

Submission to New Brunswick's Education Plan Secretariat

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Submitted by the following groups:

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Canaan-Washademoak Watershed Association
Commission de services régionaux Nord-Ouest
Conservation Council of New Brunswick Inc.
Daly Point Nature Reserve
Ducks Unlimited Canada
EOS Eco-Energy
Farm to Cafeteria Canada
Good Food Greater Fredericton
Greater Fredericton Community Inclusion Network
Greater Fredericton Social Innovation
Meduxnekeag River Association
Nashwaak Watershed Association
Nature New Brunswick
Nature Trust of New Brunswick
Nutritious Food in our School Committee
NB Community Harvest Gardens Inc.
New Brunswick Lung Association
Organic Crop Improvement Association
Our Food Southeast NB
PEACE-NB
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Recreation New Brunswick
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Introduction

While working towards an improved system that will develop students' knowledge and skills to a level that is equal to or greater than the rest of the country, the New Brunswick K-12 Education system faces many challenges. In 2014, the Conference Board of Canada gave New Brunswick a D in its *How Canada Performs: Education and Skills* report card, showing that New Brunswick significantly lags other jurisdictions in reading, math, and science. On top of that our

schools, classrooms, and students also struggle with inclusion, attendance, mental resilience, childhood obesity, and physical literacy.

Sustainability education can address all these problems, as well as bring a wide variety of other benefits including cost-savings, improved mental, physical, emotional, and spiritual wellness, stronger communities, higher mental resilience and retention of our young people.

There are already many examples of sustainability education in action throughout New Brunswick's K-12 Education system thanks to passionate and dedicated teachers, community schools coordinators, and other school and community champions. The benefits experienced at these schools can be replicated in every school across the province, but it must be identified as a priority, and it will take a culture shift at all levels – from the Department of Education & Early Childhood Development to school districts to school administrators to teachers to custodial staff– to make this happen.

What is Sustainability Education?

Sustainability Education is also known as Education for Sustainable Development (ESD). It is an approach to teaching and learning that focuses on:

- the holistic & interconnected aspects of real-world problems,
- hands-on learning,
- developing skills such as critical thinking and problem-solving,
- fostering creativity and an entrepreneurial spirit,
- an appreciation for the natural world, and
- the three pillars of sustainability (economy, environment, society & culture).

The Benefits of Integrating Sustainability Education into New Brunswick's K-12 Education System

Implementation of the recommendations outlined in this document will result in many advantages and benefits to students, schools, communities, and the province as a whole. These include:

- ***Short-term Cost-savings:*** Many of these recommendations have little or no costs and many can actually save money for the school system. For example, reducing energy consumption can save money on electricity bills; linking with community groups can provide volunteers to help within the classroom.

Efficiencies can be created through sustainability education; for example class projects that meet curriculum outcomes from more than one subject area. This approach educates citizens on a sustainable way of living at home, school, work, and play, thereby maximizing their efficiency as members of society.

- **Long-term Cost-savings:** In the long-term, costs savings will be realized through community and social improvements:
 - Improved health and wellness - reducing health care costs
 - Fewer violent crimes - reducing costs associated with the justice system
 - Reduced poverty levels - as more people will have the skills they need to find employment and support themselves and their families
- **Academic performance:** Academic performance has been shown to improve, and classroom management problems have been shown to decline, when using sustainability education approach in schools.¹
- **Inclusion:** Because it is hands-on, experiential learning and encompasses diverse learning styles, sustainability education allows for more children, regardless of ability or cultural or socio-economic background, to succeed in school.
- **Health & Wellness:** Improved mental, physical, emotional, and spiritual wellness for both students and teachers. Outdoor learning can foster stronger connections with nature, provide an ample supply of fresh air and give time for movement and exercise, helping combat mental health issues and fight the obesity epidemic - leading to more active and mentally fit lifestyles.²
- **Retention of Young People:** Students will grow up with an appreciation for the province in which they live and a strong sense of place and belonging. Students will be better able to create their own opportunities here in New Brunswick, rather than seeking opportunities elsewhere.
- **Citizenship:** Sustainability education produces community-minded individuals who know how to work together to solve complex economic, social, and environmental problems and build resilient communities.

¹ Closing the Achievement Gap, Lieberman & Hoody, 1998; How Outdoor Education and Outdoor Time Create High Performance Students, Kevin J. Coyle, 2010; Outdoor Education: Teaching More Than Just Science? Chris Cantrell, 2015

² The Biggest Risk is Keeping Kids Indoors, The ParticipACTION Report Card on Physical Activity for Children and Youth, 2015; Is Active Play Extinct? Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth, 2012

- **Leadership:** Sustainability education will create more leaders and entrepreneurs, putting New Brunswick on the map nationally and internationally.
- **Improved Attendance:** Because learning will better address different learning styles, students will want to come to school.

