed Association was informed by a citizen of a tar pile on a beach in Beaubassin East. The tar was slowly being eroded by the sea. The provincial and federal environmental authorities were contacted to ensure that the necessary permits were obtained.

The tar was manually picked up with shovels and buckets on October 29<sup>th</sup> on a beautiful sunny day. The load was transported to Saint John for decontamination and proper disposal.

Local environmental groups came to help us. Thanks to our friends at Vision H<sub>2</sub>O, the Pays de Cocagne Sustainable Development Group, Bird Canada and volunteers for their help in cleaning this tar from the environment.

Thanks also to Condo le Rivage and the community of Beaubassin- est for permission to access the site.




### Contact Info

**Shediac Bay Watershed Association**

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For more information please visit our website or follow our Facebook page:

 [shediacbawatershedassociation.org](http://shediacbawatershedassociation.org)  
[www.facebook.com/shediacbawatershedassociation](https://www.facebook.com/shediacbawatershedassociation)

### Current News

#### Contributors:

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## Featured Species - Oyster

Oyster is the common name for several families of saltwater bivalve molluscs. They live in temperate and warm coastal waters of oceans. They can be found everywhere, from Chesapeake Bay to Japan's Hokkaido Island.

This species is important to ecosystems as they are able to filter 2-3 gallons of water in an hour, favouring the habitat of many other organisms. They are often considered as the vacuum cleaners of the Bay.

#### Characteristics

This mollusk is considered a bivalve, meaning that its shell is divided from front to back into left and right valves. The two valves of the oyster shell differ in shape; the upper valve is convex while the lower valve is larger and rather flat. Their valves are seized together by an elastic ligament. The inside of the oyster is very smooth and white.

#### Reproduction

Oysters are protandric animals, meaning that they can change from male to female over the course of a lifetime. Their reproductive organs contain both eggs and sperm. When they reach maturation, they release a sperm into the water, which forms into larvae and mature. A few years later, that same oyster can start to release eggs.



#### Shellfish Habitat Restoration Project

In 2006, a project was put together to enhance oyster habitat in both Cocagne and Shediac bays as the oyster biomass was declining. To do so, shell material was added to the sea floor to create a recruitment substrate for oyster spats. The recruitment in Cocagne Bay was high and a large number of juvenile oysters were growing on the restored site, while in the Shediac Bay, the oyster recruitment was not very successful.

**Class:** *Bivalvia*

**Order:** *Ostreioida*

**Family:** *Ostreidae*

**Genus:** *Ostrea, Crassostrea, Ostreola, Saccostrea*

**Species:** *Ostrea edulis, Crassostrea gigas*



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