

Current News



Issue 11 • Spring 2013



President's Message

The New Face of the Shediac Bay Watershed Association, Inc.

Last spring when I was asked to take over the presidency of the Association, our Board of Directors spoke of the increasing challenge toward protection of our environment amid government deregulation and funding cuts. This challenge appeared doubly difficult with the departure of Past President Dr. Victorin Mallet and our Program Coordinator Julien Bourgeois. The Association owes both Dr. Mallet and Mr. Bourgeois immense thanks for their efforts over the past several years.

The Shediac Bay Watershed Association has a strong track record as the environmental voice for concerned citizens in the greater Shediac area. The Board of Directors is committed to maintaining this legacy through environmental monitoring and public awareness.

Fortunately, the SBWA has been successful at securing the services of two highly motivated individuals to take up the challenge. Jim Weldon has a Masters Degree in marine biology. He has long been known for his work as a high school science educator, marine environmental biologist, and active supporter of watershed associations. Johanne Paquette is well acquainted with our watershed, having been employed with SBWA previous. She has a Bachelor of Science with a specialization in biology.

Through their monitoring efforts we found the invasive species green crab had entered our waters in alarming numbers. The water quality in our rivers and Bay is quite good, our beaches are reasonably clean. Aquatic habitat is being restored with oysters.

The SBWA is a not-for-profit organization and highly dependent on contributions from government. We can no longer meet our goals with government funding alone. We are extremely fortunate to have such tremendous partners among local community interests like Shediac Co-op, Shediac Rotary, Maritime Fishermen's Union, Market in the Park, Encorp Atlantic and the Shediac Bay Marina where we are based.

We require more community support. This edition of our newsletter focuses on the SBWA's ongoing programs and projects. More importantly, it is a call for help. One unique opportunity is by online voting to secure funding from Shell Fuelling Change. You can find information on how to become involved throughout the newsletter.

David Dunn - President
Shediac Bay Watershed Association Inc.

Be An Environmental Steward



Photo: Jim Weldon & Johanne Paquette

Oyster restoration in Shediac Bay



DID YOU KNOW...

A mature oyster can filter **36.4 litres** of water in one hour. This helps to reduce the overload of nutrients and turbidity in the water. As a keystone species, oysters provide habitat for many marine species.

Oysters are an important natural filter feeder that can help to maintain the quality of our water. In recent decades, the natural beds in Shediac Bay have depleted.

For several years now, the SBWA has been reintroducing oysters. This summer, we collaborated with *Homarus* (Maritime Fishermen's Union) to place over **2.5 million oyster spat on a restoration site** adjacent to the Pointe-du-Chêne footbridge. These oysters are considered contaminated and should not be consumed.

Green crab

Aquatic invasive species are fish, plants or animals that have been introduced in the ocean, a lake or a river where they were not found in the past.

The green crab (*Carcinus maenas*) has recently been found in alarming quantities in New Brunswick. Last summer, SBWA surveys captured more than 550 green crabs, up from only seven the summer before. Similar reports are coming in from other local watershed organizations.

Green crab is considered one of the worst invasive species in the world. A native of Europe, it is thought to have migrated many years ago to the United States in the ballast water of ships.

Reports indicate that the green crab is a fast and aggressive predator that consumes almost everything else in its path in large quantities: clams, mussels, quahogs, oysters, scallops, small lobsters, etc. Not only does it threaten the ecology of Shediac Bay, but it also a threat to the fishing industry. For example, a single green crab can eat up to 40 clams in a day!

Reports show that intensive trapping can reduce and control a population of green crab to manageable levels. SBWA is proposing that government and the fishing industry support a similar initiative here. Depending on volume, green crab could be used in several ways: human consumption, food for aquaculture, baits for lobster fishing, seasoning or crab meal.

Green crab is found near the shore and easily identifiable. Its carapace can measure up to ten centimeters in width, with yellow points in row and five short spines behind each eye. The hind legs are a little flat, which helps it swim quickly. It can turn its claws on its back to defend against predators that attack it by behind. To search for prey, it digs and cuts the roots of eelgrass, a practice that destroys the ecological habitat that is critical to life cycles processes of many natural species.

As a measure of prevention, captured green crab should not be returned or released near the water. Equipment should be checked and, if necessary, washed before going into the water in another area.

Reference: <http://www.dfo-mpo.gc.ca/Science/publications/uww-msml/articles/greencrab-crabevert-eng.html>



A single green crab can lay up to 185 000 eggs a year!