Existing Expertise

There are many well-respected organizations as well as knowledgeable and dedicated individuals in New Brunswick who are committed to implementing sustainability education in New Brunswick's K-12 system. Some of the efforts already underway are outlined at the end of this submission.

Many people and organizations in New Brunswick would more than welcome the opportunity to work together with the Department of Education and Early Childhood Development, schools, school districts, administrators, and teachers to make sustainability education a reality in New Brunswick.

Integrating Sustainability Education into New Brunswick's K-12 Education System

Curriculum

Taking a sustainability approach to curriculum would mean: removing silos between different subjects and making cross-curricular teaching the new norm, allow the curriculum to reflect the complex and interconnected nature of the real world, making sure all teaching styles are used to allow all students to learn in a way that is best for them, spending time outside and having real hands-on education and problem-solving projects. This process can start with an asset-based scan of the current curriculum, determining what is there that can be built on and where there are gaps.³

A Sustainability Education curriculum for New Brunswick schools will want to place a high value on:

- Outdoor education and nature education
- Intellectual skills (e.g., critical thinking, problem-solving, imagination, leadership, entrepreneurship, etc.)

³ An assessment of New Brunswick's curriculum for links to sustainability themes was completed in 2006; see <http://nben.ca/index.php/en/documents-sustainability-education-alliance-of-new-brunswick?download=12:sea-assessment&start=20> for more information.

- Practical life skills (e.g., home economics, gardening, budgeting, household repair, consumer choices, etc.)
- Ethics
- Cultural diversity
- Developing a sense of place through learning about New Brunswick's natural beauty and special places

Support and Training for Teachers

Providing teachers with the tools and support they will need is paramount in the success of any curriculum changes that are going to take place. Starting with our in-service teachers, it is important that they are trained on the changes themselves and what outcomes the changes are hoping to achieve, and that they are provided with resources to help them change their current curriculum to better align with the new sustainability education approach. For pre-service teachers, it will be important for the Bachelor of Education programs to adjust their instructions and subjects to better align with the new curriculum.

The following are areas of education training that would benefit pre-service and in-service teachers, principals, support staff, and the facility department to better implement sustainability education:

- Sustainability - What is it and how do we incorporate it in our daily plans
- Outdoor education and nature education – Procedures and policies for taking students outside for educational purposes
- Cross-curricular programming – Guidelines for breaking out of the silo-teaching format and how to build and identify math, literacy, and science outcomes while teaching other subjects
- Collaboration – How to collaborate with other teachers, schools and the community to enhance the learning experience and cover all learning styles for students
- Consensus-building and appreciation of diversity – How to bring diverse perspectives together and move forward with a plan that meets everyone's needs

Facilities Management

Having open communication between facilities management staff, teachers, and principals will assist the different parties in understanding the policies and guidelines they each need to follow, which will allow for better communication and solutions. Benefits to having the facilities department on-board would result in cost-saving initiatives, and the ability for more environmental, climate change, and problem-solving based projects for students. This would

also allow for as much natural space as possible when designing new schools or re-thinking existing school grounds.

Going beyond sustainability education and looking at overall sustainability in schools may mean taking a new approach for the Department of Education and Early Childhood Development and facilities management when addressing: purchasing and procurement, use of consumer goods, waste management, land management, maintenance products and procedures, water use, transportation, construction and renovation, energy use, and hazardous materials.⁴

Linking Schools with the Wider Community

Sustainability education and nature groups have had an easier time working with Community Schools than with other schools, as there is an easily accessible person dedicated to making those connections. As sustainability education will increase the number of partners and outside agencies working with each school, it is strongly recommended for each school to be allocated a Community School Coordinator, or other personnel to be the central contact between teachers and outside resources. The person in this role would be trained in sustainability education and would:

- Develop partnerships with the various demographic segments of the community (e.g., seniors, newcomers, etc.)
- Foster a dialogue between the school and local community groups
- Communicate the school's needs to the community (e.g., teacher looking for a community group or member with expertise on a certain subject matter)
- Share best practices with other schools
- Develop partnerships with local First Nations education initiatives
- Support sustainability teams or champions in each school
- Help teachers find resources they need to teach

Department of Education and Early Childhood Development

The Department of Education and Early Childhood Development has a key leadership role to play in integrating sustainability education into New Brunswick's K-12 Education system. It is recommended that the Department:

1. Develop and adopt a Sustainability Education Plan and make changes to the curriculum to support this plan;

⁴ A draft Sustainability Education Strategy for New Brunswick Schools was developed in 2006; see <http://nben.ca/index.php/en/documents-sustainability-education-alliance-of-new-brunswick?download=4:sustainability-education-policy> for more information.

