

Shediac Bay Watershed Association

Annual Report 2018-2019



Acknowledgements

The Shediac Bay Watershed Association Board of Directors sends thanks to the numerous groups and individuals that contributed to making our programs a success again this year. In particular, the SBWA extends its appreciation to following individuals and organizations for their interest and involvement with the Shediac Bay Watershed Association.

Our Funders:

New Brunswick Environmental Trust Fund
New Brunswick wildlife trust fund
Fisheries and Oceans Canada
Environment and Climate Change Canada
Atlantic Salmon Conservation Foundation
TD friends of the Environment
Ville de Shediac
Communauté rural Beaubassin-Est
Canadian Water Network
Shediac COOP-IGA

Our partner organisations :

Groupe de développement durable du pays de Cocagne
South-eastern Anglers Association
Vision H2O
Petitcodiac Watershed Alliance
New Brunswick Environmental Network
Shediac Bay Marina
Pointe-du-Chêne Port Authority
Nature NB
Club les ami(e)s de la nature du Sud-est
EOS Eco-Energy
Amis de la Kouchibouguacis
Southern Gulf of St-Lawrence Coalition on sustainability
Bassin versant de la baie de Caraquet

Local schools:

École Mgr-Francois Bourgeois
Shediac Cape School
École de Grande-Digue
Louis-J-Robichaud

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1 Introduction

1.1 Description of the Shediac Bay Watershed Association

The Shediac Bay Watershed Association (SBWA) was founded in 1999 as a result of growing concerns from local community residents over the ecological health of Shediac Bay. In order to establish a long-term water quality-monitoring program, a community-based association was formed.

The Shediac Bay Watershed Association vision and mission statements are as follows:

Our Vision – A community working together to foster a healthy ecosystem that will sustain the quality of water for future generations.

Our Mission - The Shediac Bay Watershed Association will accomplish its vision through education and community stewardship.

The Board of Directors includes the following members:

Ms. Helen Hall, President	Mr. Gerry Dionne	Ms. Petrina Ferris
Mr. Denis Haché, Vice President	Mr. Léo-Paul Bourgeois	Mr. Louis Vallée
Mr. Pierre Landry, Vice-President	Mr. Claude Léger	Mr. Gilles Thibault
Mr., Armand Robichaud Past President	Mr. Marc Fougère	Mr. Bill Belliveau
Ms Helen Wedge, Secretary	Ms. Germaine Gallant	Ms. Lyne Falardeau
Mr. Michel Gaudet Tresurer (fall 2018)	Mr Arthur Melanson	Mr Luc Leblanc
Mr. David Dunn	Ms. Frances Kelly	

The Shediac Bay Watershed Association gratefully receives guidance, donations and in-kind support from various organizations and interest groups consisting of business owners, industry, foresters, farmers, residents, cottage owners, recreation boaters and swimmers, conservation groups and community organizations within the Shediac Bay Watershed.

Public education has always been an integrated part of all the Shediac Bay Watershed Association's initiatives. Every year, the Association organizes activities meant to engage the public in environmentally friendly practices such as litter cleanup and tree planting, hoping to raise awareness and to build good habits.

Our strong presence in the public eye is a major factor to the success of many of our initiatives, and to keep the public informed of the great work being accomplished by the association.

1.2 Overview of the Shediac Bay Watershed

The Shediac Bay Watershed covers 420 km² of land area and stretches along 36 km of coastline, from Cap Bimet to Cap de Cocagne (Fig. 1). The Shediac Bay Watershed is composed of two major river systems emptying into Shediac Bay: the Shediac River and the Scoudouc River. The Shediac and the Scoudouc Rivers are characterized by small tributaries covering a watershed of 201.8 and 143.3 km², respectively. The Shediac River is composed of two major water arms. The northern water arm is created by the convergence of the McQuade Brook, the Weisner and the Calhoun Brook. The southern water arm of the Shediac River is the continuation of the Batemans Brook. Water velocity in both rivers is generally weak due to the gentle regional elevation. The watershed boundaries stretch into both Kent and Westmorland County.

