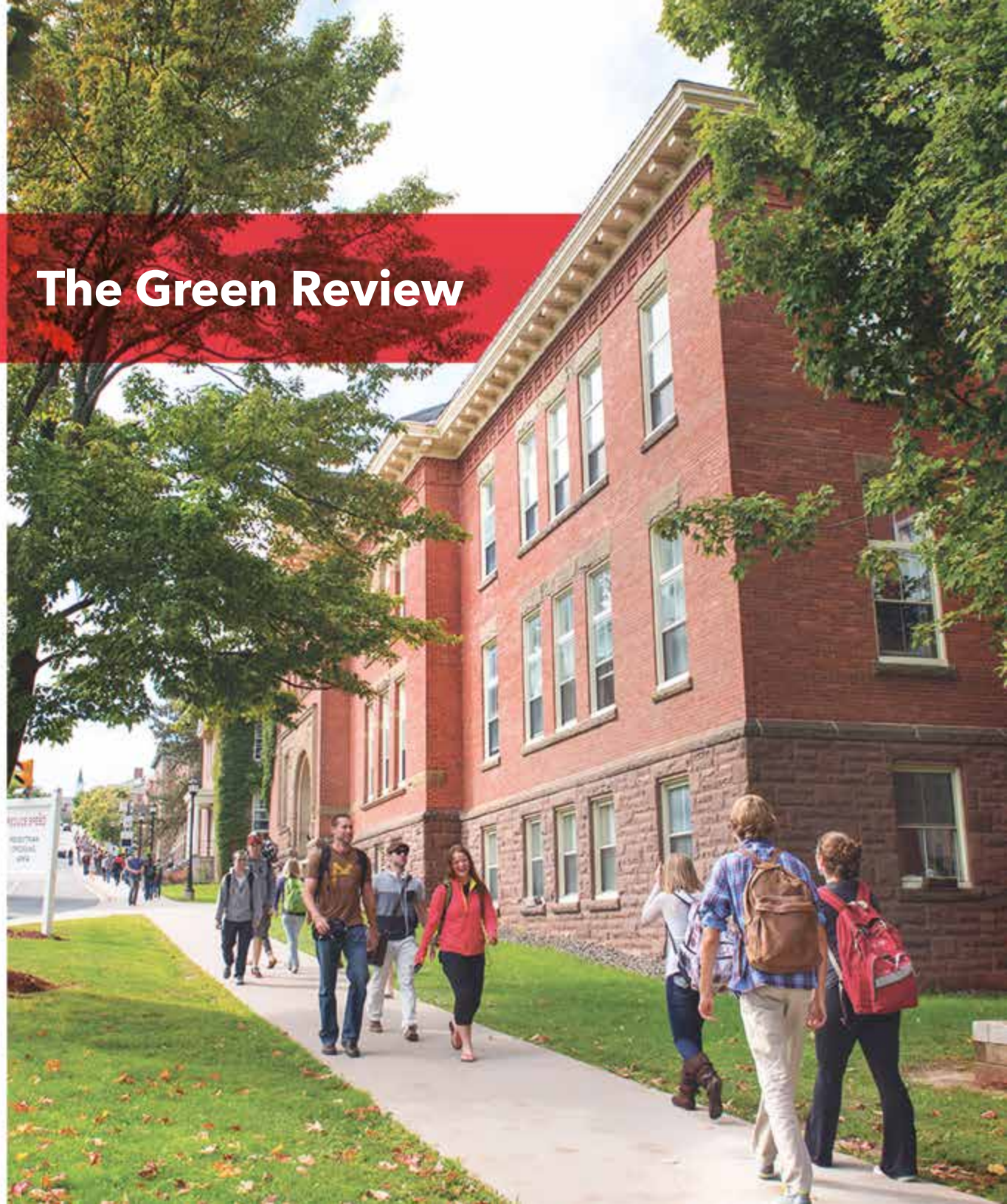


UNB

The Green Review



UNIVERSITY OF NEW BRUNSWICK FREDERICTON

THE GREEN REVIEW • INDEX

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BUILDINGS



SIX BUILDINGS AT UNB FREDERICTON HAVE BEEN AUDITED UNDER THE BOMA BEST CERTIFICATION PROGRAM.



JILL MCCURDY

**UNB SUSTAINABILITY
AUDITOR**

GREEN CHAMPION

CAN YOU BRIEFLY DESCRIBE WHAT BOMA BEST CERTIFICATION IS?

BOMA BEST is a certification tool used to assess the environmental performance and management of existing buildings. It analyzes areas such as electricity, heating and ventilation, water, and waste management. BOMA BEST analyzes these areas through an extensive building audit and assigns a number value representing its overall environmental performance.

