



NATURE-BASED SOLUTIONS

Indigenous-led Conservation and Carbon Storage in Canada



conservation
through
reconciliation
partnership



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Nature-Based Solutions: Indigenous-led Conservation and Carbon Storage in Canada

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Participants at the
May 2019 Forum
at the University
of Guelph.

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We acknowledge that the University of Guelph is situated on the treaty lands of the Mississaugas of the Credit First Nation, Between the Lakes Purchase (Treaty 3), and the Dish with One Spoon Territory. Our intent with this project is to uphold Indigenous rights and support Indigenous leadership in environmental governance. We are grateful to Elder Garry Sault who welcomed us to the territory of the Mississaugas of the Credit First Nation and shared about medicinal plants at our May 2019 gathering at the University of Guelph, Ontario.

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Guntar Kravis, Metcalf Foundation

Executive Summary

This report is a synopsis of a 2018-2019 research and engagement project entitled, *Nature-Based Solutions: Indigenous-led Conservation and Carbon Storage in Canada*. The project was led by researchers at the University of Guelph in collaboration with Anwaatin Inc., Shared Value Solutions, and KAP Design. The project was largely funded by the Metcalf Foundation's 2018 Carbon Landscapes funding program.

Indigenous leadership in climate and conservation policy presents many opportunities at a critical time for the environment and communities. Despite being interconnected, innovations in climate action and conservation are often isolated from one another. This overlooks the potential for nature-based solutions to curtail climate change while protecting biodiversity.

Nature-based solutions refer to actions that restore, protect, or sustainably manage ecosystems while contributing to the well-being of societies and biodiversity. If led by Indigenous Peoples, nature-based solutions could contribute to much-needed economic development while supporting Indigenous governance and cultures.

The purpose of this project was to explore the potential alignment of Indigenous-led conservation (i.e. conservation and stewardship led by Indigenous Peoples) and Indigenous-led (nature-based) carbon storage by centering Indigenous perspectives. We strove to identify the **opportunities, challenges, and priorities** in the convergence of these two innovations in environmental governance.

Project Numbers

5

project components:
Literature review
Forum, May 2019
Interviews
Short films
Map

11

interviews

8

short films

16

Indigenous Nations
and organizations
participated

10

environmental
non-governmental
organizations
participated

The project consisted of five components: a literature review; a Forum held in Guelph in May 2019; 11 key informant interviews; the creation of eight short films; and the development of a map identifying carbon storage in Canada and Indigenous protected areas. This report describes each of these activities and summarizes key findings and research gaps. Participant engagement in the forum and related activities was significant, and included: 16 Indigenous Nations and organizations based in Ontario, British Columbia, Manitoba, New Brunswick, and the Northwest Territories; 10 environmental non-governmental organizations (ENGOS); numerous private-sector consultants and practitioners, including two legal firms; and researchers from the University of Guelph.

The most significant take-away from the project is that Indigenous-led conservation and Indigenous-led (nature-based) carbon storage opportunities are aligned in principle and, indeed, in practice in a few rare cases. This was emphasized at the Forum, which provided an opportunity for participants to explore their interest in potential conservation and carbon storage opportunities. Through active networking and dialogue, these Nations, ENGOS, practitioners, and academics increased their knowledge of the complementarity of conservation and carbon opportunities. This was especially true with respect to exploring carbon management as part of the larger, contemporary movement in Canada to uplift Indigenous-led conservation.

While the challenges to creating Indigenous carbon opportunities and markets are significant, the opportunities are promising. With Indigenous leadership at the forefront, Indigenous Protected and Conserved Areas (IPCAs) and carbon opportunities could benefit the environment while strengthening Indigenous cultures and supporting Indigenous governance and nationhood. The development of collaborative initiatives, including further research, will help actualize the possibilities for both Indigenous-led conservation and carbon storage.

Acronyms and Abbreviations

Acronyms are defined in the report the first time they are used.

Acronym	Definition
AbCF	Australia's Aboriginal Carbon Fund
BC	British Columbia
CFI	Carbon Farming Initiative
CIER	Center for Indigenous Environmental Resources
ENGO	Environmental Non-Governmental Organization
GHG	Greenhouse Gas
ICE	Indigenous Circle of Experts
IEN	Indigenous Environmental Network
IPCA	Indigenous Protected and Conserved Area
IPCC	Intergovernmental Panel on Climate Change
MB	Manitoba
NBS	Nature-Based Solutions
NWT	Northwest Territories
NZ ETS	New Zealand Emissions Trading Scheme
ON	Ontario
REDD	Reducing Emissions from Deforestation and Forest Degradation
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
WWF	World Wildlife Fund



Laura Taylor, Shared Value Solutions

1. Introduction

1.1. Context

Two of the most pressing environmental issues in Canada today are climate change and biodiversity loss. Relatedly, two of the most important domestic policy issues are climate action policy and conservation policy. Environmental dimensions of climate change include unpredictable weather patterns, increased droughts, fires, and floods, melting ice, loss of wildlife habitat, and increases in invasive species- to name a few [1-3]. Social dimensions of climate change include increased food insecurity, housing insecurity and displacement, economic impacts including loss of property value or job loss, impacts to health and well-being, and cultural impacts [4-6].

Globally, Indigenous Peoples have been heavily impacted by climate change as well as conservation efforts that have not included them [7, 8]. The territories that Indigenous Peoples depend on for survival often encompass ecosystems impacted by climate change [9, 10]. At the same time, Indigenous Peoples are disproportionately affected by poverty and therefore vulnerable to further marginalization [11, 12]. In Canada, as elsewhere, Indigenous Peoples and their rights are increasingly acknowledged and respected [13, 14]. Increasingly, Indigenous Peoples are assuming leadership roles in environmental governance on the domestic and international stage (e.g. [15, 16]).

Indigenous leadership in climate and conservation policy presents many opportunities. These include ecosystem restoration and protection, economic development, and the revitalization of Indigenous knowledge, legal, and

Definition

IPCA

The Indigenous Circle of Experts (ICE) coined the term, Indigenous Protected and Conserved Area, or “IPCA” in their 2018 report, *We Rise Together*. There are many different examples of IPCAs, and several names for them exist, such as Tribal Park, Indigenous Protected Area (IPA), Indigenous Community Conserved Area (ICCA), etc.

“IPCA are lands and waters where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and knowledge systems. Culture and language are the heart and soul of an IPCA.” (We Rise Together report, 2018, pg. 5).

governance systems [12, 17]. For the most part, however, Indigenous-led conservation—such as Indigenous Protected and Conserved Areas (IPCAs)—and climate initiatives—such as carbon offsets credits—are proceeding separately from one another. In principle, both of these initiatives are complementary, yet in practice this is unknown. In part, this is because their linkages have been insufficiently studied. Few Canadian examples of their integration exist. This is a missed opportunity, particularly with the rise in popularity of nature-based solutions globally.