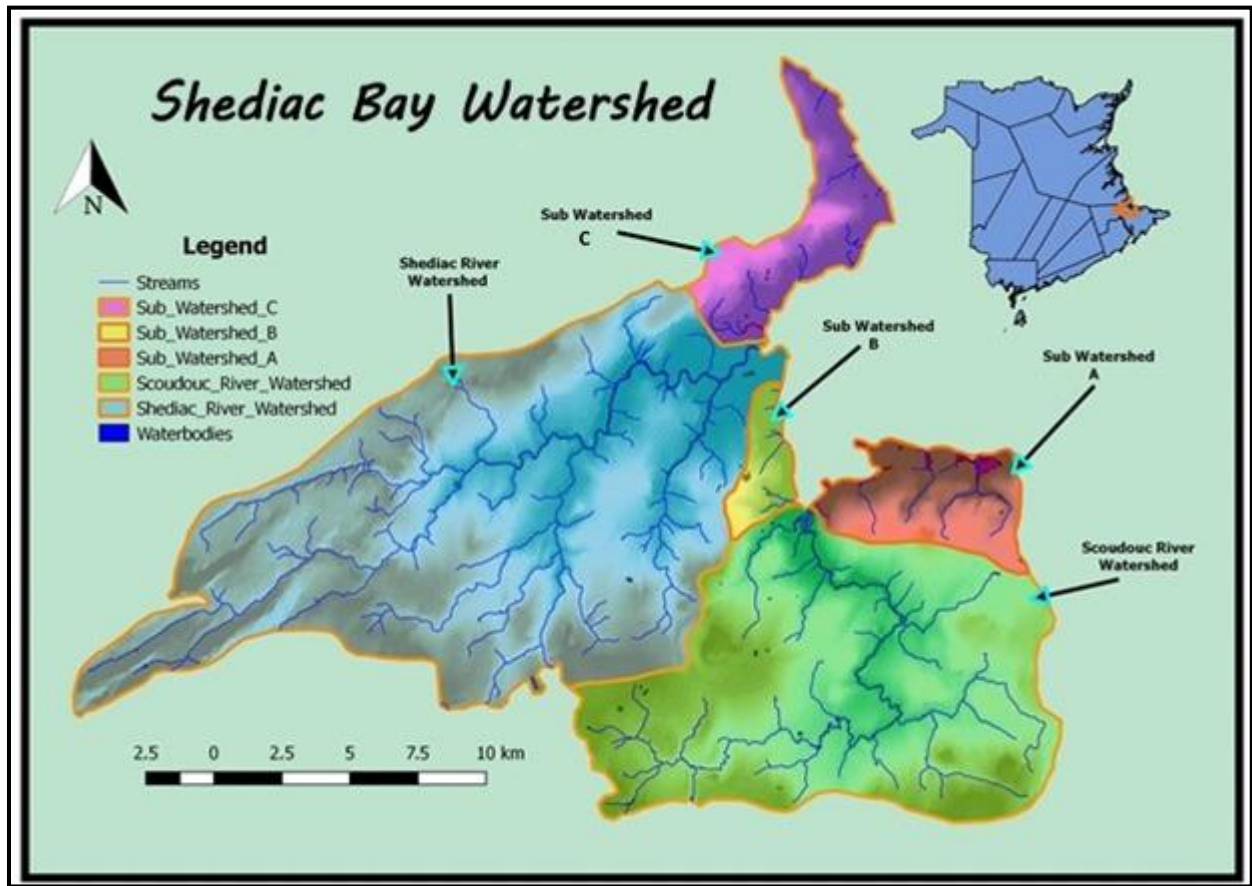


Figure 1: Map of Shediac Bay watershed boundaries and sub-watersheds

2 Water Quality Monitoring

Water quality monitoring was conducted once a month from May to October 2018. Basic water quality parameters (DO, temperature, pH, conductivity and salinity) were measured using a YSI-*Professional Plus* multi-parameter metre. Water samples were sent to *RPC Laboratory* for analysis of *E.coli* and inorganic elements. All sampling results have been submitted to the *Department of Environment and Local Government*, and can be found in the final project reports on our website (see sections 2.1 and 2.2).

The purpose of the samples taken by the SBWA is to detect environmental sources, to then prioritize areas where the Association can create partnerships and implement restoration programs, such as tree planting along riparian buffer zones.

Disclaimer: the SBWA does not by any means proclaim to be water quality experts and is not qualified to determine the safety of the recreational uses of the bay, such as swimming advisories or shellfish harvesting.

2.1 Freshwater Rivers– Water Classification Stations

The SBWA has been monitoring 10 water quality sampling sites in the Shediac River, the Scoudouc River and their tributaries, since they were established during the water classification program in 1999-2001. The water quality monitoring program is used to help detect and support the need for remediation actions, that will help protect and improve water quality and aquatic ecosystems.

For the full detailed report on this project (site information, bacterial, nutrient and inorganic sampling results),, please visit our website www.shediacbayassociation.org, report title “**Improving water quality in the Shediac and Scoudouc Rivers, 2018**”, in Reports and Archives.

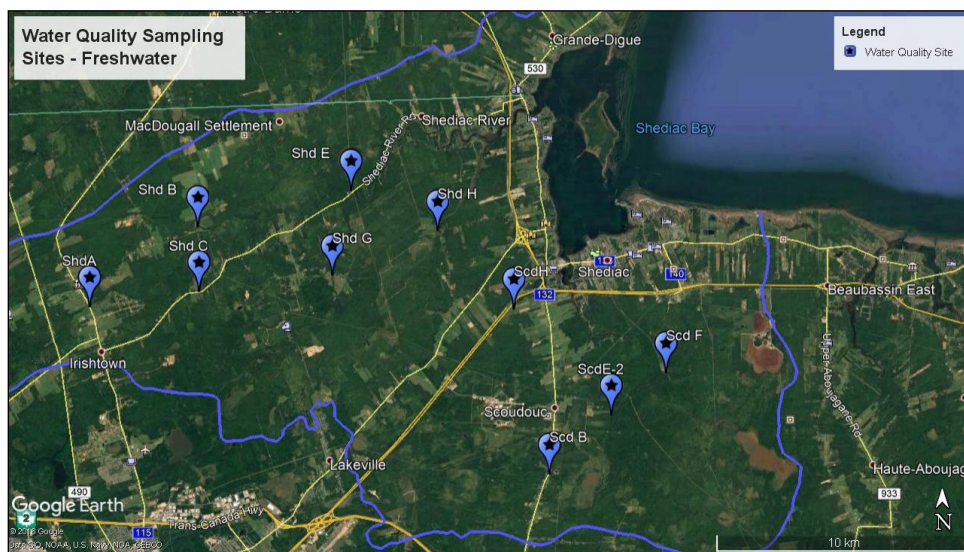


Figure 2: Water Quality Sampling Sites – Water Classification Stations

2.1.1 Bacterial Sampling Summary

The bacterial levels measured in the 2018 sampling of the Shediac and Scoudouc River are summarized below.

For the Shediac River, there are 3 samples that surpassed the Canadian Recreational Water Quality Guideline (400 MPN/100 mL); the site ShdB in August and September, and the site ShdH in August. There was no rainfall in the 24 hours prior to the sampling in August. There was an occurrence of rainfall (> 10 mm) in the 24-hour period prior to the sample taken in of September.

For the Scoudouc River, there are 2 samples that surpassed the Canadian Recreational Water Quality Guideline (400 MPN/100 mL); the site ScdB in August and September. As mentioned above, there was an occurrence of rainfall (> 10 mm) in the 24-hour period prior to a sample taken in of September. The site ScdF was inaccessible due to the conditions of the Pellerin road in May and June.

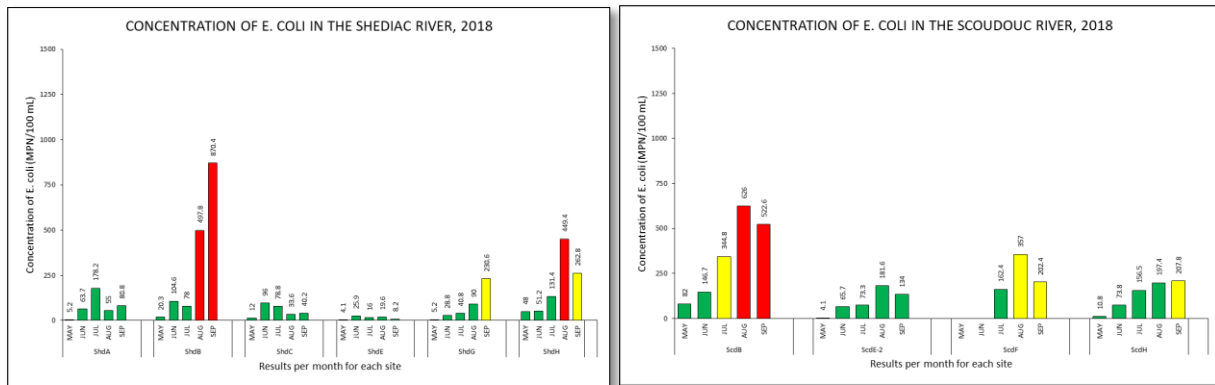


Figure 3: Summary of water quality results for E. coli, Shediac and Scoudouc Rivers, 2018

2.2 Small Tributaries of the Shediac Bay

The SBWA had expanded the water quality sampling program in 2017 to evaluate the smaller tributaries of the Shediac Bay. These small brooks had never been assessed for water contaminants or evaluated for surrounding land uses and buffer zones. Due to the rise of concern for the health of the Shediac Bay, 11 new sites were added along the coastline from Boudreau-Ouest to Grande-Digue, to assess possible bacterial and contamination sources. The sampling of these new sites continued in 2018.