WHAT BUILDINGS WERE AUDITED THIS YEAR?

We audited Marshall d'Avray Hall, Facilities Management, Toole Hall, Ludlow Hall, and the Harriet Irving Library. In 2016, we will be auditing the Aitken University Centre, the Student Union Building, and MacLaggan Hall.

GREEN UNB

Did you know that the Head Hall complex is a BOMA BEST Silver building with a score of 76%?



GO GREEN

Turn off the lights when not in use. Doing so will help UNB Fredericton's buildings operate more efficiently.



"I like how it's an older looking campus with lots of brick, and all the green space is really great too."

ADAM ARCHIBALD
UNB STUDENT

LIONEL HAYTER
**UNB MASTERS
STUDENT**



"The many trees and gardens at UNB Fredericton are so refreshing. Sometimes I like to take my lunches or breaks outdoors just to relax."



GROUNDS

UNB FREDERICTON HAS THREE WILDLIFE FRIENDLY GARDENS. EACH GARDEN WAS CREATED WITH THE HELP OF NATURE NB, THE UNB DAYCARE CENTER, AND THE EARLY CHILDHOOD CENTER.

The UNB wildlife friendly gardens were graciously funded in part through the NB Environmental Trust Fund.

GREEN UNB

Did you know that 41% of the UNB Fredericton campus is naturalized green space?

GO GREEN

Spend time outside.

Studies show that spending time outdoors is associated with mental health benefits, including decreased depression, improved well-being and mental health.

GREEN CHAMPION

WHAT WAS THE BEST PART ABOUT CREATING THE WILDLIFE FRIENDLY GARDENS?

Planting the seeds in the clay balls and planting my plant with my friend, Jack.

WHAT TYPE OF ANIMALS DO YOU THINK WILL VISIT THESE GARDENS?

I think butterflies will because they need lots of nectar. Well, most of all I hope a lot of bugs come to the garden.



CHARLOTTE
**COLLEGE HILL
DAYCARE**

WATER

IN RECOGNITION OF WORLD WATER DAY 2015, THE UNB ART CENTER HOSTED A SPECIAL EXHIBITION TO BRING AWARENESS TO ENVIRONMENTAL ISSUES AROUND THE THEME OF WATER.



GREEN UNB

Did you know in 2014-2015, UNB Fredericton saved enough water to fill the Fredericton water tower 74 times? This was achieved through several measures including the use of low flow fixtures.



MARIE MALTAIS

**DIRECTOR OF UNB
ARTS CENTRE**

GREEN CHAMPION

HOW DOES E-WASTE AFFECT WATER CONSERVATION?

When computers, cell phones, DVD players, batteries, keyboards, telephones, and TVs break down in landfills, their contents leak into the surrounding environment. As it rains, water washes chemicals, heavy metals and other toxins into the ground and water systems.

CAN YOU TELL US MORE ABOUT THIS INITIATIVE?

UNB and STU students from our ArtZone student collective created artwork from the e-waste and displayed it in the East Gallery. In the West Gallery, we featured a growing mound of e-waste collected from the community. We collected over 8 tonnes of e-waste during the 3 month project. In addition, the gallery featured a display of panels explaining e-waste and the environmental impact of this growing sector.



GO GREEN

Use a reusable water bottle,
and help reduce waste
going to the landfill.



"UNB is the largest research and education institute in the province and is well poised to showcase water sustainability and conservation. We have a great opportunity to be a leader by example."

MICHELLE GRAY

UNB ASSISTANT PROFESSOR

JOSEPH CHAMBERLAIN
UNB STUDENT



"Not only does cycling to school allow me to connect with the outside world and provide exercise before university, it also doubles as a way to reduce my greenhouse gas emissions."

TRANSPORTATION

EVERY UNB FREDERICTON GRADUATE STUDENT RECEIVES A FREDERICTON TRANSIT BUS PASS AS PART OF THEIR TUITION AND FEES.



GREEN UNB

Did you know
an estimated 105
individuals bike to
campus each day?

GO GREEN

Ride your bike to campus.
If 1 out of 10 commuters globally switched to biking we would save **7 billion** liters of gas per year.

GREEN CHAMPION

WHAT IS SECURITY BIKE PATROL?

The Bike Patrol was formed in the fall of 2001. Partners (ResLife, the Student Union, the Bookstore and Pepsi) contributed towards the purchase of KHS mountain bikes for campus patrol.

HOW OFTEN DOES SECURITY PATROL ON BIKES?