Nature-based solutions include the protection of carbon-rich ecosystems (or “carbon sinks”) as well as improved land management practices, such as reforestation of degraded areas, that will benefit biodiversity. Nature-based solutions do more than just reduce greenhouse gas emissions from land use, and changes in land use. They can also capture and store additional carbon dioxide from the atmosphere in terrestrial and marine sinks (e.g. forests, wetlands, oceans). Nature-based solutions are estimated to provide 30-40% of the CO₂ reductions required by 2030 to help ensure warming is capped at under 2°C [18]. Two thirds of the signatories to the 2016 Paris Agreement included nature-based solutions in their plans for reducing greenhouse gas emissions [18].

The links between land use, carbon sinks, and climate change are evident. In their latest report, entitled *Climate Change and Land*, the Intergovernmental Panel on Climate Change (IPCC) identified the opportunity to address biodiversity conservation and the reduction of carbon emissions together. Importantly, the IPCC recognized that the strengthening of the rights of Indigenous Peoples and local communities is integral to addressing climate change [4]. In response to the report, a group of Indigenous Peoples and local communities from 42 countries stated “finally, the world’s top scientists recognize what we have always known...that strengthening our rights is a critical solution to the climate crisis” [12]. Indigenous Peoples are already managing nearly 1/5th of the total carbon captured and stored by tropical and subtropical forests (or 218 gigatons) and Indigenous territories correlate with 40% of protected areas globally [12].

1.2. Objectives, Activities, and Outcomes

This report is a synopsis of a 2018-2019 research and engagement project entitled, *Nature-Based Solutions: Indigenous-led Conservation and Carbon Storage in Canada*. The project was led by researchers at the University of Guelph in collaboration with Anwaatin Inc., Shared Value Solutions, and KAP Design, and primarily funded by the Metcalf Foundation’s 2018 Carbon Landscapes funding program. Anwaatin provided guidance on the project by assisting with the project design, framing, and scope. Anwaatin is an Indigenous business that supports Indigenous climate action and reconciliation by working alongside Indigenous stewardship warriors [19].

Benefits of Nature-based Solutions

Reduce greenhouse gas emissions by protecting carbon-rich ecosystems.

Increase biodiversity.

Improved land management practices such as reforestation.

Estimated to provide **30-40%** of the CO₂ reductions required by 2030 to help ensure the rise in temperature is under 2°C.

The purpose of this project was to explore the potential alignment of Indigenous-led conservation and Indigenous-led carbon storage initiatives. By creating spaces for dialogue and knowledge sharing, we attempted to center and uphold Indigenous voices in policy areas where Indigenous leadership often goes unrecognized. We sought out Indigenous voices in the literature and ensured strong Indigenous representation at the Forum we hosted and in the interviews we conducted. We also invited environmental non-governmental organizations (ENGOS), practitioners and legal experts, and researchers to participate in the Forum. Our intent was to help foster effective cross-cultural and cross-sectorial allyship in support of Indigenous-led conservation and carbon storage initiatives.

Throughout the project we identified **challenges and opportunities** in the convergence of these two innovations in environmental governance: Indigenous-led conservation and carbon initiatives. We attempted to weave together Western and Indigenous knowledge systems to cultivate Ethical Space¹ [15, 20]. We pursued these objectives through the following activities (Figure 1-1):

1. Conducted a **literature review** on Indigenous-led conservation governance and Indigenous-led carbon opportunities with a focus on Canadian examples (Section 2, and Appendix A);
2. Convened a **three-day gathering** (May 2019 Forum, “Exploring the Possibilities...”) for representatives from Indigenous Nations, communities, and organizations; ENGOS, practitioners and legal experts; and researchers from across Canada (Section 3, and Appendices B-D);
3. Conducted **key informant interviews**, primarily with representatives of Indigenous Nations or organizations with experience or interest in Indigenous-led conservation or carbon storage (Section 4);
4. Produced **eight short films** highlighting Indigenous perspectives on conservation and carbon initiatives (Section 5); and
5. Initiated the **development of a map** in collaboration with the World Wildlife Fund- Canada (WWF) identifying the relationship between carbon sinks and Indigenous territories (Section 6).



¹ Ethical Space is a concept developed by Elder Willie Ermine and furthered by Elder Dr. Reg Crowshoe. Ethical Space involves the respectful and equal acknowledgement of Indigenous and Western knowledge, legal, and governance systems. It requires an ongoing commitment to work cross-culturally and collaboratively in the spirit of reconciliation.

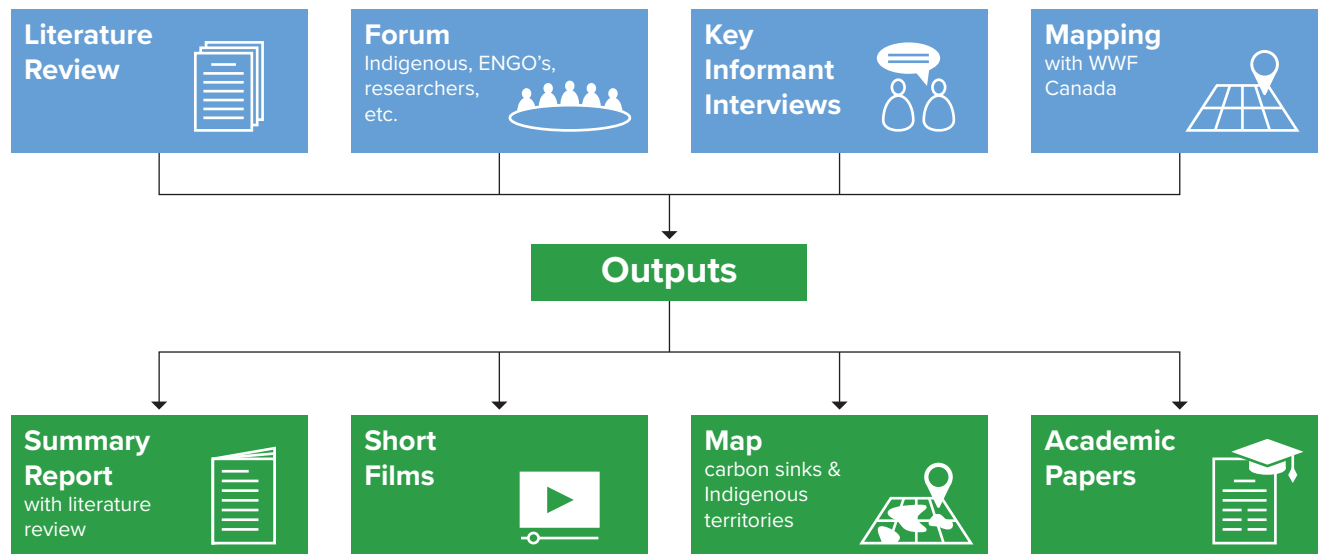


Figure 1-1. Project Activities and Outputs

With respect to Indigenous-led conservation and carbon initiatives and possibilities, the specific objectives of the project were to:

