

The Maritime Natural Infrastructure Collaborative

Newsletter Summer 2018



Welcome to the inaugural newsletter of the MNIC!

This quarterly newsletter will share member updates and relevant information on topics related to climate change and natural infrastructure in the Maritime region.

Nature NB is the coordinator of the Maritime Natural Infrastructure Collaborative, a multi-sector group working to advance nature-based solutions to climate change. For more information and to sign up for the newsletter check out our website at www.planwithnature.ca or contact climate@naturenb.ca.

SNEAK PEEK

Latest Updates

Member Project Updates: CARP, BCAF, Nature NB and more!

Important Dates

Atlantic Planning Institute Conference

Blog Post

Forests, Ecosystem Services & Climate Change

Member Updates

SUBMITTED BY:
CLEAN ANNAPOLIS RIVER PROJECT (CARP)

Soaking Up Stormwater

Project Overview: Stormwater is the term for water that originates during precipitation events and snow/ice melt. Stormwater can soak into the soil (infiltrate), be held on the surface and evaporate, or runoff and end up in nearby streams, rivers, or other water bodies (surface water). With an increase of impermeable hard surfaces such as roofs, parking lots, driveways, sidewalks, and roads, stormwater is becoming a greater issue in our built landscapes. As surface water moves across the landscape it can collect harmful substances along the way, transporting them into our storm sewers or directly into natural waterways. We are working with the Bluenose Coastal Action Foundation to address the issue of stormwater runoff in Southwest Nova Scotia by utilizing low impact development (LID) techniques to soak up stormwater. Examples of LIDs include rain gardens, bioswales, dry creek beds, tree planting, depave events, and



rain barrels. The project will also provide ongoing support and education through presentations and meetings to local communities, schools, and municipalities on how to properly manage stormwater on their properties and ways to conserve water.

2017 Highlights: A home water audit was developed concentrating on water conservation and stormwater management in and on homeowner properties. The assessment was targeted to students, but could be completed by any member of a household. The purpose of the home water audit was to determine how much water individuals and families were using in their homes, along with how well stormwater was being managed on properties. A total of 86 audits were completed with more to be retrieved.

653 seedlings were planted on a floodplain site located in Middleton, Nova Scotia in hopes to uptake some of the stormwater and prevent downstream erosion and flooding in the area. Numerous site assessments were conducted, and a public demonstration rain garden occupying 21m² was constructed in Digby, Nova Scotia with planting carrying forward into spring 2018.



Photo: EOS Eco-Energy

**SUBMITTED BY:
BLUENOSE COASTAL ACTION FOUNDATION**

For the next two growing seasons Coastal Action will be working on a series of thirty small-scale green infrastructure projects throughout southwest Nova Scotia. We will be locating, designing and installing low impact developments (LID's), green infrastructure like bioswales and rain gardens, to either replace or assist conventional stormwater management systems that are no longer sufficient for dealing with the precipitation volume of large storm events. The proposed LID's will slow, absorb and filter runoff from impervious surfaces, using vegetation and soil in place of more costly hard-infrastructure. These projects seek to provide communities with the tools and infrastructure to manage stormwater more effectively as well as provide educational opportunities for local residents on stormwater management and climate change issues. Upcoming project sites and partners include the Chester Area Middle School, the town of Shelburne and the Lunenburg Daycare. Stay tuned for the dates and times of our next community planting day where we install these LIDs with the help of local residents and volunteers. For more information on Coastal Action's stormwater management projects contact Sam Battaglia at 902-237-2400 or samantha@coastalaction.org

**SUBMITTED BY:
NATURE NB**

Provincial Election This Fall – Make Nature a Priority with Nature NB

Read more here:

www.naturenb.ca/2018/06/26/provincial-election/

Bathurst and Port Elgin Climate Change Action Plans

Nature NB is working with EOS Eco-Energy and Bathurst Sustainable Development to identify possible nature-based solutions that could reduce risks of flooding, storm surge, and erosion in Port Elgin, NB and Bathurst, NB. This work is supported by the NB Environmental Trust Fund.

