SCIENCE SPOTLIGHT

Photo Credit: Unama'ki Institute of Natural Resources (UINR)

CHANGING LAND PROTECTION IN CANADA:

A PATHWAY TOWARDS RECONCILIATION

GEN ACTION

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Changing Land Protection in Canada:

A Pathway towards Reconciliation

Msit No'kmaq (All Our Relations)

The Mi'kmaq believe humans are relatives with all parts of creation and that this reciprocal relationship with nature is sacred. A reciprocal relationship means that the relationship is mutual and that both sides are treated equally and with respect.

Nova Scotia is in the unceded traditional territory of the Mi'kmaw people. The Mi'kmaq have an inherent right to access and use resources of this land. Accessing resources comes with the responsibility to use nature's gifts in a sustainable way. The Mi'kmaw way of resource management relies on respect, relationships, and responsibility, and acknowledges the spirituality that ties all living things together. *Netukulimk* (pronounced as ned-oo-goo-lim-k) frames this stewardship, in other words, responsibility that we care for the environment. *Netukulimk* is more than just a word; it is a way of thinking and being, and of understanding your role in the world around you. While commonly understood, it holds a unique meaning for every Mi'kmaw person, *Netukulimk* is about living in harmony within *Wskitqamu* (Mother Earth) and ensuring her well-being for future generations.

What Is an Indigenous Protected and Conserved Area?

An Indigenous Protected and Conserved Area (IPCA) is a body of land and water where Indigenous governments, or organizations, have the primary role in protecting and conserving ecosystems through local Indigenous laws, governance, or knowledge systems.

Enabling Indigenous people to govern their traditional territory promotes long-term environmental conservation strategies and places Indigenous culture and language at the heart of every IPCA. IPCAs recognize Indigenous titles and rights to the lands and create healing spaces for communities. Every IPCA is different, they vary in size, shape, how they are used and accessed.

Photo Credit: UINR

In Nova Scotia, the Assembly of Nova Scotia Mi'kmaw Chiefs, Unama'ki Institute of Natural Resources (UINR), Eskasoni Fish and Wildlife Commission, and the Confederacy of Mainland Mi'kmaq are collaborating with the province of Nova Scotia and the Government of Canada to identify places as potential IPCAs.

Based on input from community members, UINR established Nova Scotia's first IPCA, Kluskap IPCA, which covers a large area of land, sea, and sky in northeast *Unama'ki* (Cape Breton). The IPCA includes an internationally significant bird area, a nationally significant marine area, an UNESCO biosphere area, and a national park. Additionally, there is a variety of wildlife, including bald eagles, pilot whales, dolphins, and moose. There are also a few species at risk including the little brown bat, the olive-sided flycatcher, and a type of fungus called blue felt lichen.

In 2023, the Province of Nova Scotia and the Unama'ki Institute of Natural Resources signed a Shared Understanding for the Kluskap Wilderness Area which outlines the terms of the shared governance relationship and inclusion in the larger IPCA. It is the first agreement of its kind between Nova Scotia and the Mi'kmaq. Negotiations are ongoing for additional Crown lands, and the Mi'kmaw have developed a land trust to secure private properties.

Photo Credit: UINR

Legends of Kluskap's Cave

Kluskap is a central figure in Mi'kmaq storytelling. He was sent by the Creator to the Mi'kmaq world, so he could share wisdom and pass knowledge to his fellow Mi'kmaq. Kluskap's Cave, or *Nukmij'nawe'nuis*, is a sacred place to the Mi'kmaq because, legends describe the cave as the centre of the Earth and the place where Kluskap will return one day.

Photo Credit: UINR

Learn one of many stories about Kluskap from Clifford Paul, Moose Management Coordinator at UINR:

"Story of the Stone Maidens." Mi'kmawey Debert Cultural Centre. Accessed March 25, 2024. https://www.mikmaweydebert.ca/ancestors-live-here/kluskaps-mountain/story-of-the-stone-maidens/.

Collaboration for Reconciliation

Reconciliation means building a renewed relationship. This process takes time and effort. Think of a piece of paper; when you crumple up the paper, it is nearly impossible to make it perfect again. No matter how much you try to flatten out the sheet, there will always be remnants of when it was first crumpled. Trust works in the same way, once that trust is broken, it can be hard to build that relationship back up to where it once was. Supporting Indigenous rights and responsibilities in land conservation is an opportunity for a new way of working together. It recognizes Mi'kmaw values, shows respect to Indigenous way of knowing, and most importantly creates a collaborative environment that is key for repairing damaged trust.

Climate Action: EMBRACING NEW PERSPECTIVES

We know how important learning is, but sometimes un-learning is just as vital as a step towards reconciliation. Un-learning means making an effort to move beyond the usual way of doing something so that you can learn a new perspective. There are many resources that can support you in this process.

Enriching your knowledge

The IPCA knowledge basket has lots of amazing resources about Indigenous-led conservation. Check out their website for stories, videos, songs, government reports, and policies!

Following the movement

Part of reconciliation is learning how to best support Indigenous rights and self-governance. The *Land Needs Guardians* campaign is a movement aiming to help with long-term support for Indigenous Guardians programs and Indigenous stewardship. They care for Canadian land while supporting Indigenous growth for a better, more resilient future for all of Canada. Among many of their resources, you can join the movement and read their guide on how to be an Indigenous ally.

Listening stories

If you like hearing stories directly from the experts themselves, take a look at the Community Connections Series on the Conservation through Reconciliation Partnership website. In this community focused podcast, each episode focuses on conservation through relationships and reconciliation from the people working directly in the field.

Start conversations about the importance of Indigenous conservation and encourage your friends and family to learn more about ways to help. The path towards reconciliation requires lots of effort from all communities across Canada.

MEET OUR LOCAL CLIMATE HERO:

Photo Credit: UINR

Trish Nash is Director, *Apoqnamatmu'k Wksitqamu* (Working together for the Earth) at the Unama'ki Institute of Natural Resources based in Eskasoni First Nation. She grew up in the territory of her Haudenosaunee ancestors along the Grand River in Ontario, and has an Honours BSc. in Zoology.

Trish has worked for First Nations and Inuit Nations and organizations across Canada to help strengthen their voices, identities, and self-determination. Currently she is working for the Mi'kmaq to establish Nova Scotia's first Indigenous Protected and Conserved Area and a Mi'kmaq-led land trust, the Sespite'tmnej Kmitknu Land Conservancy.

This Science Spotlight was written based on contributions from the *Unama'ki Institute of Natural Resources (UINR)*, as well as Nash, Trish. "*Emerging Indigenous Protected and Conserved Areas: The Unama'ki Mi'kmaw IPCA Project.*" *Conservation through Reconciliation* Partnership Website, August 3, 2021. https://conservation-reconciliation.ca/blog/emerging-indigenous-protected-and-conserved-areas-the-unamaki-mikmaw-ipca-project.

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.

Climate Change: Past, Present, and Future is based on...Delmotte, Masson, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, et al. 2021. "Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change." Intergovernmental Panel on Climate Change. Cambridge University Press. In Press.