- **Increase knowledge and generate interest** among participants, their communities/ organizations and networks, and the public;
- **Facilitate collaboration** between Indigenous Nations, communities and organizations; ENGOs; practitioners and legal experts; and researchers;
- Identify **opportunities, challenges, priorities, and future research needs**;
- Explore Indigenous **engagement, understanding, and interest** in establishing Indigenous-led conservation, such as IPCAs, and carbon storage initiatives; and
- Explore the level and nature of **interest** of ENGOs, practitioners and legal experts, and researchers in Indigenous-led carbon sequestration projects in the context of IPCAs.

1.3. Report Layout

The report follows in seven further parts. The following section (Section 2) summarizes key points from the literature review. An overview of what was discussed at the Forum is provided in Section 3. Section 4 offers a synopsis of the scope of the key informant interviews. The short films are discussed in Section 5, and the carbon mapping initiative is explained in Section 6. Finally, Section 7 summarizes the key findings and themes of the project, and Section 8 identifies future research areas and possible next steps. Additional information and resources are included in Appendices.



Laura Taylor, Shared Value Solutions

2. Literature Review

We conducted a literature review to inform the scope of this project, including the design of the May 2019 Forum (Section 3), and the questions asked of key informants. More specifically, reviews were completed on literature covering:

1. Indigenous-led conservation, including the rise of Indigenous Protected and Conserved Areas (IPCAs) in Canada; and
2. Opportunities and barriers related to Indigenous-led nature-based carbon storage.



We focused on recent academic literature (generally authored in 2000 or later) and relevant national and international reports. We focused on the evolution of these innovations in environmental governance. For example, we looked at the history, key themes and debates, and new policy directions. We drew on multiple disciplines including geography, political ecology and political economy, environmental science, international policy and governance, political science, and Indigenous and settler-colonial studies.

Key messages from the literature reviews are summarized in Table 2-1.

Detailed literature reviews for both topics are included in Appendix A.

Table 2-1. Key Messages from the Literature Review

Indigenous-led Conservation



Evolution of Conservation

- Indigenous Peoples have long histories of protecting and stewarding their territories, even if governments haven't always, or still don't, recognize this.
- The Western concept of conservation is relatively new. Parks and protected areas continue to advance the modernist Western view that people and nature cannot co-exist.
- The creation of parks and protected areas has often resulted in Indigenous eviction or displacement from their territories globally. This has had negative ecological, cultural, and socio-economic impacts.
- Beginning in the 1980s, there was greater interest among governments, ENGOs, and conservationists to recognize Indigenous and community conservation and knowledge about the environment (however, many of the problems remained).

Global and Domestic Conservation Policy

- Globally, conservation practitioners are increasingly engaging Indigenous knowledge and governance systems to achieve conservation.
- Since around 2015, when Canada adopted United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), Canada turned up its efforts to meet its current conservation targets: protecting 17% of its land base—including inland waters and 10% per cent of Canada's coastal and marine area—by the end of 2020 (progress has been made, and it looks like these targets will likely be met). These targets are also referred to as the "Aichi Targets." Canada's initiative is referred to as "Pathway to Canada Target 1."
- To meet these targets Canada convened the Indigenous Circle of Experts (ICE) in 2017. ICE had representation from Indigenous leaders and government representatives.
- Canada stated a commitment to increase conservation in Canada while advancing reconciliation with Indigenous Peoples.

Indigenous Circle of Experts and IPCAs

- ICE hosted 4 regional gatherings across Canada and delivered its report in 2018 called, "We Rise Together." It contains recommendations for governments, profiles examples of Indigenous-led conservation, and identifies challenges to overcome.
- ICE defined the term "Indigenous Protected and Conserved Area" (IPCA) in "We Rise Together." The term is based off the globally used term "Indigenous Community Conserved Area."
- IPCAs are Indigenous-led, and rooted in Indigenous law, knowledge, and governance systems.
- IPCAs have other names such as Tribal Parks, Indigenous Cultural Landscapes, Indigenous Protected Areas, and Indigenous conserved areas. Many Indigenous Nations are, and have been, protecting their territories and may not use any of these terms.
- ICE has evolved into the "Canadian IPCA Alliance" which supports Indigenous governments and communities and the Assembly of First Nations, to advance Indigenous-led conservation.

Table 2-1. continued

Indigenous-led Conservation



Indigenous Conservation Governance

- Indigenous conservation governance is generally based on the notion that conservation needs to be decolonized.
- Indigenous-led conservation re-centres Indigenous worldviews, philosophies, and methods in conservation practice.
- Indigenous Nations and communities across Canada are engaging decision-makers to make visible, strengthen, and expand their conservation initiatives.
- Some Indigenous Nations are enacting their rights and stewardship responsibilities through the National Guardians Program, which is supported by the Indigenous Leadership Initiative.

Opportunities and Barriers Related to Indigenous-led Nature-based Carbon Storage



Indigenous People and Climate Change

- Indigenous Peoples, traditional stewards of the land, are highly vulnerable to climate change and the least responsible for causing it.
- As part of larger efforts to secure control over lands and ecosystems, Indigenous Peoples around the world are contributing to the prevention of climate change.
- As recognized and advocated by the Intergovernmental Panel on Climate Change (IPCC), protecting Indigenous Peoples' rights to their lands is a strong tool for preventing further climate change and helps to decrease deforestation and increase biological diversity.

