



Against all Odds

The Sudbury Regreening Story



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The Sudbury Regreening Story

Students today have never known Greater Sudbury as a barren land of black rock. They have also never smelled the heavy scent of sulphur that permeated the air around Greater Sudbury. Although fortunate to have lived in a greener and healthier environment, it is harder for students today to understand the history of this area. Once upon a time no one believed that anything could grow on these barren lands. With experimentation, collaboration and hard work Greater Sudbury has made huge strides to recovery.

We are very excited to offer new curriculum-based programing that explores the history of our city and its journey of healing. During the presentation, students will be invited to participate in interactive activities to learn more about the science of regreening and the restoration of ecosystems. The next generations are key to the continued healing of our local ecosystems. By learning from our past, we can ensure we do not take the health of this land for granted and continue our efforts of restoring our local ecosystems.

1981



2017

VETAC, City Council's Advisory Panel on Regreening, was established in 1973.

Their mandate is to work towards the recovery of self-sustaining, indigenous terrestrial and aquatic ecosystems in Greater Sudbury through the City's Regreening Program.

VETAC also provides the community with opportunities to participate in this initiative by improving the environment at home, in neighbourhoods, and on public lands.



“ VETAC, City Council's Advisory Panel on Regreening, was established in 1973. ”

Biodiversity

Grades: 4-6

What is it? Why is it important? What happens when we lose it?

Overview: The Greater Sudbury landscape has been through enormous changes caused by the harvesting and refining of natural resources. The region lost most of the life within its ecosystems, leading to a local loss of species and biodiversity. Through regreening and species re-introduction biodiversity is starting to flourish once again.

Links to the curriculum

Grade 4 Science:

Habitats as areas that provide necessities for life.

Grade 4 Science:

Impacts of depletion and extinction of species.

Grade 4 Science:

Adaptations to habitats and conditions.

Grade 4 Science:

Food webs, food chains and interconnections.

Grade 4 and 5 Science:

Positive and negative impacts (including long-term) of human activities and use of natural resources on habitats, communities, and society.

Grade 6 Science:

Benefits of biodiversity and the consequences of diminishing biodiversity.

Grade 6 Science:

Interconnection between species and their natural environment.

Social studies and more.



Restoring our Freshwater Ecosystems

Grades: 7-8

**What is it an ecosystem?
Freshwater ecosystems and pollution.
Ecosystem sustainability.**

Overview: Greater Sudbury is special for many reasons, but there were specific features that attracted logging and mining to this region. When humans use natural resources unsustainably it can have large impacts on terrestrial and freshwater ecosystems. An ecosystem is made of various components that interact together, and understanding how they function can help us better protect them.

Links to the curriculum

Grade 7 Science:

Ecosystems (abiotic and biotic components as well as interactions).

Grade 7 Science:

Primary succession and secondary succession.

Grade 7 Science:

Positive and negative impacts of human activities and technologies. How to mitigate negative impacts and contribute to environmental sustainability.

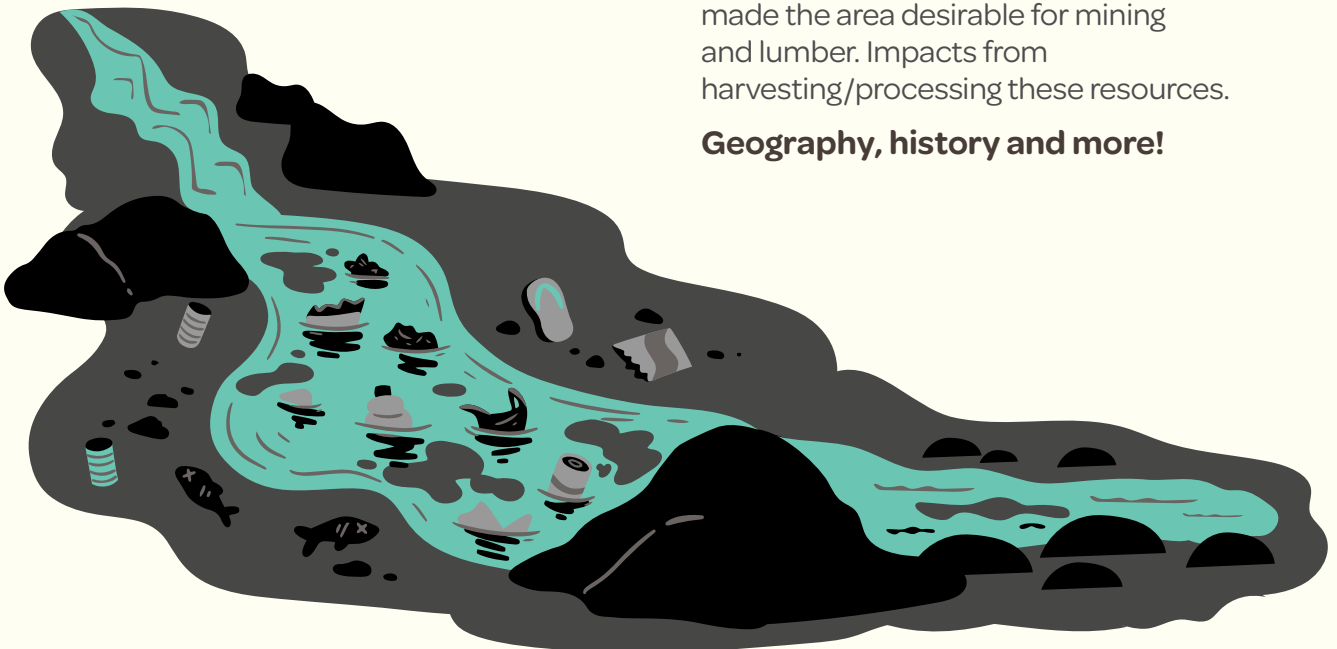
Grade 8 Science:

Water (technology, health, and human impact).