According to a study published in the journal *Nature Climate Change* (Cheung et al., 2012), warmer waters could decrease ocean oxygen levels and significantly reduce fish body weight. By 2050, the study shows that fish maximum body weight in the Atlantic will shrink by 20%. Pollution and overfishing is making the situation worse.



Last summer, SBWA captured more than 550 green crabs during the Community Aquatic Monitoring Program.

Environnemental Education at Shediac Farmers Market

The SBWA Information Booth was displayed at Shediac's Market In The Park every second week this past summer. Public response was very supportive. Topics of particular interest were energy efficiency and conservation, local food, and controlling invasive species. Our booth also allowed promoted the SBWA and attracted several new members. We would like to say a special thank you to the New Brunswick Environmental Trust Fund.

Shediac Market In the Park



Beach Sweep

Each year the SBWA organizes community beach sweeps to fight against shoreline litter that can detract from enjoyment of coastal environment. This year, the SBWA sponsored two events aimed to combat marine litter and contribute to the protection and conservation of our marine environment. The first beach sweep was held on June to celebrate World Oceans Day, sponsored in part by the Shediac Co-op. However, the weather was not cooperative and the SBWA fell short of its objective.

Fortunately, the weather was more favourable for our second event in September. Students from MFB school in Shediac, teachers, community workers, and volunteers all pitched in to collect more that 200 kg of litter. Some was then collected by Terracycle, a company specializing in traditionally non-recyclable waste.

Students were able to see aquatic species in our region as well as the invasive green crab. Trees were planted courtesy of the Market In The Park. There was even a BBQ, courtesy of Sobeys Shediac.



Tree planting for the National Tree Day 2012.

Water Quality Monitoring

Just over 12 years ago, a number of individuals in the greater Shediac area came together out of concern for our environment. In particular, they recognized the emergence of potential threats to the quality of our water that is so precious to our community's way of life, and essential to our main industry – tourism. They formed the Shediac Bay Watershed Association. One of the main reasons for establishing the SBWA over 12 years ago was a concern among local residents for threats to the high quality of our water, the importance of the maintaining high quality water for our beaches, the bay, and our rivers. The SBWA continues to monitor water quality throughout the watershed. The water quality analysis is presented in our annual report. Here is a summary of many of the parameters that we monitor.

TEMPERATURE

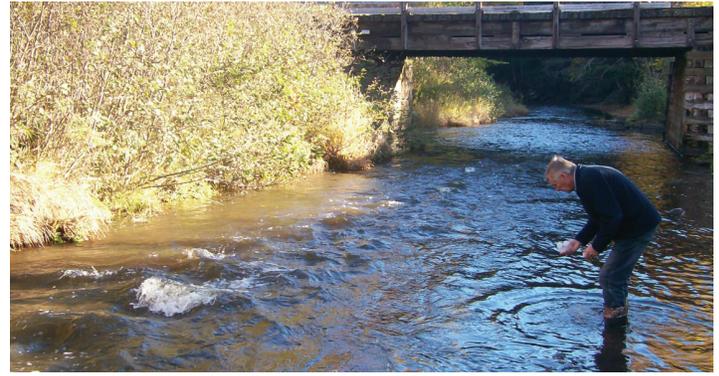
As you can imagine, this year's unusually warm summer also saw above average water temperatures. There were a few instances of fish mortality reported. For July, all but one monitoring station reported higher than normal temperatures in comparison with last year. Fortunately, for the most part river temperatures remained under 20°C which is essential for the survival of trout and salmon in our rivers.

DISSOLVED OXYGEN

Dissolved oxygen analysis measures the amount of oxygen in the water. Just as it is for land animals, oxygen is critical to aquatic life. It gets into water by rapid movement and diffusion from plants. Oxygen is low when temperatures are higher, and this in turn results in stress that increases demand for oxygen in fish. In August, when water levels were low and warm, several monitoring stations reported concentrations that fell below the Canadian guideline for the protection of aquatic life. This in turn may have contributed to specific mortalities that were found in some estuaries and identified. American eels were one notable example.

PH

pH measures water acidity. Neutral is a pH of 7. The Canadian guidelines for rivers in this area are a pH between 6.5 and 9.0 for the protection of aquatic life. All pH are acceptable. Our investigation found a beaver dam located in one of our monitoring stations on the Scoudouc River. This wetland is naturally more acidic than the surrounding environment.