Carbon Markets for Greenhouse Gas Mitigation

- Since the Paris Agreement was signed in 2015, countries are creating carbon reduction strategies in an attempt to stop global temperature from rising to 2°C above pre-industrial levels.
- Canada's plan is outlined in the Pan-Canadian Framework on Clean Growth and Climate Change. Central to this approach is the creation of an efficient and effective carbon market.
- The removal of carbon from the atmosphere, also called carbon sequestration, can be commodified by the introduction of carbon credits that are tradable within markets.
- A significant percentage of carbon stored in natural systems in Canada is located on lands claimed by Indigenous Peoples

Table 2-1. continued

Opportunities and Barriers Related to Indigenous-led Nature-based Carbon Storage



Nature-based Climate Solutions

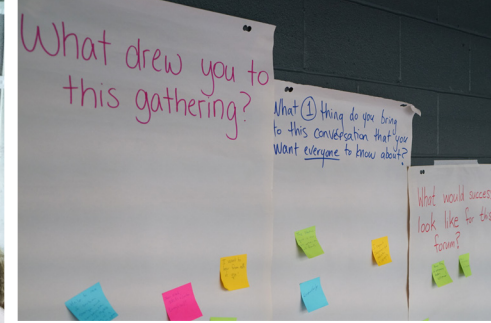
- Carbon removed from the atmosphere by plants and stored in forests, wetlands, peatlands and grasslands has helps prevent climate change. Nature based solutions (NBS), such as preserving existing ecosystems and planting trees, could deliver more than one third of the reductions required by 2030 to prevent dangerous levels of global warming.
- Canada could help prevent climate change through NBS. It has 9% of the world's forests and the second largest peatland in the world. Here, carbon is stored in surface vegetation and has been conserved over millennia in the soils, grassland, wetlands, peatlands and permafrost.
- Canada could also increase climate change through weak carbon management. If natural areas are disturbed carbon is released thereby accelerating climate change. Disturbance can be caused by industrial development such as forestry, mining, hydroelectric development and road building, as well as from fire and pests.

Indigenous Participation in Carbon Markets

- Indigenous-led carbon projects that appear to have delivered both carbon sequestration and community and economic benefits exist. Notable examples are in Australia, New Zealand and the USA (California's cap-and-trade program).
- Many Indigenous Nations in Canada are interested in carbon markets but have been unable to gain entry. Few examples of Indigenous-led carbon sequestration projects in Canada exist. The most notable is the Great Bear Carbon Project which is an Improved Forest Management project in British Columbia (BC) which supports a thriving conservation economy.
- Some Indigenous Peoples have challenged the use of international carbon markets on principle or have participated in carbon markets and experienced an erosion of their rights and insufficient benefits. In some developing countries, the Reducing Emissions from Deforestation and Forest Degradation (REDD) program has been linked to issues around access to land, loss of Indigenous rights, the failure of compensation mechanisms to deliver funding at scale, and insufficient engagement.

Barriers to Carbon Market Participation

- Issues related to jurisdiction, traditional territories, treaties, and the legislative statute in place all intertwine to form a complex context for creating carbon projects.
- The central barriers are unclear land tenure, uncertain or undefined carbon rights, and inadequate capacity to undertake the project (financial and technical).



Guntar Kravis, Metcalf Foundation

3. May 2019 Forum, “Exploring the Possibilities”

3.1. Overview

One of the main activities of this project was to convene a gathering at the University of Guelph, Ontario on the treaty lands of the Mississaugas of the Credit First Nation, called “*Exploring the Possibilities: Indigenous-led Conservation and Carbon Storage in Canada.*” From May 29-31, 2019 approximately 50 individuals gathered in dialogue from: Indigenous Nations, communities, and organizations; ENGOs; practitioners and legal experts; and researchers. Participants shared experiences and stories, discussed and debated, and seeded further interest in the potential alignment between Indigenous-led conservation and carbon storage initiatives in Canada.

We aspired to foster a network of Indigenous leaders and allies in support of the incredible Indigenous-led conservation efforts underway across the country. Further, we wanted to explore if and how carbon storage initiatives can be woven into existing and emerging Indigenous-led conservation efforts. We also wanted to create a forum to identify and discuss the aspirations, opportunities, barriers, and future research needs that could influence new policy directions and innovations in environmental governance.

The Forum brought together a diversity of experiences with respect to Indigenous-led conservation and carbon storage. There were Indigenous Nations and communities that have created IPCAs, Nations who have created



successful carbon storage projects, and many others who are somewhere along that spectrum. Participating ENGOs were all working to protect biodiversity or advance climate solutions while respecting and upholding Indigenous rights. Finally, researchers, practitioners, and legal experts with an interest in supporting Indigenous Nations, communities, and organizations also participated.

The Forum sought to achieve Indigenous participation from across Canada (i.e. Pacific, Atlantic, Northern, and Prairie regions, in addition to Ontario and Quebec). We also sought to ensure gender parity and representation from Elders. We note the absence of youth voices at the Forum while acknowledging their importance to these discussions. Ultimately, the Forum benefited from strong representation from Indigenous Nations in Ontario (ON), as well some representation from Indigenous Nations in British Columbia (BC) and the Northwest Territories (NWT; see Table 3-1 for participating organizations).² Though not representative of Indigenous experiences and perspectives from all of Canada, the Forum provided a snapshot of some of the Indigenous-led initiatives presently underway across the country – often with the support of allied ENGOs, practitioners, and researchers. The Forum served as a springboard for further investigation and collaboration.

We attempted to center Indigenous voices and priorities in this Forum. In part we did this by engaging our networks for guidance. In our interviews with Indigenous participants prior to the Forum, we asked for and considered their feedback on the Forum’s design (e.g. content, speakers, participants, etc.). The format of the Forum was a mix of presentations, workshops, and large and small group discussions. As the Forum took place on the beautiful grounds of the Arboretum at the University of Guelph, we also took the opportunity to hold some of the activities outside.

In keeping with Ethical Space, we respected the direction of participants at the gathering. We embraced our agenda as a guideline but welcomed the principle of emergence, trusting what wanted to arise in the room. In a few instances, Indigenous participants requested modifications to the agenda which –with group consensus—were accommodated. Mostly these adjustments involved changes to timing and switching to large roundtable discussions rather than small group discussions.

The overall feedback we received from the Forum was that it was a positive experience that enabled knowledge sharing and relationship building.

The agenda for the Forum is included in Appendix B.

² To increase the accessibility of this gathering for our Indigenous partners, we—with the support of the Metcalf Foundation—covered travel-related costs. This, however, limited the number of Indigenous participants we could invite, particularly from remote regions.