For the full detailed report on this project (site information, bacterial, nutrient and inorganic sampling results), please visit our website www.shediacbassociation.org, report title “**Evaluation of the Health of the Shediac Bay, 2018**”, in Reports and Archives.

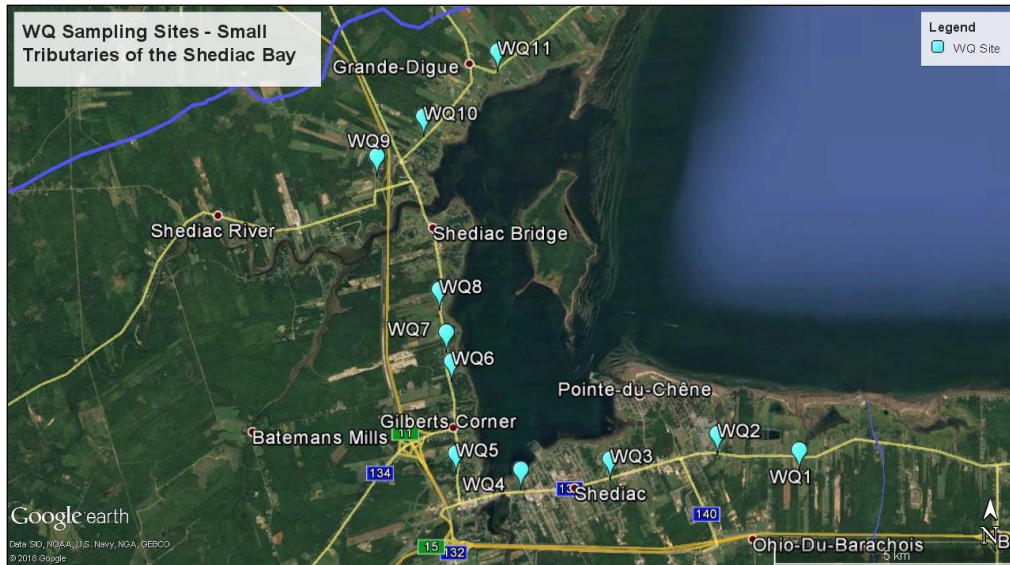


Figure 4: Water Quality Sampling Sites - Small Streams

2.2.1 Bacterial Sampling Summary

The bacterial levels in some of the small streams sites shows the need for more investigation around land uses. Valuable data has been collected in 2017 and 2018 and will be used in the planning of future studies and remediation action plans. Most sampling stations had at least one instance of a bacterial spike over the recommended 400 MPN/100 mL limit in 2018. The sites that did not have an instance of bacterial spike are; WQ-5, WQ-6, WQ-7, and WQ-9. Based on the bacterial levels alone, the stations that merit further investigations for sources of fecal coliforms are; WQ-2, WQ-3, WQ-4, WQ-8, WQ-10 and WQ-11.

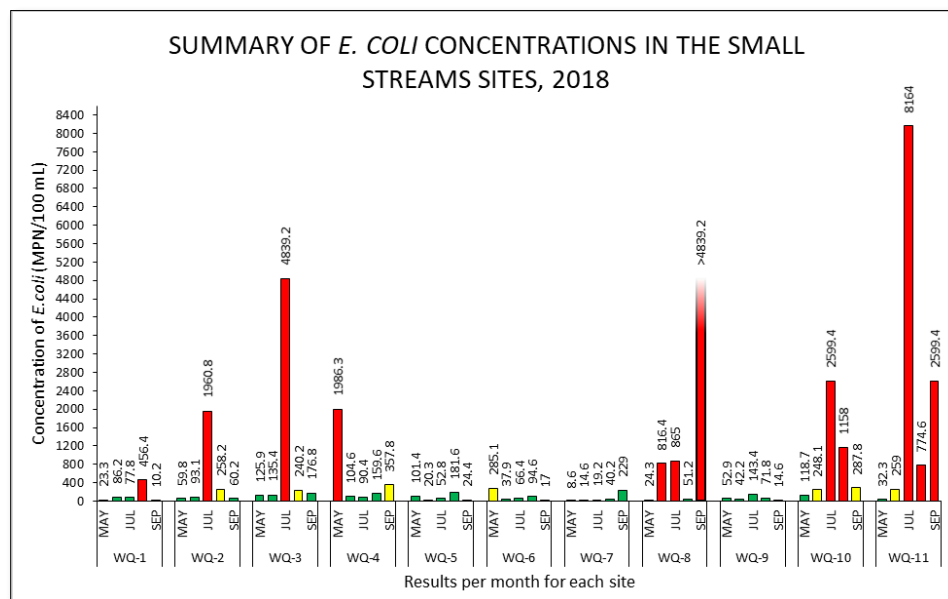


Figure 5: Summary of water quality results for E. coli, small streams sampling 2018

2.3 CABIN (Community Aquatic Biomonitoring Network)

The addition of biomonitoring through the use of macroinvertebrate sampling (CABIN) adds valuable data to our water quality monitoring. By creating a baseline data of macroinvertebrate ecosystems at various sites, we will be able to observe changes in the ecosystem if there are changes in water quality. The use of biomonitoring will help us determine the environmental impacts of climate change, and activities such as urban development, road works, one-time pollution events or long-term pollution impacts. For more information on the CABIN sampling data, please visit our website www.shediacbassociation.org, for the report “**Improving water quality in the Shediac and Scoudouc Rivers, 2018**”, in Reports and Archives.



3 Salmon Conservation Program

3.1 Fisheries Management Plan – Phase I

During the fall and winter months of 2018, a new document was assembled to gather all the historical data collected relevant to salmonids since the beginning of the Shediac Bay Watershed Association. This report gathers the data relevant to each specific watercourse. Each section contains: characteristics of the watercourse in question, historical water quality data, electrofishing data, temperature logger data, red count surveys, surrounding land uses, past restoration work and future recommendations.

The first phase of this report focuses on the main branch of the Shediac River and the main branch of the Scoudouc River. The second phase of the report will contain all of the mentioned above data for the McQuade Brook. The data on culvert assessments and stream assessments for the Shediac and Scoudouc Rivers, and the McQuade Brook, will also be added.

