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**SPOTLIGHT**

# Getting Your Hands Dirty in the Marsh

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# Getting Your Hands Dirty in the Marsh

## Origin Story:

### Land Is a Gift to All

We need to treat the land as if it was a pair of knitted socks given to us; a gift. The Earth we stand on is a gift from Mother Earth so why are we treating it as if it is disposable? Without the land and everything it provides we would not be here today. It is important to keep it intact for us and the next generation to enjoy the land and utilize the food and medicine it provides.

Wetlands play an important role such as protecting water quality, providing storage for carbon which helps reduce the impact of climate change, providing natural habitat for fish and wildlife, preventing flooding, and is beneficial to the health of soil. This is something that the Wiikwemkoong Department of Lands and Natural Resources values.

### Getting Your Hands Dirty

Wiikwemkoong Unceded Territory is located on Manitoulin Island in Lake Huron, and is home to the largest Anishnaabek community on the Island. It is also home to Theodore Flamand. Theodore is the species at risk coordinator for Wiikwemkoong A'Ki Miinwaa Enoodewziimgak Genwendgik (Wiikwemkoong Department of Lands and Natural Resources), whose main responsibility is gathering data, monitoring medicinal plants that are found in Wiikwemkoong, and managing the federal list of species at risk. Theodore is also one of the main coordinators of the Wiikwemkoong Marsh project, which includes creating and maintaining walking trails leading to two large wood lookouts along the marsh lands. They have identified several species at risk around and within the marshland, including reptiles, plants, and birds. Because of this, the trails are kept as natural as possible, to teach everyone that you do not need to destroy land to create walking paths and to make sure the species at risk have homes and food so they will not become extinct. It is important to teach people to respect that marsh land for the benefits of storing carbon and the obligation to keep all species alive to ensure the ecosystem stays intact.

Plants and animals all play an important role in our ecosystem. The sun and water let the plants grow, herbivores and omnivores eat the plants, carnivores eat the herbivores and omnivores and when life passes away the decomposers such as insects, worms, and bacteria will eat them and provide nutrients to the plants completing the cycle. If one of those species in the cycle becomes extinct, then the whole ecosystem is disrupted.

Disruption can introduce more carbon dioxide which contributes to global warming, water shortage and complete extinction of other species. The marsh is intended as a learning experience for that exact reason. They bring students from the Wiikwemkoong education system, university and college students, community members, and members of the general public to the marsh to be on the land, to learn about the species at risk, and what they do for the protection of the land. Theodore believes in people getting actual hands-on experiences, which is supported by studies which say many students benefit from experiential learning. "They do not learn anything from those boxes [classrooms], they learn from the land," Theodore says. For this reason, they brought in kids from grades 6 to 8 to come plant trees and name them just outside of the marsh, to experience hands-on learning.

To fully understand and see the value of nature, and that each species is needed in the ecosystem cycle, you need to connect with the land physically and spiritually, talk to the land, spend time on the land learning about the different species. The land is an important and essential part of everyone's life. Mother Earth holds all our essentials, she provides us with water, food, and medicine. We are supposed to coexist with the land as if it is our own family.





# Time for **GENACTION** !

## Try This at Home:

### **Name a Tree for Free**

Trees improve soil and water conservation, store carbon dioxide, moderate local climate by providing shade, provide habitat for wildlife, and improve the land's capacity to adapt to climate change.

Find an interesting tree or your favourite tree around your house or community, and give it a name, maybe even your own name. Try to identify it, using these tips:

1. Researching its features
2. Taking a picture and asking a teacher, guardian, friend, etc.
3. Using the Seek app

Once identified you can research the specific needs of this tree to learn how it thrives in your community!

## Climate Action:

### **Tread Lightly**

When walking or biking in the forest or anywhere around your community, always try to use pre-existing trails. Creating your own trails can damage the ground, kill plants, and destroy homes of wildlife, and unless you do research about the area you are in and what lives there you will never know which species are at risk of becoming endangered or extinct.





# Climate Change

## Past, Present, and Future

Earth is the only planet in the solar system known to support life. What makes our home so special? Earth has an atmosphere, a layer of gases between our planet and space. Some of these gases, like carbon dioxide, are called **greenhouse gases**. They are crucial parts of our atmosphere; they trap in the heat of the sun, similar to how heat is trapped in a greenhouse, or in a car on a hot day. This process, called the **greenhouse effect**, keeps Earth's temperature warm enough for living things to thrive.

The sun's rays hit our round, tilted planet unevenly. This uneven heating of Earth's surface leads to differences in temperature, which drives weather patterns. We call the patterns in temperature and weather over long periods of time **climate**. Different parts of the world have vastly different climates; it depends on how much heat they receive, as well as what landscape features are nearby. Water, mountains, ocean currents, and forests all impact our climate. In turn, living things around the world have adapted to the climate they live in.

Something, though, is changing. Over the past two hundred years, humans have been burning fossil fuels, such as coal and oil, to make energy to power our daily lives. Fossil fuels are made from decomposed plant matter and microscopic life millions of years old. This matter is full of carbon, and, burning it releases, or emits, billions of tonnes of **carbon dioxide** gas into the atmosphere every year. When too much carbon dioxide is emitted, the delicate balance of greenhouse gases maintaining

Earth's climate is upset. More and more heat is trapped, causing the planet to warm. Weather patterns change, water levels rise, storms get worse.

Climate has changed many times throughout Earth's history, from ice ages to periods much hotter than today. So why is this time any different? Scientists agree on two things. One, temperatures are rising faster than they ever have in documented climate history. Two, this climate change is driven by human activities, due primarily to greenhouse gas emissions. Climate change is already impacting people's ways of life all over the world. Powerful storms, droughts, forest fires, and floods are threatening people's access to food, water, and safe homes.

The most important step we can take to prevent serious climate change is to reduce greenhouse gas emissions. Incredibly brave and caring people around the world are finding new ways to reduce emissions and make our communities climate resilient every single day. And you can join them! These Science Spotlights are here to help us learn more about climate change and how you can take action.

## Our Commitment to the Decolonization of Science

Institutions of GenAction initiative respect and affirm the inherent and Treaty Rights of all Indigenous Peoples across what we now know as Canada. We give thanks to the Indigenous Peoples who care for this land since time immemorial and pay respect to their traditions and ways of knowing. We acknowledge their many contributions to innovations in Science, Technology, Engineering, and Mathematics, past and present, and are committed to deepening engagement and collaborating with Indigenous Peoples as partners in order to advance truth and reconciliation and the decolonization of science.