Table 3-1. Participating Organizations at the May 2019 Forum

Organization Type	Organization
Indigenous Nation, community, or organization	Blueberry First Nations (BC) Eagle Lake First Nation (ON) Fort Albany First Nation (ON) Heiltsuk Nation/Coastal First Nations (BC) Indigenous Leadership Initiative (National Organization) Kitchenuhmaykoosib Inninuwug (KI) (ON) Lutsel K'e Dene First Nation (NWT) Grand Council of Treaty 3 (ON) Shawanaga First Nation (ON) Tla-o-qui-aht First Nation (BC) Walpole Island First Nation (ON)
ENGOS	CPAWS – Wildlands League David Suzuki Foundation Ducks Unlimited Ecotrust Canada National Audubon Society Nature Conservancy of Canada Nature United Ontario Nature Wildlife Conservation Society WWF Canada
Practitioners and Legal Experts	DeMarco Allan LLP James Sullivan Consulting Services Mary Granskou (consultant) Metcalf Foundation Westaway Law Group
Researchers	University of Guelph (Department of Geography, Environment and Geomatics)
Hosts	Anwaatin Inc. Mississaugas of the Credit First Nation (ON) University of Guelph (Department of Geography)
Project Team	KAP Design Shared Value Solutions University of Guelph (Department of Geography)

3.2. Presentations: What We Heard

We hosted a number of presentations throughout the Forum as inspiration for discussion. Generally, the format featured a speaker followed by a group discussion. In this section we provide brief summaries of the talks as was heard by the assigned rapporteurs.

Speaker bios are included in Appendix C.

3.2.1. Opening Remarks: Larry Sault, Anwaatin Inc.

Larry Sault, President and CEO of Anwaatin Inc., delivered the opening remarks at the Forum on the evening of May 29th over dinner. Anwaatin is an Indigenous business that provides technical support and opportunities to ensure Indigenous communities are front and centre in climate change action. Mr. Sault is also a member of the Mississaugas of the Credit First Nation.

It has been a challenging time for Indigenous Nations and communities across Canada to participate in carbon opportunities. Despite having an interest, many Indigenous Peoples are faced with a confusing array of potential pathways, as well as numerous barriers.

Meanwhile, Indigenous Peoples in Canada have been collectively engaging with governments to generate support for their conservation initiatives across their territories. Many IPCAs have been established, or recognized, in Canada.

Two of the most pressing environmental issues in Canada today—climate change action and the protection of ecosystems—will only be successful with Indigenous leadership. While these two conversations—Indigenous-led conservation and Indigenous-led carbon opportunities—appear to be complementary, they are, for the most part, occurring in isolation from one another.

The road ahead must emphasize a leadership role for Indigenous governments and respect for Indigenous laws, governance and knowledge systems. It must create opportunities for sustainable conservation economies and apply a holistic approach to governance and planning while respecting protocols and ceremonies.

3.2.2. Panel Discussion: Indigenous-led Conservation in Canada and Possibilities for Carbon Management

This panel discussion occurred over dinner on the evening of May 29th, to kick off the Forum. A Q&A and discussion followed.

Panel Topic: Indigenous-led Conservation in Canada and Possibilities for Carbon Management

Panelists (listed in speaking order):

- **Marilyn Slett**, *President, Coastal First Nations Great Bear Initiative, and Chief Councillor, Heiltsuk Nation (BC)*;
- **Eli Enns**, *President and Chief Problem Solver, IISAAK OLAM Foundation, and CEO, Cleantech Community Gateway (BC)*; and
- **John Cutfeet**, *Kitchenuhmaykoosib Inninuwug (ON)*.

Moderator: Dr. Faisal Moola, *Associate Professor of Geography, University of Guelph*

The opening panel featured presentations and a panel discussion moderated by Dr. Faisal Moola on Indigenous-led conservation in Canada and possibilities for carbon management. A brief summary of each presentation follows.

Marilyn Slett, *President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation*

Chief Councillor Marilyn Slett commenced her talk by showing a short video about the Great Bear Forest Carbon Project (<https://www.youtube.com/watch?v=YgOrHf-PMs&feature=youtu.be>). The video highlights the unique beauty and importance of the Great Bear Rainforest in coastal BC.

In 2009, Coastal First Nations and the Province of BC reached a carbon finance agreement. Although the process was at times challenging, and involved a great deal of negotiations, the result was the Great Bear Forest Carbon Project. The project has led to social, cultural and economic benefits for Coastal First Nations. By creating a project that combined carbon offsets with conservation they established a “conservation economy.”

The starting point for the project was protection; the First Nations sought to, “make sure that what we have- we can protect.” The communities wanted to diversify their economy away from fishing and extractive industries. What ensued was an “unprecedented collaboration” of ecosystem-based management in support of a conservation economy. Through this approach 51% of the traditional territory is now protected.

Carbon offsets give new language to an old idea: if we take care of the Earth, the Earth will take care of us. The revenue from carbon credits provides economic opportunities as well as more access and control over lands, shared decision making, and funds for capacity building.

Dr. Faisal Moola



Guntar Kravis, Metcalf Foundation

Chief Councillor
Marilyn Slett



Guntar Kravis, Metcalf Foundation

Eli Enns, *President and Chief Problem Solver, IISAAK OLAM Foundation, and CEO, Cleantech Community Gateway*

Eli Enns spoke about the old meaning of the words, “economy” and “relationship.” The traditional way of being did not require the creation of tribal parks because there was a good relationship with all relations.

Climate change is a manifestation of the relationship being out of balance. Mother Earth is not punishing us, rather she is educating us and has the power to heal herself. Reconciliation with each other cannot occur until reconciliation has occurred with the land. IPCAs are central to reconciliation because they are about respectful relationships with each other and with the land. Carbon is part of the sacred relationship we have with the land.

John Cutfeet, *Kitchenuhmaykoosib Inninuwug (KI)*

John Cutfeet recounted KI’s history of lands and resource stewardship and their continued efforts to protect their territory. They are presently dealing with encroachment of development into their territory. In 2007 a drilling company embarked on a project without KI’s knowledge or consent. When KI’s leadership protested the leadership was incarcerated for six months.

KI is interested in developing an ecotourism industry for which a reliable power source is needed. Therefore, they need to transition away from diesel. The community feels it has been left out in terms of economic development opportunities. Twice, in order to protect their land, the community had to buy out developers, which has left them with little funds.

Land protection is a top priority and it must be Indigenous-led. Land is always at the center. The Elders of KI stated there is a need to protect the wetlands because that is how the Earth breathes. The current regime doesn’t recognize Indigenous Peoples’ rights to the land. The lands and resources have been legally stolen from the people of KI. However, KI has the knowledge to protect these lands, which they deeply respect.

3.2.3. Presentations: Boreal Forest Carbon Storehouse?

On the second day of the Forum, participants heard two presentations about the science of carbon in nature-based solutions through a focus on the Boreal region of Canada. A synopsis of these presentations is included below. A lively group discussion followed the presentations.

Dr. Jeff Wells, *VP of Boreal Conservation, National Audubon Society*

Dr. Jeff Wells is a scientist who has been involved in Boreal conservation for over 15 years. His talk focused on carbon storage in the boreal, its importance,

Eli Enns



Guntar Kravis, Metcalf Foundation

John Cutfeet



Guntar Kravis, Metcalf Foundation

Dr. Jeff Wells



Guntar Kravis, Metcalf Foundation

and opportunities for the stewardship of that carbon bank – in particular with Indigenous governments and communities.