In addition to data gathering, a significant expansion of the GIS database (Geographic Information System) was created for the Shediac Bay watershed. The database now holds a catalogue of layers adapted for each major subwatersheds, such as the Shediac River subwatershed, the Scoudouc River subwatershed, the McQuade Brook subwatershed, and the Weisner Brook subwatershed. These new layers were clipped to create new maps of each region and watercourse of the watershed. These new maps were used to display the historical data for this management plan. Maps were created using *QGIS* software.

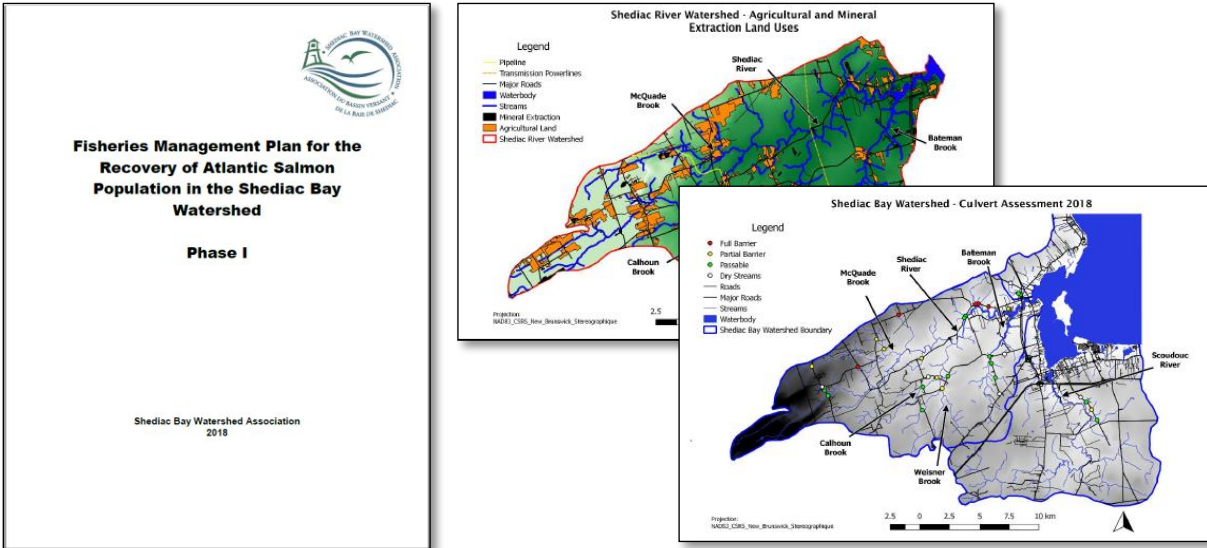


Figure 6: New Fisheries Management Plan Phase I & examples of new maps created in QGIS

3.2 Electrofishing Surveys

Electrofishing is used to evaluate fish populations and observe changes in population trends. The watershed aims to verify salmonid populations present in restoration sites to establish baseline data, then measure changes from year to year following habitat improvements. A partnership continued with Vision H2O of the Cap-Pelé watershed, to conduct electrofishing surveys together. The two associations form a larger team for surveying sites in both watersheds.



Figure 7: The SBWA and Vision H2O working together to conduct electrofishing survey

In 2018, three electrofishing surveys were conducted were done in salmon habitats in the Weisner Brook, the McQuade Brook and the Scoudouc River. Several smaller fish species are also found in those sites, such as the blacknose dace, but here is a summary of the salmonid results:

- Weisner Brook: 15 Atlantic salmon (fry & parr), 7 brook trout
- McQuade Brook: 20 Atlantic salmon (fry & parr), 2 brook trout
- Scoudouc River: 42 Atlantic salmon (fry & parr), 0 brook trout

For more information on this project, please visit our website www.shediabayassociation.org for the full report “**Salmonid Habitat Evaluation, Restoration and Education for the Shediac Bay Watershed 2018**”, in Reports and Archives.

3.3 Water temperature loggers

There are 7 temperature monitoring stations in the Shediac Bay watershed. The sites were chosen strategically to monitor areas determined to be high risk for thermal stress in juvenile salmonids, and to monitor areas that are determined to be cold zones suitable for thermal refugia. The goal is to protect colder habitats for salmonids and other cold-water fish, and to enhance or restore sites with higher temperature reading. In 2018, 6 of the 7 sites had high water temperatures that causes thermal stress to salmon and trout with 5 sites exceeding the lethal threshold, some for several days in a row.

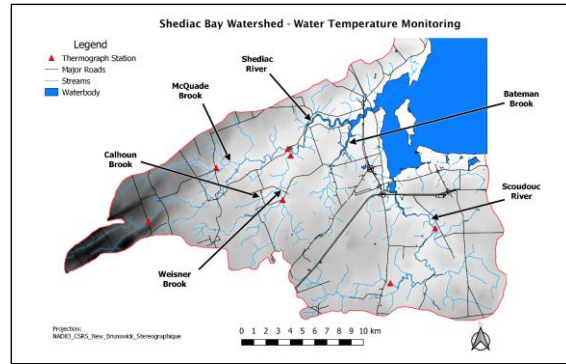


Figure 8: Map of temperature logger placement in the Shediac Bay watershed, 2018

To see the temperature charts for each monitoring station, please visit our website www.shediacbayassociation.org for the full report **“Habitat Evaluation, Restoration and Education for the Salmonid populations in the Shediac Bay Watershed, 2018”**, in Reports and Archives.

3.4 Culvert Assessment

In the summer of 2018, the SBWA field team received training from the Petitcodiac Watershed Alliance (PWA) to conduct culvert assessments surveys in the Shediac Bay watershed, using the *Atlantic Canada Culvert Assessment Toolkit (ACCAT)*.

The objective of these assessments was to target culverts located on Atlantic salmon and/or Brook Floater host fish bearing streams, then classify them as either passable, partial barrier or full barrier to fish passage.

During the summer of 2018, 20 culverts were assessed using surveying equipment. For more information on culvert assessment results, please visit our website www.shediacbayassociation.org for the full report **“Habitat Evaluation, Restoration and Education for the Salmonid populations in the Shediac Bay Watershed, 2018”**, in Reports and Archives.



Figure 9: SBWA during a culvert assessment survey

3.5 Cornwall Brook Stream Assessment

In the spring of 2018, the SBWA field team conducted a stream assessment of the Cornwall Brook in Scoudouc. The assessment was done downstream of recent highway construction. A new overpass, 3 new concrete culverts and a traffic circle were installed within the area.

The surrounding land has been heavily modified to accommodate the new infrastructure. It has gone through some major changes, such as changes in slopes and the removal of trees. Sediment runoff from the construction sites has led to heavy sediment deposit downstream. There are a lot of fallen trees in the water that have led to debris pile ups and erosion. There is also construction trash in and around the brook, such as plastic tarp, road cones, plywood, metal mesh, etc. Funding is needed to begin a cleanup and restoration project in the Cornwall Brook.