The patrol is used during special functions and when staffing allows. During the summer months, traffic supervisor Mario Warren and I, patrol as often as we are able. All members who participate are given proper training and receive specialized bike uniforms and equipment.



DESMOND DUPUIS

**CRIME PREVENTION
COMMUNITY LIASON**

HEATING

25% OF THE HEAT PRODUCED ANNUALLY AT UNB FREDERICTON IS GENERATED THROUGH THE USE OF BIOFUEL.



GREEN UNB

Did you know that in 2015, UNB Fredericton installed its first passive solar wall at Marshall d'Avray, which uses the sun's energy to heat and ventilate indoor spaces?



TOM GILMORE
**UNB ENERGY
MANAGER**

GREEN CHAMPION

WHAT TYPE OF BIOFUEL IS USED AT THE CENTRAL HEATING PLANT?

UNB Fredericton burns what is commonly referred to as "hog fuel". It is waste wood generated from a sawmill and is typically composed of bark from the debarking process, "fines" from the sawing process, and "chips" generated from grinding. This biofuel is trucked approximately 1 hour from Grand Lake Timber in Chipman.

WHAT TYPE OF FUEL CONSTITUTES THE OTHER 75%?

The remainder of our fuel is natural gas. The Central Heating Plant was originally constructed to burn only Bunker C or "heavy" fuel oil. We still maintain an inventory of Bunker C to be used in emergency situations; however, UNB Fredericton has switched to natural gas which is far better for the environment."



GO GREEN

Wear a sweater.

By wearing a sweater and turning the thermostat down one degree at your home, school or office you can save up to 8% per year in energy.





ELECTRICITY

IN 2013-2014 UNB FREDERICTON INSTALLED A CAMPUS SMART METERING SYSTEM.

GREEN UNB

Did you know that UNB Fredericton won the Atlantic University and College Residence Energy Challenge? Maggie Jean Chestnut won with an energy reduction of 20%. All money saved from the reduction in energy was donated to the Fredericton Food Bank.

GO GREEN

Air or towel dry your hair. Hairdryers are among the most energy-intensive appliances, using 10 times more energy than a 50-inch plasma television.

GREEN CHAMPION

WHAT IS A SMART METERING SYSTEM?

Our smart metering system essentially makes our building energy use visible via our computer network. At any time, we can see real time energy usage of a building.

HOW IS THIS USEFUL TO UNBF?

By fully understanding energy use, we are able to remotely monitor performance, detect consumption anomalies, and improve building energy efficiency. This program highlights intensity of energy use which provides direction for UNB Fredericton to focus its energy reduction efforts.



▲
TIM CROSS

**UNB ENERGY
COORDINATOR**

WASTE

IN 2014-2015, THE UNB FREDERICTON SUSTAINABILITY PROGRAM BEGAN PERFORMING WASTE AUDITS ON ITS BUILDINGS.



GREEN UNB

Did you know UNB Fredericton produces 1,238 metric tonnes of waste per year, which is the equivalent of nine blue whales? Through sustainability efforts, UNB Fredericton is creating a strategic waste management plan.



NANA AWUAH

ENVIRONMENT AND NATURAL RESOURCES MASTERS STUDENT

GREEN CHAMPION

WHY DID YOU TAKE ON WASTE AUDITS AS YOUR MASTER'S PROJECT?

UNB Fredericton currently does not have much documentation on the current waste system or diversion rate, despite initiatives to divert waste from the landfill. I decided to undertake this project to quantify waste generated through a series of waste audits. This way, the current diversion and contamination rate in our bin systems could be analyzed and recommendations could be made.

WHAT CAN WE DO IN THE FUTURE?

A key objective is to have a well-documented plan which clearly stipulates the management strategies to be adopted. This document should include the importance of periodic waste audits to track the diversion rates and to monitor effectiveness of the system.



GO GREEN

Use a reusable thermos or mug, you could reduce the amount of solid waste going to the landfill by 23 pounds per year.



TOM BECKLEY
UNB
PROFESSOR

"Growing our food keeps us fit, both by doing the work and by the improved nutrition inherent in homegrown organic produce. Quite simply, the sense of accomplishment we gain and personal relationship we have with the food we grow makes it taste better!"



FOOD

THE CAMPUS FOOD STRATEGY GROUP AT UNB FREDERICTON SEEKS TO INCREASE ACCESS TO SUSTAINABLE, HEALTHY, AFFORDABLE FOOD ON CAMPUS, AND TO EDUCATE STUDENTS ON THE IMPORTANCE OF LOCALIZED, EQUITABLE FOOD SYSTEMS.