The Boreal region of Canada is a giant storehouse of carbon. This carbon is the accumulation of millions of years-worth of dead plants and trees accumulating into oil, gas, and coal, as well as in the upper layers of soils, and in peat. Carbon density and biodiversity are linked. The Boreal forest is habitat for large populations of caribou, grizzly bears, black bears, polar bears. The Boreal is also important for bird nesting and fish migration.

Where there is high biodiversity, there are also high concentrations of carbon stored in the Earth. Ninety percent of vital Boreal ecosystems are not protected. The type of protection needed must be in concert with Indigenous-led efforts.

It is vital to communicate about carbon cycles and carbon stewardship in ways that resonate with Indigenous communities. In particular, the onus is on Western practitioners and leaders to develop cross-cultural literacy. There is an opportunity for NGOs and governments to listen to and support Indigenous governments and communities. This is already happening, such as in some examples of land use planning.

Carbon stewardship and compensation could present an opportunity to come up with completely new ideas and structures that are Indigenous-led. These initiatives can include landscape protection in tandem with economic compensation for Indigenous governments and communities.

Dr. Merritt Turetsky, *Associate Professor & Canada Research Chair, Department of Integrative Biology, University of Guelph*

Dr. Merritt Turetsky is a carbon cycle scientist who has spent the past 20 years trying to understand how the Boreal forest is storing carbon and releasing carbon. The Boreal is like a lung. Carbon comes in from the atmosphere and carbon is released. The difference between what is taken up and what is released back to the atmosphere is what her team is trying to understand. This may be an important part of a climate solution.

The science is pointing to the possibility that northern ecosystems may be more of a contributor to climate change than a solution. Her team is developing tools to enable a better understanding of the carbon cycle, but also to help Northern communities adapt to a changing climate.

Dr. Merritt Turetsky



Guntar Kravis, Metcalf Foundation

The amount of carbon stored in northern ecosystems is far greater than the carbon in the atmosphere. As such, some of the big research questions that need investigating are:

1. Will Arctic and Boreal soils continue to store carbon, or will they leak carbon into the atmosphere?
2. Will the carbon be leaked quickly (i.e. over years), or will it happen gradually (i.e. over decades to centuries)?
3. What form of carbon will be released, CO₂ or methane? Of the two, methane will have greater consequences for global warming if released in the same quantities.

What happens in the north will affect the global climate. Therefore, there is a need to respect and learn about what’s going on in the Arctic.

We’re on the frontlines of climate change. This is particularly true in the Arctic where wildfires are getting bigger and permafrost thaw is impacting cultural heritage. We don’t have time to not work together. From personal experience, it’s clear that Western and Indigenous knowledge systems can be complementary.

This is not about science driving the agenda and looking to traditional knowledge to help supplement that knowledge. Rather, it is about truly coming together to articulate questions and perspectives together. The way to break down language barriers is going out on the land together.

3.2.4. Keynote Speaker: The Future of the Conservation Economy

Valérie Courtois, *Director, Indigenous Leadership Initiative*

The Indigenous Leadership Initiative is dedicated to facilitating the strengthening of Indigenous nationhood for the fulfillment of the Indigenous cultural responsibility to our lands, the emergence of new generations of Indigenous leaders, and helping communities develop the skills and capacity that they will need as they continue to become fully respected and equally treated partners in Canada’s system of governance and its economic and social growth.

(Indigenous Leadership Initiative, 2019)

During the afternoon of the second day of the Forum (May 30th), Valérie Courtois, Director of the Indigenous Leadership Initiative gave a keynote. She focused on the role of Indigenous Guardians when speaking about the future of the conservation economy.

Guardians fill a critical need for on-the-ground monitoring and stewardship where comparable capacity and resources are lacking or non-existent. For example, in Goose Bay, Labrador, Environment and Climate Change Canada

Valérie Courtois



Guntar Kravis, Metcalf Foundation

only supported one employee—in that vast territory—with no travel budget. Meanwhile, there are now 35 Guardians on the land in Labrador.

There is no other program of its kind with a comparable return on investment than the Guardians. One study showed a 10:1 return or more on investment. Stable partners that provide core support would enable co-benefits. The federal government also needs to invest money. It required multiple leaders having over 180 meetings to get \$25 million in the 2016 Federal Budget for Guardians (\$3.2 million of that is reserved for federal administration).

Although Minister McKenna promised that Indigenous Peoples would “hold the pen,” Cabinet did not respect this decision. Within the bureaucracy there is a lack of vision about how to put political commitments into place. Thankfully, there is a growing number of educated Indigenous Peoples who are able to bridge the two worlds.

Last year, Guardians spent \$3.5 million out of the \$25 million budget. Communities were expected to write proposals to obtain funding for their Guardians programs within only two days, which was unreasonable. Ultimately, one of the goals is for the federal government to buy into the Guardians model.

Conservation has to become people centric verses eco-centric. Conservation needs to reinforce the culture and health of Indigenous communities. Indigenous Peoples across Canada have many prophecies that show that you have an opportunity to change.

The Indigenous-led movement for conservation is happening. Its growing, and it cannot be put back in a bottle now. Who’s ready to get involved in this type of work and what is the cost? Who could support Indigenous-led conservation in this country: philanthropic organizations? ENGOS? A map depicting where the need for Guardians have been identified would be helpful.

The federal government has not been clear about who has applied for Guardians funding. We do know that 22 programs out of 140 applications in Tier 2 will be funded this year (there were three tiers in total). The Guardians program should be available to any Indigenous Nation that would like it. It was never the intention that the government should fully fund the Guardian model.



Guntar Kravis, Metcalf Foundation

3.3. Workshop Sessions

On the final (half) day participants selected which concurrent workshops they wanted to attend. Each workshop was hosted by someone with expertise in that field. The workshop hosts offered brief remarks to the large group before the breakout sessions took place. The four workshops were as follows:

- **Pathways to forest carbon finance** (with Joseph Pallant, Ecotrust Canada);
- **Carbon agreements** (with Jonathan McGillivray, DeMarco Allan LLP);
- **Guardians as a pathway to carbon and conservation** (with Valérie Courtois, Indigenous Leadership Initiative); and
- **Certification, traditional knowledge and intellectual property** (with Carol Godby, Westaway Law Group); see Appendix D for related background information.

Rapporteurs recorded the discussions. Their notes inform the analysis and key findings section (Section 7).

Host bios are included in Appendix C.