For the complete details of this stream assessment, please visit our website www.shediacbawatershed.org for the full report **“Habitat Evaluation, Restoration and Education for the Salmonid populations in the Shediac Bay Watershed, 2018”**, in Reports and Archives.



Figure 10: Cornwall Brook stream assessment 2018

4 Wetland Evaluation and Enhancement

In 2018, the SBWA did a trial assessment using the Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC) for two tidal wetlands in the Shediac Bay. WESP-AC is a standardized method that attributes scores (Lower, Moderate or Higher) to rate various natural functions and benefits of a wetland. The two marshes that were evaluated were the salt marsh in Grande-Digue and the salt marsh in South Cove/Pointe-du-Chêne. For the results of this assessment, please visit our website www.shediacbayassociation.org for the project report “Evaluation of the Health of the Shediac Bay, 2018”, in Reports and Archives.



Figure 10: SBWA staff during WESP-AC



Figure 11: Assessment area for Pointe-du-Chêne salt marsh



Figure 12: Assessment area for Grande-Digue salt marsh

4.1 Buffer Zone Enhancement in Boudreau-Ouest

The Boudreau-Ouest marsh is a small estuary of the unnamed brook at Cap-Brulé located next to route 133. This salt water marsh was in need of restoration due to erosion and the lack of buffer zones. Landowners' permission and a WAWA permit was acquired in order to plant native trees to create a buffer zone on each side of the stream. A total of 417 native trees were planted, including: white spruce, tamarack, red maple, red oak, grey and yellow birch and trembling aspen. Signs were installed to indicate the reforested zone.



Figure 13: Photos of tree planting site in the Boudreau-Ouest salt marsh

5 Habitat Enhancement and Restoration

5.1 Edna's Pond Restoration Site

A section of the Scoudouc River known as Edna's pond was targeted for restoration in 2017. This section of the river is important for juvenile salmon growth, as demonstrated through several years of electrofishing surveys. Unfortunately, this area is surrounded by ATV trails and is a popular spot for recreational off-road vehicles. The primary focus of this area was to reduce the amount of sediments that is able to runoff the dirt roads into the river. In 2017, the slope was reduced using heavy machinery, then trenches were built to capture the runoff and channel it into the wooded area for filtration.



Trees were planted and education around this sensitive habitat was done to local ATV clubs. In an effort to reduce water crossings with all-terrain vehicles, several trail access to the water have been blocked. A project by a local ATV club is underway to build a bridge for this popular area.

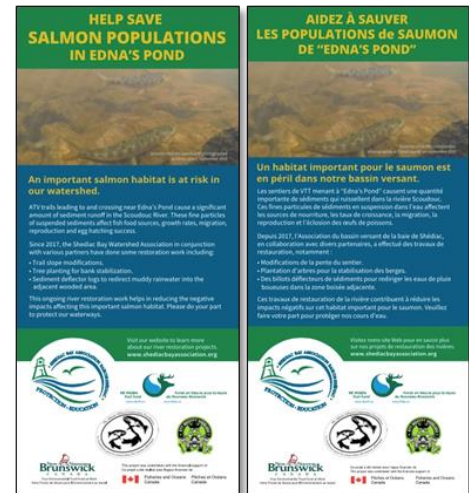


Figure 14: Information flyer on salmon population at Edna's pond

5.2 Buffer Zone Restoration on Scoudouc River

The ScdF water quality monitoring station is located on a tributary of the Scoudouc River. This tributary may be an important habitat for Atlantic salmon. The surrounding banks around this site is being subject to severe erosion due to the lack of vegetation. This site was selected for a buffer zone enhancement and bank stabilization by the planting of native trees. A Water and Wetland Alteration Permit (WAWA) was acquired before planting the trees. A total of 224 native trees were planted here in 2018.



Figure 15: Tree planting site at water quality monitoring site

6 Freshwater Mussels: Rare Brook Floater

The SBWA continued the search for the Brook Floater freshwater mussel. According to the Canadian Wildlife Federation (CWF), freshwater mussels are now among the most endangered freshwater invertebrates in the world. The Brook Floater (*Alasmidonta varicosa*), is a medium-sized freshwater mussel that was found in scattered regions of New Brunswick, Nova Scotia and certain regions of the East Coast of USA. In 2009, it was given the status of Special Concern by COSEWIC, and in 2013 it was added to the Species At Risk Act, Schedule 1 (*SARA*). In 2006, surveys done the Shediac Bay watershed demonstrated an important population in the Shediac River. The Association’s field team has been searching for this rare mussel since 2014, but has not been able to find it. During the spring, summer and fall 2018, 9.6 km of habitat was surveyed or searched for the presence of the rare brook floater mussel but was unsuccessful.



Figure 16: Brook Floater mussel

For more information on this project, please visit our website www.shediacbayassociation.org for the report **“Identifying Habitat of the Brook Floater (*Alasmidonta varicosa*) in the Shediac Bay Watershed”** in Reports and Archives.

6.1 Brook Floater e-DNA Sampling

In partnership with the *Department of Fisheries and Oceans Canada*, the sampling to detect Brook Floater with *Environmental DNA* sampling (e-DNA) was continued. The purpose of this sampling is to attempt to detect the species at risk by traces of its DNA in the river systems, coming from its reproductive materials (sperm, glochidia), excrements, etc.

After 5 years of searching for this rare mussel, one site in the Shediac River resulted in an “Inconclusive” signal of Brook Floater DNA. This means that it is not a negative result, but it is not strong enough to say “Positive”. However, other rivers in New Brunswick that have visual presence of Brook Floater mussels are also only getting “Inconclusive” results. So this is good news. The signal was picked up in an area that is difficult to access, and it was not visited often. This area will be a priority for visual surveys in 2019.



Figure 17: e-DNA filtration

For more details on the Brook Floater project, please visit our website www.shediacbayassociation.org for the report **“Identifying Habitat of the Brook Floater (*Alasmidonta varicosa*) in the Shediac Bay Watershed”** in Reports and Archives.

7 SeagrassNet Eelgrass Monitoring

The SBWA began an eelgrass monitoring program in 2016 to evaluate the impacts of the invasive green crab on eelgrass beds. The green crab can have a devastating impact on this important habitat due to its habits of grazing on the plant and burrowing itself in the sediment, damaging the roots and rhizome systems. Eelgrass beds are crucial habitat for native fish, crabs, shellfish and shrimp. The disappearance of eelgrass can be detrimental to many species in the aquatic ecosystem. The SBWA have established 3 monitoring transects in the Shediac Bay, that are now monitored on a yearly basis using the global seagrass monitoring program SeagrassNet.