Grade 7 and 8 Geography:

Features and natural resources that made the area desirable for mining and lumber. Impacts from harvesting/processing these resources.

Geography, history and more!



Interconnected Environment

What makes a healthy ecosystem?

Why is Greater Sudbury acidic?

Ecosystem interactions in Greater Sudbury.

Grades: 9-10

Overview: Ecosystems are interconnected. The air, soil, water, rocks and living creatures interact in more ways than we can imagine. Humans can impact this equilibrium. What happens when industries like logging and mining make serious changes to ecosystems? How does it affect all the layers that create healthy living ecosystems?

Links to the curriculum

Grade 9 Biology:

Interactions between biosphere, hydrosphere, lithosphere and atmosphere.

Grade 9 Biology:

Ecosystem sustainability and its link to air/soil/water health, succession, and biodiversity.

Grade 9 Biology:

Effects of various human activities on the dynamic equilibrium of ecosystems.

Grade 10 Chemistry - Academic/Applied:

Acids, bases and pH.

Grade 10 Chemistry - Academic:

Environmental issues associated with chemical reactions, including the ways in which chemical reactions can be applied to address environmental challenges.

Geography, history and more.



Mining and Plants

Grades: 11-12

**Environmental impacts of industry.
Plants and rocks in Greater Sudbury.**

Overview: Greater Sudbury is home to valuable minerals such as nickel and copper. The industrial extraction of these minerals provided needed resources but also changed our landscape dramatically.

Unmanaged industrial operations can affect the diversity of living things in ecosystems. This diversity is very important to healthy ecosystems and losing biodiversity can be very dangerous. Plant loss is a great example of such impacts experienced here in Greater Sudbury.

While unhealthy conditions are not helpful to plant health, some species are able to survive very difficult situations. These survivor species can tell us a lot about our damaged landscapes.

Links to the curriculum

Grade 11 Biology - University Preparation:

Human activities affect the diversity of living things in ecosystems.

Grade 11 Biology - University Preparation:

Plants: anatomy, growth and function.

Grade 11 Biology - College Preparation:

Plants in the natural environment.

Grade 11 Environmental Science - Workplace Preparation:

Human impact on the environment (negative + positive).

Grade 11 Environmental Science - Workplace Preparation:

Natural Resource Science and Management.

Grade 12 Earth and Space Science - University Preparation:

Positive and negative impacts of mining, extracting and refining on economy, society and the environment.

Grade 12 Earth and Space Science - University Preparation:

Origins, properties, characteristics, and uses of different types of rocks.

Geography, history and more.



A Second Visit



Build a forest

Help us build a forest with native trees. Available in spring, early summer and fall.



- Tree planting and maintenance



- Location dependent / Approval from school

Cover that soil

Explore the importance of soil cover in schoolyards, natural ecosystems as well as our own regreening efforts here in Greater Sudbury! Plant native species in your own schoolyard. Available in spring, early summer and fall.



- No mow zone
- Pollinator garden



- Location dependent / Approval from school

Hike to the past

Come visit a regreened site and see the stark difference humans can make when they work together for positive change. Available in spring, early summer and fall.

Optional: Create maps, nature guides or write an article on your experience.



- Young reporters
- Create nearby nature guides, maps and signs



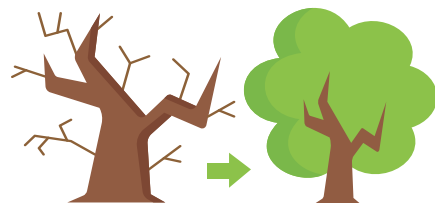
- Busing required

From ashes and smoke

No need to be an artist, join us in creative projects related to regreening. Available in spring, early summer and fall.



- Location dependent / Approval from school



A Second Visit



What lives in your schoolyard?

We talk a lot about biodiversity in natural ecosystems...but what about urban areas?

Available in spring, early summer and fall.



• School ground biodiversity

Version 1:

With the help of iNaturalist, identify species and see how much biodiversity can be found in your schoolyard.

iNaturalist, an online platform and social network, allows users to share biodiversity information to help each other learn about nature and identify species.

Students will need tablets or phones to use iNaturalist.

Version 2:

No tech - no problem.

Join a guided exploration of your schoolyard, identify species with the help of a tailored guidebook and calculate your biodiversity score.



Programs with this symbol  are linked with action(s) from EcoSchools. Interested in learning more?

<https://ecoschools.ca/resources-for-schools>