**SUBMITTED BY:
NEW BRUNSWICK FOOD SECURITY ACTION NETWORK**

Everybody Eats – What We Heard

This report identifies four themes where New Brunswickers want to see improved food security: Optimizing Land, Education and Skills, Physical Access, and Equitable Access. Read more here (PDF):

www.nbfoodsecurity.ca/wp-content/uploads/2018/06/What-We-Heard-English-Final-1.pdf

**NEW REPORT!
MUNICIPAL NATURAL ASSESTS INITIATIVE (MNAI)**

Identifying Barriers and Opportunities within the Professional Planning Practice in Ontario

Read more here:

<http://institute.smartprosperity.ca/sites/default/files/spmnaijune18-low-res.pdf>

Climate Change & New Brunswick Biodiversity

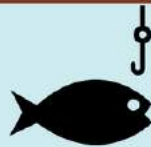


Climate change, added to current pressures, is likely to weaken or drastically change natural areas for our wild plants and animals

Many wildlife that are already Species at Risk will face increased risk, and other wildlife may be threatened, due to changes in their habitat. For example:



Pollinators, such as butterflies and bees, help us produce our foods. Changes to flowering seasons may no longer match with their life cycles, making it harder for them to find food.



Atlantic salmon need unpolluted cold streams & rivers to spawn. Flooding, droughts, storms and warmer waters may cause us to lose salmon from our rivers.



Piping plovers feed and nest on gravel-sand beaches of east and south New Brunswick. Rising sea-levels and erosion from storm surges will result in less beach habitat for them.



The Southern twayblade plant is found around black spruce bogs. Bogs are at risk of drying up or remaining dry for longer periods, risking both twayblades and peat.

What can we do?

Create new and larger protected areas, on land and sea, as refuges from development.



Develop Species at Risk recovery plans that include specific actions to reduce the risks from climate changes.

Canadian Parks & Wilderness Society - New Brunswick Chapter

Learn more: www.cpawsnb.org

 **CPAWS**
CANADIAN PARKS AND WILDERNESS SOCIETY

**SUBMITTED BY:
CANADIAN PARKS AND
WILDERNESS SOCIETY -
NEW BRUNSWICK
CHAPTER (CPAWS NB)**

Biodiversity Infographic

CPAWS NB has developed an infographic (as seen on the left) to raise awareness about the impacts of climate change on New Brunswick's biodiversity.

Stay tuned for future infographics from CPAWS featuring information on climate change, rivers, and wetlands. Learn more at www.cpawsnb.org



**SUBMITTED BY:
FUNDY BIOSPHERE RESERVE**

In 2012, Fundy Biosphere Reserve began using climate models to identify tree species that will be vulnerable to climate change and species that are more likely to survive or thrive. This year, we are continuing the Forests of the Future project through an ETF grant with the following goals:

- 1) utilize climate models to predict and identify tree pest infestation and disease risk due to increasing temperature and changes in seasonality,
- 2) develop an urban forest-specific resiliency guide for municipal foresters, planners, and homeowners,
- 3) work with nurseries to stock resilient species as well as develop climate resilient demonstration sites to improve access to seedlings and tree stock and improve corridor connectivity,
- 4) pilot an urban forest asset mapping exercise and develop guidelines and recommendations for communities in the region.

Some of the actions we plan to take include creating a network of demonstration sites called “FBR Forests of the Future Demonstration Sites” where we will install educational and interpretive signage.

We will also complete a citizen-led urban forest inventory in Riverview, NB and develop a guidance document for other communities to build capacity in the region. We plan to host at least two workshops for partners and stakeholder to share results and solicit feedback on draft guidance documents, host conference for researchers, decision makers, end users, and stakeholders to share best practices, research innovations, and guidance documents. In terms of outreach, we will be sharing our work through guidance documents that can be delivered by urban forestry managers and municipal staff, a basic presentation with guiding materials that urban forestry managers can use for capacity building with land managers and urban planners, and urban climate change resiliency outreach material for use by municipalities with their citizens (via newsletters, municipality websites, social media). We hope that this work will support stronger and more resilient forests in both urban and rural New Brunswick through supporting and informing those who work in forestry, community planning, or have forested property. For more information, visit <http://www.fundy-biosphere.ca/en/home/forests-of-the-future.html>