Figure 18: Photo of eelgrass survey in a healthy eelgrass bed surrounded by fish

For more information on this project, please visit our website www.shediacbayassociation.org for the report “**Evaluation of the Health of the Shediac Bay, 2018**”, in Reports and Archives.

7.1 Eelgrass Restoration

In partnership with the Homarus Eco-Centre, the SBWA participated in an eelgrass restoration pilot project in the Shediac River. SBWA staff assisted the Homarus biologist in the installation and transplanting eelgrass into specially design quadrants meant to measure the efficacy of two different transplanting methods; freehand planting and planting using empty and drilled mollusk shells.

Due to the plans for a new bridge crossing the Shediac River, part of the twinning of Highway NB-11, eelgrass was collected in the construction zone of the new bridge. Since the eelgrass would be destroyed, it was the perfect opportunity to test the transplant methods on a greater scale than the quadrants. The site will be revisited in the summer of 2019 to evaluate the effectiveness of the eelgrass transplanting methods.



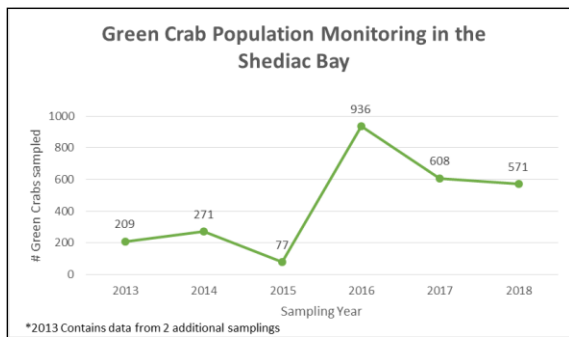
Figure 19: Threading eelgrass plants through pre-drilled shells

8 Green Crab Monitoring

The green crab is an invasive species native to Europe and Northern Africa. The green crab has invaded the Atlantic and Pacific coasts of North America, South Africa, Australia, South America, and Asia. In North America, the distribution of green crabs now extends from Newfoundland to Virginia and from British Columbia to California. It appeared for the first time in the Shediac Bay in 2010. The SBWA began a population monitoring program in 2013 and is still ongoing. Population numbers have fluctuated greatly, and the impacts on the ecosystem of the Shediac Bay have yet to be determined.



Figure 20: Green Crabs from the Shediac Bay sampling



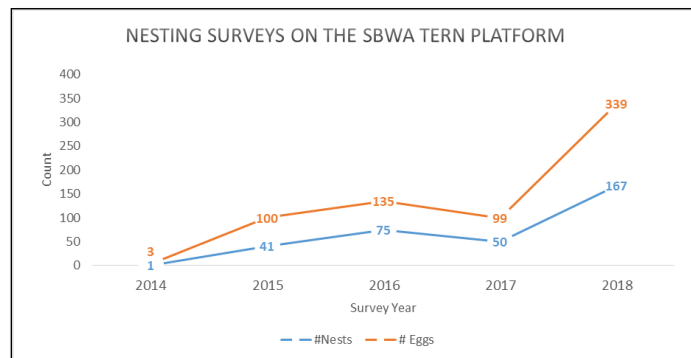
9 Tern Nesting Platform

The Shediac Bay Watershed Association (SBWA) has established an artificial nesting platform for the Common Tern (*Sterna hirundo*) seabird colony of the Shediac Bay. This project was made possible thanks to the support from Environment and Climate Change Canada, and the province of New Brunswick.



Figure 21: Common terns on the SBWA nesting platform

The terns continued the use of the platform in 2018 for nesting. The predator guards that were installed in 2017 have been efficient. In 2018 there were 167 nest and 339 eggs.



10 Water Conservation and Stormwater Management

Since 2016, the SBWA's education program has been focused on the theme "Water Conservation & Stormwater Management". Those two major categories revolves around the topic of climate change and the need for adaptation. The climate change predictions for the Maritime Provinces, as described by the Department of Environment and Local Government of New Brunswick; "Wetter, Warmer and Stormier". The predictions include an increase in the frequency and severity of heavy rainfall events, which will inevitably cause greater risk of erosion, stress on infrastructure, runoff and flooding. (Government of New Brunswick, 2018)

These changes in our climate brings the need for adaptation using various methods of stormwater management. An important component of this project is to speak about climate change, explain various methods to manage the increase of stormwater runoff at the municipal and domestic level, and implement concrete actions of stormwater management. The focus of these methods has been on rainwater catchment systems (rain barrels) and rain gardens, being the most affordable and effective small scale actions.

10.1 Rain Garden

In partnership with the Shediac Cape School, a new rain garden was built on school property in the spring of 2018. The SBWA was contacted by the school to discuss partnership opportunities to build a rain garden, in a problematic area in the school yard that remained wet and muddy after heavy rain and spring snowmelt. The students were involved in digging, spreading the drainage stone and top soil, planting the water-loving plants, and spreading mulch. It was a great activity that also taught the kids new gardening skills.



Figure 22: Students of Shediac Cape School planting the rain garden and photo of the final product

10.2 Rain Barrels

In 2016, the SBWA began a program of FREE rain barrel distribution. For the first 2 years, we distributed a collapsible style barrel made of rubber, supported by a removable frame. In 2018, the SBWA decided to modify 55 gallon food grade rigid plastic barrels into rain water collectors, in order to give away a more durable and higher-quality product. The barrels were purchased from a small Dorchester company *EcoContainers Co.*, and the parts were purchased from local Shediac Kent and Home Hardware stores.

During the summer, 26 rain barrels were built and distributed to residents living within the boundaries of the Shediac Bay watershed. These participants were recruited by collected names at the Shediac Farmer's Market in the Park, and by hosting a Facebook contest. The social media contest was very successful; over 30 people responded with interest and the purpose of the project was very well received.



Figure 23: New rain barrel model made with rigid 55-gallon plastic barrels.