GREEN UNB

Did you know that the Renaissance College has created a raised garden bed and works with the Landless Gardeners to grow local food on their property?

GREEN CHAMPION

GO GREEN

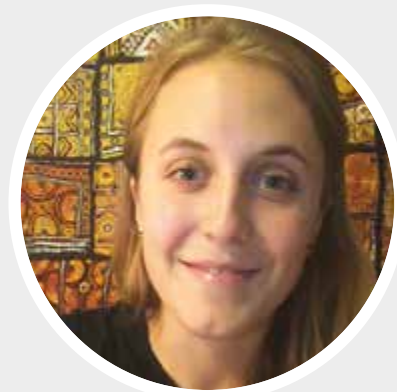
Buy Local.
By eating local you can reduce food miles and support the local economy.

WHAT IS THE CAMPUS FOOD STRATEGY GROUP?

At UNB Fredericton, we are trying to ignite as many local/sustainable/equitable food initiatives as possible. We are in the process of creating a partnership between The Cellar and a local small-scale organic farmer, so that The Cellar can use more local food in their dishes. We also reached out to students as much as possible to ask where they think the gaps are in UNB's food system so that we can work to implement solutions. For example, last year we hosted a Harvest Party on campus where we talked to students about our campus garden project and what they would like to see it include. Lastly, this year we will be starting some new initiatives, including food-related movie nights and guest speakers, to increase the levels of food education on campus.

WHAT ARE YOU PLANNING FOR THE FUTURE?

We have worked for a year now developing a garden proposal to start a community garden on UNB campus where students and staff can grow their own food. We are hoping to get this proposal passed this academic year. We are also considering the idea of having a small farmers market on campus once a week starting next fall, so that students can have the easy access to fresh, local produce.



KATHERINE ASKE

**CAMPUS FOOD
STRATEGY GROUP**

EDUCATION

IN 2014, STARTUP CANADA NAMED UNB THE MOST ENTREPRENEURIAL POST-SECONDARY INSTITUTION OF THE YEAR.



GREEN UNB

Did you know that UNB ranked #1 in teaching and learning, among all Canadian higher education institutions that supports entrepreneurship education?



▲
VUK STAJIC

**UNB STUDENT AND
TME AWARD WINNER**

GREEN CHAMPION

WHAT IS A REVERSE VENDING MACHINE?

A reverse vending machine is a machine that returns money in exchange for recyclables. The idea is to have these machines in student living complexes and integrate them in a way that students can get a direct deposit on their student card in exchange for recyclables.

HOW DID YOU COME UP WITH THIS IDEA?

The idea came to me when I was studying at UPEI. I was visiting a friend in residence and happened to see a mountain of recyclables cluttering a closet. The student did not have a vehicle to take them to an exchange center and was simply going to throw them away. A week later, I saw a small scale reverse vending machine at a local Superstore and immediately the idea clicked.



GO GREEN

Take a Sustainability Course.

UNB Fredericton offers an Environmental Management degree as well as 90 other courses related to sustainability.



"I like that I get hands-on field experience that I wouldn't get otherwise. I get to spend class time enjoying nature!"

▲
CARTER CHAISSON

ENR STUDENT

PAM WITTY ►
UNB PROFESSOR

"Cultivating an understanding of interdependency and the practice of compassionate care involves learning in and about the natural worlds, and learning how to act in environmentally responsible ways to become good stewards of the earth."

RESEARCH

UNB'S EARLY CHILDHOOD CENTRE HAS BEEN A LEADER OF SUSTAINABILITY THROUGH THEIR RESEARCH AND DEVELOPMENT OF CURRICULUM EMPHASIZING DIVERSITY AND SOCIAL RESPONSIBILITY.



GREEN UNB

Did you know UNB conducts approximately 75% of all university research in the province?

GO GREEN

Play Outside.

Studies show outdoor play helps children develop creativity and problem-solving skills.

GREEN CHAMPION

HOW DOES THE EARLY CHILDHOOD CENTRE PROMOTE SUSTAINABILITY?

The UNB Children's Centre does many things to promote a concrete understanding of sustainability to our children and families by growing a garden, using the produce to make snacks, composting our waste, worm composting in the winter, recycling (including following the paper recycling process from our room to the recycling plant), adding natural materials to our playspace and, most importantly, playing outside in nature in all seasons and weather.

HOW MUCH TIME DO THE CHILDREN SPEND OUTDOORS?

We go outside every day and sometimes more than once both on our playground and in the woods.



► **UNB EARLY CHILDHOOD TEAM**

CAMPUS COMMUNITY

A VARIETY OF GREEN CLUBS AND SOCIETIES CALL UNB HOME, INCLUDING ENGINEERS WITHOUT BORDERS WHO HOST A FAIR TRADE WEEK ANNUALLY.