SUBMITTED BY: PETITCODIAC WATERSHED ALLIANCE

Water Guardian Project

In 2014, the Petitcodiac Watershed Alliance (PWA) initiated the Water Guardian project to address stormwater issues within the Petitcodiac watershed. The project aimed at improving water quality by reducing the amount of stormwater and urban run-off entering our local wastewater treatment plant and our surrounding water bodies by educating residents within the tri-community area (Moncton, Riverview, and Dieppe) on how they can reduce stormwater and their domestic water use. From 2014 to 2016, we gave away 250 rain barrels, with many more residents interested in participating, and also gave out toilet tank banks. In addition, we installed two small rain gardens around the Mapleton Rotary Lodge in Moncton as a demonstration site. A rain garden is a shallow depression that is planted with water-loving native plants. They should be placed in areas where the slope is no more than 10% and follow a natural gradient of water flow on a property. They have the capacity to capture 30-40% more water than a standard lawn, and they also act like a sponge, providing a natural means of flood control. They have the potential to capture and store harmful substances being carried in urban run-off and can also provide pollinators and other wildlife species a place to rest, forage, and even live if big enough.

This year, the PWA is building on the Water Guardian project. We have partnered with the City of Moncton to create a large rain garden in Centennial Park. The rain garden will be strategically located to capture run-off from the dog park, the parking lot and walking trails, and reduce flooding that often times occurs in the lower portion of the park surrounding the artificial lake. We are also collaborating with EOS Eco-Energy Inc. for the planting design. The garden will be planted in the fall to ensure high survival rate of the plants. We are hoping to test the garden for metals in the spring of 2019 to determine the efficiency of the garden installation. In addition, we plan on hosting a workshop with 2 guest speakers on the day of planting. The first speaker will be from EOS Eco-Energy Inc. to discuss stormwater management solutions and the second speaker will be from Eco-Container Co. to show how to install rain barrels, and how to create raised garden planters and rotating composters with recycled barrels.

Riparian Restoration Work

PWA partnered with the Kennebecasis Watershed Restoration Committee (KWRC) along with the Hammond River Angling Association, the Nashwaak Watershed Association and the Belleisle Watershed Coalition to propagate 15,000 willow and red-osier dogwood seedlings in New Brunswick. The PWA's staff planted 3,000 willow seedlings along urban and rural streams in the Petitcodiac watershed this spring. The KWRC organized this teamwork event with the help of Natural Resources Canada – Canadian Forest Service who provided a place for the seedlings in the Canadian Forest Complex nursery this early spring. These willows will provide erosion control by stabilizing riverbanks in much needed areas and corridors for wildlife in urbanized areas.

These projects were made possible thanks to our funders, the New Brunswick's Environmental Trust Fund, the World Wildlife Fund's Loblaw Water Fund and the Government of Canada.



SUBMITTED BY:
ROBERT CAPOZI, New Brunswick Climate Change Secretariat

Hybridized Dune Restoration in New Brunswick

Dunes play an important role in the coastal ecosystem by providing habitat for grasses and wildlife - including species at risk. They help to reduce erosion on our beaches that we value for recreation, education and tourism. With the increasing risk of more frequent storms and floods due to climate change, dunes are especially critical, as they act as a protective barrier for homes, cottages and other infrastructure found along the coast. Unfortunately dunes are quite sensitive to habitat disturbance. The most common disturbances include trampling of grasses from people and vehicles, development, and damage from severe storms. Dune grass, such as marram grass, grow long networks of roots that hold sand in place.

Six municipalities and organizations in partnership with the Department of Environment and Local Government (listed bottom right) have been working on restoring their local dunes. Restoration actions have included:

- Revegetating dunes with marragrass.
- Building barriers that can trap sand with fences, recycled Christmas trees, and old lobster traps.
- Burying rip rap rocks under sand.