2. Make changes to Department policies to align with curriculum changes in the curriculum and district-level policies;
3. Make changes to facilities management policies so that they better align with the Sustainability Education Plan and sustainable schools;
4. Educate teachers, principals, school district staff, and department staff to help them understand and apply the Sustainability Education Plan;
5. Train the facilities departments (including custodians and maintenance workers) on the new initiative and best sustainability practices;
6. Build and promote incentives for cost-savings, environmental, and climate change initiatives that allow districts and schools to reap the financial benefits from their insight and hard work; and
7. Liaise with the Department of Post Secondary Education, Training and Labour regarding the changes to curriculum and teaching styles.

These recommendations could be managed through a new Sustainability Education Unit within the existing Department of Education and Early Childhood Development's structure.

A Sampling of Sustainability Education Efforts Currently Underway in New Brunswick Schools

Great Minds Think Outside

Great Minds Think Outside is a hands-on, curriculum-linked, outdoor professional development program that provides teachers with the skills, tools, and resources they need to teach their students outside, regardless of the subject matter. This bilingual program, which was developed by a number of organizations involved with the Sustainability Education Alliance of New Brunswick, is designed to provide school-wide professional development to teachers in their daily work environment, enabling and empowering educators to see the possibilities of teaching in their own school yards. See <http://nben.ca/greatminds> for more information.

Get Outside! NB

GetOutside! NB is an ongoing Parks NB-led initiative that was started in 2013 to connect NB youth and families to nature through NB Parks and natural areas. Parks Natural Leaders are recruited and trained to deliver wellness/nature education-based programming and events at provincial parks in New Brunswick. Parks NB is actively partnering with Canadian Parks and Wilderness Society New Brunswick Chapter and Nature New Brunswick to deliver this program.

Fredericton High School GAIA Projects in Environmental Science 120

The GAIA projects, assigned by Fredericton High School's Environmental Science 120 teacher, allow students to develop the 21st century skills that are critical in making them competitive in the global market. The students in this class meet or exceed the curriculum outcomes set by the Department of Education and Early Childhood Development, which address problem-solving, critical thinking, interpersonal skills, and communication skills. A wide variety of projects have been undertaken by students in this class over the past five years, including:

- Started a recycling program at the school, diverting recyclables from the waste stream
- Investigating composting to divert compostables from the waste stream
- Comparison of heat loss with old and new windows and potential cost/energy savings of retrofit
- Converting paper towel use from white to brown, and investigating hand dryers in washrooms
- Savings by reducing temperature in classrooms by 1 degree
- Designing an outdoor classroom/garden space
- Energy/cost savings realized by converting outside lights to LED, for which the school received a \$20,000 grant from NB Power to implement.

Réseau des cafétérias communautaires

The *Réseau des cafétérias communautaires* is a social enterprise that provides affordable healthy school lunches, encourages the purchase of local products, develops a culture of entrepreneurship in schools and communities, and contributes to sustainable development and community partnerships. They currently serve 25 schools in the **District scolaire francophone Sud**.

Meduxnekeag River Association

The Meduxnekeag River Association is in its 15th year of delivering its curriculum-linked Meduxnekeag Environmental Showcase science fair to eight area elementary schools. More than 600 students participate in this fair. In 2015, the Association brought 46 classes on guided nature walks to the Meduxnekeag Valley Nature Preserve for hour long curriculum-linked outdoor education experiences. Both programs could easily be replicated elsewhere in New Brunswick.

Fredericton Area Watersheds Association

The Fredericton Area Watersheds Association (FAWA) has been working with schools⁵ in the area to complement existing curricula through the provision of outdoor experiential and environmental education projects. FAWA's programs help students understand connections between our collective daily activities, land use/land cover, and the health of local streams and rivers. Of equal, if not greater importance, has been the co-creation of stewardship opportunities for students: they are gratified to contribute to watershed protection and enhancement through a variety of field-related activities, as shown above.

⁵ Devon Middle School, Stanley High School, Nashwaak Valley Elementary School, Fredericton High School, Leo Hayes High Schools