GREEN UNB

Did you know that the UNB Student Union hired a Sustainability Coordinator this year?



HEATHER LORD

ENGINEERS WITHOUT BORDERS CO-PRESIDENT

GREEN CHAMPION

HOW IS ENGINEERS WITHOUT BORDERS GREEN?

Engineers Without Borders is a globally conscious club that focuses its efforts on international development. We target sustainability through promotion of fair trade and local food products and as a national organization, we recently introduced a platform surrounding sustainability and environmental consciousness with relation to our operations.

WHAT GREEN EVENTS DO YOU PROMOTE?

We have a fair trade week that we hold annually that encourages individuals to consider what they are eating and the complexities within food systems. We are also hoping to make our events even greener this year by reducing the amount of waste produced.



GO GREEN

Join a green club or society.
Check out our website for a list:
www.unb.ca/green



"The Environmental Natural Resource society promotes volunteering with nature and environmental groups. We hold events that create awareness of the society and for others to converse in similar interests and activities. The society is always looking for new ways to promote green living and has its own ENR week in the winter semester."

JESSICA RANDALL
UNB STUDENT



CAMPUS COMMUNITY

SEVERAL DIFFERENT FACULTIES AND DEPARTMENTS PARTICIPATE IN SUSTAINABLE INITIATIVES, LIKE THE FIRST NATIONS MEDICINE WHEEL GARDEN AND THE E-WASTE RECYCLING PROGRAM.



GREEN UNB

Did you know that the Mi'kmaq-Wolastoqey Program partnered with UNB Sustainability to create a First Nations Medicine Wheel Garden? The garden is dedicated to survivors of Canada's residential school system.

GO GREEN

Recycle your e-waste.

UNB Fredericton currently has two drop-off locations for personal e-waste at Media Services and the UNB Art Centre. Additional e-waste drop-off points will be implemented in the upcoming year.

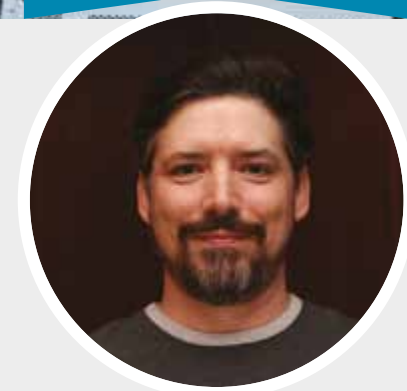
GREEN CHAMPION

WHAT TYPES OF E-WASTE DO YOU ACCEPT?

Information Technology Services (ITS) accepts almost any type of UNB generated electronic waste. This includes: laptop and desktop computers, computer accessories and cables, and electronic lab and test equipment.

WHAT HAPPENS TO THE E-WASTE AFTER IT IS COLLECTED?

This equipment is then reused if still useful to the university. If not, it is transferred to our recycling partners to make sure as little as possible ends up in the landfill. For peace of mind and security purposes, all personal data is destroyed prior to redeployment or recycling.



MARTIN HANN
SENIOR TECHNOLOGIST

COMMUNITY PARTNERSHIP

UNB SUSTAINABILITY WORKS WITH VARIOUS COMMUNITY ORGANIZATIONS TO PROMOTE SUSTAINABILITY NOT ONLY ON CAMPUS, BUT THROUGHOUT THE PROVINCE.



GREEN UNB

Did you know that the UNB Sustainability Coordinator is a member of the Sustainable Education Alliance Steering Committee and Great Minds Think Outside?



DANIELLE SMITH

**UNB SUSTAINABILITY
COORDINATOR**

GREEN CHAMPION

WHAT IS THE SUSTAINABLE EDUCATION ALLIANCE?

The Sustainable Education Alliance is a collaborative group with a mission to provide an opportunity for all interested organizations and agencies to work together collaboratively and in a spirit of mutual cooperation to pool resources, expertise, knowledge and experience in order to promote a culture of sustainability education in the province.

WHAT TYPE OF WORK ARE YOU DOING WITH THE SUSTAINABLE EDUCATION ALLIANCE?

Currently, we are working on a program called "Great Minds Think Outside," which is a hands-on, curriculum-linked, outdoor professional development program that will give educators and community members the skills, tools and resources they need to teach outside.



GO GREEN

Volunteer with an environmental non-profit. There are over 90 of them in New Brunswick.



**" BE THE CHANGE
YOU WANT TO
SEE IN THE
WORLD."**

MAHATMA GANDHI