4. Key Informant Interviews

To support the research component of this project, we conducted a small number of semi-structured, key informant interviews. We spoke with representatives of Indigenous Nations from BC, Northwest Territories (NWT), Manitoba (MB) and Ontario (ON), as well as with an international Indigenous organization, and several federal government representatives (Table 4-1).

The purpose of the interviews was to investigate the potential alignment of Indigenous-led conservation and Indigenous-led carbon storage projects, and to learn about interviewees' experiences with both. We first reached out to individuals we knew were knowledgeable about or interested in either IPCAs or carbon storage. We then asked interview participants for recommendations on other individuals with whom they thought we should speak.

We also used the interviews as an opportunity to request feedback to help us design the Forum. We asked for input on invitations, scope of the discussions, and desired outcomes. In doing so, we hoped to increase the relevance of the project and associated outcomes for interested Indigenous Nations, communities, and organizations.

We conducted 11 key informant interviews to identify and investigate:

- The degree and nature of interest, knowledge about, and involvement with IPCAs;
- The degree and nature of interest, knowledge about, and involvement with carbon storage projects;
- Perceived opportunities and barriers for carbon storage and offset projects;
- Perceptions about the relationship of IPCAs (actual or potential) and monetizing and trading carbon;
- Concerns related to carbon markets and carbon trading;
- Perceived opportunities and barriers for establishing IPCAs generally;
- Perceived opportunities and challenges to establishing IPCAs linked to carbon storage projects; and
- Information related to IPCAs and carbon storage projects that perceived to be lacking or would be useful.

The interviews were not intended to be comprehensive or representative of the diversity of Indigenous perspectives across Canada on these topics. However, they do provide an extra layer of insight above and beyond what was derived from the literature review alone.



The interviews confirmed that Indigenous Nations and organizations are interested, if not involved – to varying degrees - in conservation and carbon storage initiatives. A key, but not surprising, finding was that it is unclear to Indigenous Nations what kinds of opportunities related to carbon storage are available. Additional findings from the interviews are integrated into the discussion in Section 7.

Table 4-1. Participant Groups in Key Informant Interviews

Name or Organization	Location or Mandate
Anishnawbe Clean Energy	Indigenous business providing clean energy solutions
DeMarco Allen LLP	Canadian law firm specializing in climate change and clean energy
Eagle Lake First Nation	Ontario
Indigenous Leadership Initiative	National Indigenous organization supporting a national network of Guardians
Poplar River First Nation	Manitoba
T'Sou-ke First Nation	British Columbia
TIDES Canada	Canadian charity supporting the exploration of Northern carbon economies in collaboration with Indigenous groups and NWT
Tobique First Nation (x2 representatives)	New Brunswick
Walpole Island First Nation	Ontario
Yamoga Land Corporation	Fort Good Hope, NWT (related to establishment of the Ramparts Indigenous Protected Area)

The interviews conformed to the standards and procedures of the University of Guelph's Research Ethics Board. All interview participants signed informed consent forms detailing the voluntary nature of their participation.



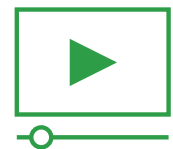
Guntar Kravis, Metcalf Foundation

5. Short Films

To complement the Forum we produced eight short films featuring conversations with individuals speaking about their interest in Indigenous-led conservation and carbon storage. The purpose of the films is to foreground and amplify Indigenous voices and share their stories. In this way we hope to include a much broader audience in this project's conversations than we were able to at the Forum.

At the Forum, participants were invited into one-on-one discussions led and filmed by our project partner Shared Value Solutions. Shared Value Solutions is an environmental consulting firm that works with Indigenous Nations and communities and specializes in communications. Over the course of the three-day gathering, Shared Value Solutions had inspiring conversations with many individuals.

Interview participants generously shared stories from their territories. They described their visions for their lands and water, conservation, economic development, and Indigenous governance. We wish we had been able to



The films are hosted on the Conservation through Reconciliation website here: <https://conservation-reconciliation.ca/resources>

create a feature length documentary that included all the voices we heard from – each with their own unique perspectives and insights.

With permission, we decided to feature clips of five conversations with individuals speaking about different aspects of the broader conversation.

These are (listed alphabetically):

- **Eli Enns**, *President and Chief Problem Solver, IISAAK OLAM Foundation, and CEO, Cleantech Community Gateway (BC)*;
- **Jane Calvert**, *Land and Resource Manager, Blueberry First Nations (BC)*;
- **John Cutfeet**, *Kitchenuhmaykoosib Inninuwug (ON)*;
- **Joseph Pallant**, *Director of Climate Innovation at Ecotrust Canada (BC)*;
- **Marilyn Slett**, *President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation (BC)*;
- **Merritt Turetsky**, *Associate Professor, and Canada Research Chair, University of Guelph (ON)*;
- **Robin Roth**, *Co-Lead and P.I. of the Conservation through Reconciliation Partnership, and Associate Professor, Department of Geography, Environment and Geomatics, University of Guelph (ON)*; and
- **Valérie Courtois**, *Director, Indigenous Leadership Initiative*.

We extend our gratitude to all of the participants who went on film to share their stories, experiences, and insights. Regardless of whether we were able to include their footage in the films, the conversations were a major contribution to the project. All of the filmed conversations were reviewed to identify key findings and themes. These are integrated into the discussion in Section 7.

The filming process was compliant with the University of Guelph's policies and procedures outlined by its Research Ethics Board. All video participants signed a media release form and were aware of the voluntary nature of their participation.



Laura Taylor, Shared Value Solutions

6. Carbon Mapping

Curiously, areas in Canada that have the highest concentrations of carbon tend also to be Indigenous lands. To examine this relationship our team has joined with the World Wildlife Fund (WWF). WWF has created a map using the best available data to map carbon for soils, peat bogs and forest biomass across Canada. We will overlay the carbon map with existing and proposed IPCAs in consultation with Indigenous Nations in Canada. The resulting map will give an indication of the potential opportunity for existing and proposed IPCAs to advance nature-based solutions for the sequestration and storage of carbon. This map will be publicly available in 2020 and will eventually be available on the Conservation through Reconciliation website.





Laura Taylor, Shared Value Solutions

7. Key Findings and Themes

This project revealed keen interest, particularly among Indigenous participants, in the possibilities for Indigenous-led carbon storage and Indigenous-led conservation. It is also clear that ENGOs, practitioners and legal experts, and researchers are interested in supporting initiatives at the intersection of carbon and conservation in ways that uphold the rights and expertise of Indigenous Peoples.

The infographic (Figure 7-1) below depicts the key opportunities and challenges identified through the research, the interviews, and the Forum. The main challenges are related to governance, operational, or social issues. When these are overcome a number of opportunities and benefits are unlocked. It is important that the development of Indigenous-led carbon markets and IPCAs is rooted in **respect for Indigenous knowledge, governance, and legal systems**. When these systems are supported it contributes to upholding Indigenous rights, the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples*, and reconciliation.