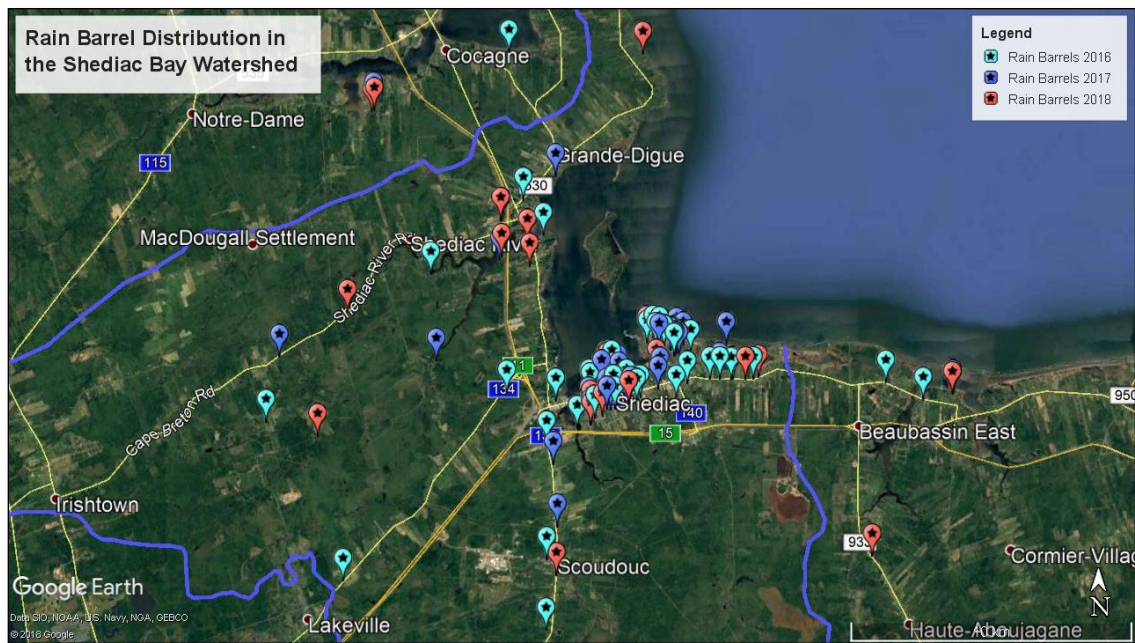


Figure 24: Map of rain barrel recipients within the Shediac Bay watershed, 2016-2018

11 Education Materials

A collection of new educational materials were developed in the 2017-2018 fiscal year, and those items were handed out during the 2018-2019 project duration. This year, the SBWA produced educational videos for the first time, and were diffused on Youtube and social media.

11.1 'How to Build A Rain Barrel' Video

During the construction of the rain barrels for distribution, the process was filmed by the SBWA's outreach coordinator, and edited into an educational video. One version was captioned with English subtitles, and one version was captioned in French. The videos have been shown during multiple presentations, during a workshop, and was posted to the SBWA's Youtube channel. (<https://www.youtube.com/watch?v=O2-BStRmY2s>). A video was produced with English subtitles, and a second for French subtitles.



11.2 Stormwater Runoff Video

A video on the impacts of stormwater runoff on the water quality in the Shediac Bay was produced using footage taken by the SBWA, and graphic images designed by the communications and outreach agent. Footage was taken during heavy rainfall events; of runoff on impervious surfaces, of storm drain inlets and outlets along the Shediac coastline. The video provides simple actions that citizens can do, to do their part in water quality protection and enhancement. Grant recognition appears in the video credits. A video was produced with English subtitles, and a second for French subtitles.



12 Stewardship and Educational Activities

12.1 Beach Sweep

In celebration of World’s Oceans Day, a community trash cleanup “Beach Sweep” event is organized every year by the SBWA, in partnership with the Town of Shediac. The event was advertised to begin at the Homarus Eco-Centre, at the Pointe-du-Chêne wharf on Saturday, June 9, 2018. It was a beautiful warm sunny day, and 17 volunteers showed up to pick up trash along the coastline of the Town of Shediac. People were directed to different parts of the coastline in order to cover as much ground as possible.

In total, 14 large garbage bags in addition to larger trash items were collected by the volunteers and brought back to the Homarus Eco-Centre. It is not a surprise that the items found in greater quantities includes cigarette buds, food wrappers, coffee cups, plastic bags, Styrofoam, cans, bottle caps, etc. Based on volunteer feedback an estimate of 3.5 km of coastline was cleaned that day.



Figure 25: Garbage that was cleaned during the annual Beach Sweep event

12.2 Tree Day 2018

Every year, the SBWA teams up with TD Bank and members of the community to plant 150 trees as part of the TD Tree Days events throughout Canada. On September 22nd, 34 motivated volunteers, TD employees and the SBWA staff planted 170 native trees to establish a buffer zone for the protection of a salt marsh located in Pointe-du-Chêne. Everyone gathered at the site at 9 am. Coffee, water and snacks were provided by TD. A total of 170 native trees in the designated area. The SBWA would firstly like to thank the Anglican Parish of Shediac for giving permission to have this wonderful event on their land.



Figure 26: Group photo of the 2018 TD Tree Day volunteers

13 General Presentations

The SBWA is always available for presentations to the general public, to organize workshops and meetings with various other groups. The following section will summarize the activities and meeting for the 2018 fiscal year.

13.1 Guest Speaker for the NB Power and Sails Squadron

The SBWA was contacted to be a special guest speaker for the members of the NB Power and Sails Squadron of Shediac, on May 7 2018. The presentation requested was a focus on projects in the Shediac Bay, water quality issues at Parlee Beach, and the boater awareness program. The boater awareness program aims to promote the use of pumping stations for emptying the sanitary holding tanks in boats, and to protect water quality by preventing the discharge of sewage in the bay. In total, 19 people were in attendance and the presentation was very well received.



13.2 Presentation During Atlantic Datastream Launch

The SBWA was present at the launch of the Atlantic DataStream in Halifax June 4th and 5th. The conference was organized by the World Wildlife Fund and the Gordon Foundation. The presentation to the group was on the role of water data for environmental policies.

13.3 Probus Club of Shediac Shores

The manager of the SBWA gave a presentation to the Probus Club of Shediac Shores on June 19th. The presentations covered the projects of the SBWA and had a section dedicated to stormwater management and education. Approximately 50 people were in attendance.



13.4 Shediac Sailing School

The SBWA was contacted by the Shediac Sailing School and requested a presentation for their group of students, ages ranging from 6 to 16. The presentation was held on July 25th, at the Shediac Bay Yacht Club for 21 kids and teens. The theme was focused on projects evaluating the health of the Shediac Bay, the question of water quality at Parlee Beach, eelgrass monitoring and restoration, the invasive green crab, and the impacts of stormwater and climate change on the water quality in the Shediac Bay. Live green crabs were brought for the children to observe and touch.



13.5 Greater Shediac Community Garden – How to Build a Rain Barrel Workshop

The SBWA organized a “How to build a rain barrel” presentation with the Greater Shediac Community Garden, on July 31st. There were 9 people in attendance, all members of the community garden or passionate gardeners looking to harvest rainwater. The presentation also covered the topic of stormwater runoff, pollution in the Shediac Bay, water quality at Parlee Beach, rain gardens, etc. Each participant received pamphlets, fact sheets, handouts, and those interested signed up to receive a free rain barrel. A few participants chose to build one themselves.