Bathurst



Le Goulet



Le Goulet



Cap Pelé



Cap Bimet

1. Côte Sainte-Anne – lead by Robert Capozzi and Shediac Bay Watershed Association
2. Barachois (Chemin Vieux-Pierre) – lead by Robert Capozzi
3. City of Bathurst Marina Park – lead by Robert Capozzi and City of Bathurst
4. Village of Le Goulet – lead by Elie Rouselle, Robert Capozzi, Dominique Bérubé
5. Vision H2o, Cap Pelé – lead by Julie Cormier
6. Cap Bimet Residents' Association – lead by Eugene Gaudet

Key Conference and Training Dates

ATLANTIC PLANNING INSTITUTE CONFERENCE

Where: Moncton, NB

When: October 24-28, 2018

MNIC members will be presenting in a session on Ecosystem Services; Emmanuel Machado from the Town of Gibsons will also be a keynote at this event. See more: <https://atlanticplanners.org/api-conference-2018/>

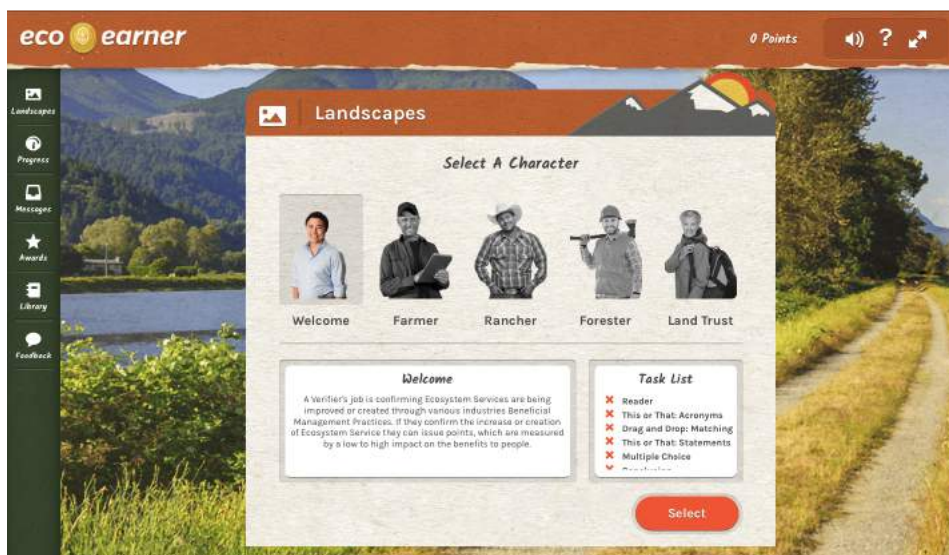


Request for Information

MATT CONLIN

Matt Conlin (Saint Mary's University) is working on collecting examples and best practices of projects related to nature-based solutions in coastal areas. If any member has information on related past or ongoing projects please get in touch with Matt at Matthew.Conlin@smu.ca.

"My name is Matthew Conlin, I am a current graduate student in the School of Planning at Dalhousie University. I am currently undertaking research between Dalhousie and Saint Mary's University compiling examples of best practice involving nature-based adaptation strategies along the coast. I am trying to gain some insight and details about specific projects and strategies being implemented to adapt to coastal erosion, sea level rise, climate change, etc., through the use of nature-based strategies. My hope is to acquire information around projects that have already been implemented, the goals of the project and subsequent evaluations of how effectively the project was able to meet its goals, major drivers and barriers to achieving project success, etc. My target area for this study is within the Atlantic provinces of Canada, but I am also interested in similar projects that might have been implemented within the United States or Europe. I would welcome any information, project details, or the possibility to speak about these details further with anyone that would be willing to reach out to me."



Education Tool

ECO EARNER

Check out the Eco-Earner game and test your audience's knowledge of ecosystem services.

Click below to play!

www.eco-earner.com



Blog: Forests, Ecosystem Services, & Climate Change

READ HERE:

WWW.PLANWITHNATURE.CA/BLOG-FORESTS-ECOSYSTEM-SERVICES-AND-CLIMATE-CHANGE/

Contact Information

259 Brunswick St.,
Suite 103

Fredericton, NB

E3B 1G8

506-459-4209

climate@naturenb.ca

www.planwithnature.ca