Water sampling by Jim Weldon on Shediac River site C.

TURBIDITY

Turbidity refers to the clarity of water, which can be clouded by particles of silt and sand, among other things. Changes in turbidity can suggest influences from land-based run off by construction, farming, or forestry among other things.

NITRATES

Nitrogen is one of the most common elements in the environment. Nitrogen containing compounds are important indicators to the quality of water in our water. Bacteria in water quickly convert to nitrates, which in turn can cause oxygen depletion and aquatic life to die. The usual causes can be untreated municipal, industrial and septic wastewater and animal waste. Our monitoring stations saw an increase nitrate levels above acceptable levels in both the Scoudouc and Shediac Rivers during August and September.

PHOSPHOROUS

Phosphorus is a nutrient that acts as a fertilizer to accelerate plant and algae growth. It occurs naturally in soil and animal waste. Detergents, fertilizers, industrial processes, and agricultural waste also generate it. Too much phosphorous will result in less oxygen for fish and aquatic plant life. Our monitoring program identified unusually high concentrations in both the Shediac and Scoudouc Rivers. However, it is not clear if the causes were from human activities.

E. coli

E. coli is a type of fecal coliform bacteria found in the excrement of humans and other warm-blooded animals. *E. coli* may be washed in water and is a strong indication of recent sewage or fecal contamination. The Canadian guidelines are presented in our annual report.

Community Health Fair

SBWA was invited to present educational materials in the Shediac Health Fair on October 21, 2012. Low consumption CFL light bulbs and numerous documents were distributed to the public to promote energy conservation and energy efficiency; threats from invasive species were explained; local farm products were promoted; and new members were recruited. Rogers TV is planning to produce in 2013 a documentary about our projects.



Contact Info

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New website:
www.shediacbaywatershed.com

 [www.facebook.com/
shediacbaywatershedassociation](http://www.facebook.com/shediacbaywatershedassociation)

 Twitter : @SBWA12



Current News

Contributors:

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Shell Fuelling Change

The SBWA has been selected for the program Shell Fuelling change. In total, only 31 projects were selected in Canada and only 2 in this province for 25,000\$. The public is encouraged to vote online on the website Shell Fuelling Change at fuellingchange.com. Please click on the Register icon located on the right up corner of the main page and Sign up for your free account today! For a limited time, link your Facebook and/or Twitter accounts to your Fuelling Change account and receive bonus votes.

Please exercise your voting opportunity to choose the Shediac project: **Consequences of the Green Crab Invasion in the Northumberland Strait**. For a limited time, link your Facebook and/or Twitter accounts to your Fuelling Change account and receive 20 bonus votes for each. Let your friends know that you're supporting this important project. Help us spread the information and ask for support through your contacts.



SBWA Biologist Johanne Paquette speaks on environmental issues at the Beach Sweep in September.



We offer presentations to school classes about climate change, energy efficiency and energy conservation to promote good environmental practices.

Aquarium

Our salt water aquarium has attracted the attention of many visitors this summer. It offers a visual display and educational tool for an array of indigenous and invasive species.

Did you know...

It is proven that watching fish swimming in an aquarium is a therapy that makes people in a good mood. Studies show that people who watch the fish swimming can have health benefit.

Membership

One of the SBWA mandates is to monitor the waters of our 400+ square kilometers of watershed so that we may continue to enjoy them for years to come. The SBWA is also mandated to test water quality parameters, monitor population dynamics of shoreline aquatic species, identify source streams that may require attention to restorative practices and to engage the community with educational programs that enhance your understanding of the workings of freshwater and marine ecosystems.

We encourage area citizens to become involved in this ecological community and to do so it needs support from the public who both inhabit and visit the watershed as well as the many stakeholders found within the watershed's boundaries. How can you support the watershed you say?

Yearly memberships are available for \$5

Become a SBWA member! The SBWA is looking for committed people who want to stay informed about the present state of the watershed and possibly participate with SBWA projects. Lending your time as a SBWA member allows you to help shape positive changes that are necessary to protect our watershed.

Volunteering is also a great way to help out the SBWA. Volunteers are needed to help with the many SBWA projects for example water sampling, aquatic species inventory, stream restoration, beach sweeps, etc. Volunteering gives you worthwhile experience in your area of interest and allows you to get involved with helping out the community, the watershed, and the Bay.

Name: _____ Tel.: _____

Address: _____ Email: _____