Figure 27: How to build a rain barrel workshop

13.6 Presentations for Living Water Rally

The Living Water Rally is a biannual event organized by the Canadian Freshwater Alliance to bring watershed groups and environmental groups from across the country to learn and network. This conference was held at the Delta Hotel in Moncton. The SBWA hosted a tour of the Shediac Bay for delegates on September 30th. Twenty delegates had participated in the tour. The SBWA gave a presentation on October 2nd on opportunities and challenges of the watershed groups.

13.7 Presentation to the Town of Shediac

On January 28th, the SBWA Manager gave a presentation to the Town of Shediac Council members on the water quality results for the bay. These meetings are important to maintain a good working relationship with the Town of Shediac. These are also opportunities to talk about obstacles and challenges the Association faces, and opens the discussions for ways the Town’s employees may be able to help.



13.8 Tantramar Senior's College

A one-hour presentation to help understand water quality monitoring and results for the Shediac Bay was given to a group of the Tantramar seniors' college on January 23rd. Because of poor winter road conditions, only 6 of the 15 registered participants were present. The presentation was appreciated and generated good discussions on the state of the environment around Shediac.



13.9 Climate Change Adaptation

On January 29th a public consultation and information meeting was organized for a climate change adaptation project in partnership with the Town of Shediac and the Southeast Regional Service Commission. The SBWA presented on the importance of natural areas and marshes as adaptations to storm surges and sea-level rise.



Figure 28: Public consultation on Climate Change in Shediac

13.10 Educational Kiosks

An education kiosk was displayed on Sundays at the Shediac Farmer's market, for 10 weeks out of the summer. The main objective was to speak on water conservation and stormwater management, and giveaway water conservation kits and rain barrels. SBWA staff and summer students talked to visitors of all ages on the various other projects of the year. In the summer of 2018, staff spoke to approximately 450 visitors about the watershed group, local environmental issues and projects realized to mitigate these issues. The market kiosk is always a great tool to find people interested in receiving free rain barrels and water conservation kits for their homes.



13.11 Lobster Festival

In partnership with the Homarus Eco-centre, a kiosk was set up for four days at the Shediac Lobster festival from July 4th to July 7th. Our summer students spoke of our projects in the same fashion as the Shediac Farmer's market in the Park.



14 School Programs, Field Trips and Other Presentations

It has been a great year for school presentations and field outings. In 2018, a total of 31 school presentations were given across 10 topics, to over 200 students from grades 3 to 8, at MFB and Shediac Cape School. The SBWA also organized and funded the school buses for 6 field trips (Adopt-A-River, Fish Friends and Parlee Beach). The teachers and school principals are all very appreciative of our work.

14.1 Fish Friends Program

The Fish Friends program has been a wonderful tool in getting children and school systems involved, and has sparked passion for conservation in most touched by this activity. Raising salmon or trout eggs in an aquarium is a hands-on approach that brings life into the classroom, and sincere love and care for those animals.



In 2018, two elementary schools participated in the Fish Friends program; the 3rd grade students of the Monseigneur-François-Bourgeois (MFB) School, and the 3rd and 4th grade students of the Shediac Cape School. The program is taught in both French and English; the MFB School is Francophone, and Shediac Cape School is both Anglophone and French emersion.

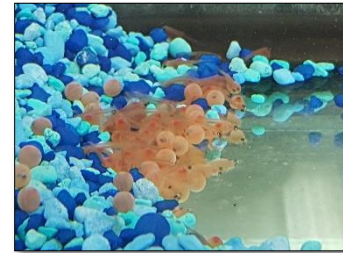


Figure 29: Fish Friends field trip MFB School, 2018



Figure 30: Fish Friends field trip Shediac Cape School, 2018

14.2 Parlee Beach Field Trip

At the end of the school year, the four classes of the 6th-7th graders of the Shediac Cape School were taken to Parlee Beach Provincial Park. Activities included games from the “Great Minds Think Outside!” program, a treasure hunt on the beach, trash cleanup, a presentation on the dunes, and free time with sporting equipment provided by Parlee Beach Provincial Park. The outing was organized on June 7th for the French Immersion 6-7th grade, and on June 8th English 6-7th grade.



Figure 31: Shediac Cape School during an outing at Parlee Beach Provincial Park, 2018

14.3 Adopt-A-River Program

Adopt-A-River is a school-based program designed to teach the concept of biomonitoring of a river’s ecosystem using macroinvertebrate sampling. The program was created and is managed by the “G3E, Education and Water Monitoring Action Group” in Quebec. The science teachers for grades 6 to 8, English and French Immersion of the Shediac Cape School, have agreed to integrate the program within their normal curriculum in partnership with the SBWA since 2016.

In 2018, the 7 & 8th grade went on a field trip to the Scoudouc River, at the area known as Edna’s pond. In addition to collecting invertebrates, collecting visual data and stream measurements, the students also planted trees in our active restoration site. The addition of this action teaches kids the importance of a healthy buffer zone around a river.



Figure 32: Students of 7-8th grade of Shediac Cape School sampling and planting trees at Edna’s pond

14.4 The Acadian Forest and Environmental Restoration

On December 5th and 6th Rémi Donelle presented the characteristics of the Acadian Forest to the grade 8 and grade 7 classes of Monseigneur François Bourgeois School in Shediac. The presentation showed different examples of the Acadian Forest and an overview of tree identification. The last section of the presentation focused on the importance of trees in restoration work to improve water quality and the environment. A field activity will be organized in the spring with these classes to practise tree identification and do some tree planting for restoration work.

15 Communications and Outreach

15.1 Newsletter

A bilingual newsletter was produced during the 2018-2019 fiscal year. The newsletter display information and photos on the various projects that the SBWA has been doing in the year. The Association had 250 copies produced for each edition, printed on 100% recycled paper. The newsletters are distributed to various businesses, medical offices, hair salons, and anywhere else that had a waiting area or that was appropriate to leave newsletters for the public to take. The rest were distributed during the Shediac Market, during public presentations and other meetings. The newsletters can be found on the Shediac Bay Watershed Association website.

15.2 Socials Medias and Website

The SBWA is working to keep its website and social media up to date, posting photos and short description of activities and projects. The SBWA now has a dedicated employee who focuses on outreach and communications, and the design and production of educational materials. Therefore, 2018 was a turning point for social media outreach. See Table 2 for details.

www.shediacbayassociation.org  www.facebook.com/#!/shediacbaywatershedassociation



bvshediacwatershed (<https://www.instagram.com/bvshediacwatershed/?hl=en>)

15.3 News Coverages

Eelgrass Restoration in the Shediac River

CBC News did a segment on the SBWA's eelgrass restoration project in the Shediac River, as a response to the construction of a new bridge as part of the twinning of Highway 11. The story aired on the evening news and an internet article was published July 20th.

<https://www.cbc.ca/news/canada/new-brunswick/eel-grass-shediac-bay-route-11-green-crabs-1.4753469>