A common theme we heard is the critical need to protect Indigenous territories and cultures and create sustainable economic development. Relationships with the land and waters are central to conversations about the potential alignment of conservation and carbon markets. Maintaining and strengthening Indigenous cultures and languages are also a vital component of these conversations. The aspirations of many Indigenous Nations are aligned with the stewardship of existing, and the establishment of new, protected areas that are managed themselves (e.g. IPCAs). Carbon economies could contribute to local economic growth and community well-being when aligned with cultural teachings and practices and rooted in Indigenous governance

Indigenous-led Conservation and Carbon Storage

The aligning of Indigenous-led conservation and Indigenous-led carbon storage has the potential to unlock many opportunities and benefits for Indigenous Peoples and the environment. Here are the key challenges and opportunities identified in the (2020) *Nature-Based Solutions: Indigenous-led Conservation and Carbon Storage in Canada* report.



Indigenous-led Conservation

Indigenous-led conservation re-centres Indigenous governance, knowledge, and legal systems in conservation practice. “Indigenous Protected and Conserved Areas” (IPCAs) include Tribal Parks, Indigenous Cultural Landscapes, and Indigenous Community Conserved Areas. Crown governments are increasingly supportive of IPCAs because they count towards Canada’s conservation targets and can be processes of reconciliation.

Indigenous-led Carbon Storage

Carbon in the atmosphere is naturally captured and stored in ecosystems like forests, wetlands and peatlands often located within Indigenous territories. These “carbon sinks” reduce greenhouse gas (GHG) emissions and can be commodified into “carbon offsets” in the emerging carbon economy. Reforestation of degraded landscapes, conservation of ecosystems, and improved forest management practices are examples of projects that could generate carbon offsets for Indigenous Nations and communities in Canada.

Challenges

Governance

Jurisdiction

Crown recognition of Indigenous Peoples’ jurisdiction over their territories is limited and “carbon rights” have not yet been defined.

Carbon and Atmospheric Benefit Sharing Agreements

Negotiating agreements with government partners can be time-consuming, slow, and few precedents exist in Canada.

Political Instability

Disagreements between provinces and the federal government about carbon pricing and climate policy creates confusion about carbon opportunities.

Inter-tribal Politics

Carbon and conservation projects can create tensions among Indigenous Nations with overlapping, or shared territories.

Operational

Lack of Clarity

Policies and financial instruments for developing carbon markets are lacking. Clear protocols outlining potential opportunities are needed.

Achieving “Additionality”

Well-stewarded Indigenous lands may not meet the additionality requirement for a carbon offset project. Activities don’t ‘count’ unless the carbon storage would not have occurred in a business-as-usual scenario.

Financial Constraints

Capital is required to purchase privately owned land to create IPCAs and to complete feasibility and verification of a carbon project.

Technical Challenges

Measuring how much carbon is stored in an ecosystem can be challenging and is required for developing carbon offsets.

Social

Capacity Issues

Developing carbon offsets require significant resources and time. The rigid rules and regulations related to carbon offset projects add to this challenge.

Competing Economic Interests

Carbon and conservation related activities (e.g. restoration and protection) may prevent the pursuit of other non-aligned economic ventures (e.g. logging, mining).

Community Buy-in

Carbon opportunities can be perceived as risky, complicated and can lead to fears of dispossession. Few examples of Indigenous-led carbon offsets exist.

Ethical and Philosophical Issues

Carbon markets can be perceived as “greenwashing.” The commodification of nature (i.e. carbon) can be perceived as a threat to the inherent value of intact, healthy ecosystems.

Lack of Trust

A lack of trust can make partnership building with Crown governments or among Indigenous communities a challenge.

Opportunities

Alignment Between Indigenous-led Conservation and Carbon Storage

Carbon markets can be more complimentary to territorial stewardship and protection than extractive industries.

Self-determination

IPCAs and carbon projects established and managed according to Indigenous legal, knowledge, and governance systems are an expression of Indigenous nationhood.

Economic Diversification

Carbon markets can contribute to economic diversification. Developing new local markets can create direct and indirect jobs and spin-off benefits.

Restoration and Protection

Restoring degraded landscapes can increase the net carbon storage of the ecosystem, which can meet the “additionality” requirement.

Conservation Economy

Carbon markets and offsets—paired with protection—can generate employment and funds to seed social enterprises and new businesses with a conservation/sustainability focus.

Indigenous Guardians

Guardians could monitor the climate, measure carbon, and deliver on carbon projects. Carbon offsets could generate capital to support Guardians programs.

Cultural Revitalization

Indigenous-led conservation is linked to cultural maintenance and revitalization.

and nationhood. For carbon opportunities to be meaningful, they must be about more than just profit. They must generate ecological benefits (e.g. through habitat restoration and protection), and socio-economic benefits (e.g. economic development, educational opportunities, and capacity building), and cultural benefits (e.g. support land-based learning opportunities, language revitalization, youth and Elder engagement).

This section presents a synopsis of the key findings and themes from this project. The sections that follow discuss the **challenges** (Section 7.1) and **opportunities** (Section 7.2) as identified by participants in the key informant interviews, filmed interviews, and at the Forum.

7.1. Challenges

Most of the challenges participants identified in this project are with respect to carbon opportunities and less so with IPCAs. This is reflected in the key challenges summarized below. That said, many of the challenges participants identified are related to nature-based solutions like conservation. The overarching challenge is that opportunities for participating in carbon markets are undefined and pathways for assuming leadership in this area, let alone getting started, are unclear. Meanwhile, Indigenous Nations and communities often lack the capacity to figure out this complex and emerging field. Funding opportunities to support Indigenous capacity building and leadership in this space are limited, or unknown. This is mismatched with the strong interest among Indigenous Nations to develop carbon opportunities in culturally appropriate ways consistent with their visions for territorial stewardship and protection.



There are a small number of examples of Indigenous-led carbon projects paired with conservation in Canada. Yet, these examples are few and numerous barriers stand between Nations contemplating carbon initiatives and bringing these projects to fruition. The following challenges identified by participants are discussed in greater detail:

- lack of clarity;
- jurisdiction;
- capacity issues;
- financial constraints;
- “additionality”;
- technical challenges;
- competing economic interests;
- community buy-in;
- ethical and philosophical issues;
- carbon and atmospheric benefit sharing agreements;
- political instability;
- lack of trust; and
- inter-tribal politics.

Challenge: Lack of Clarity



Currently, the lack of clarity around carbon opportunities is the biggest carbon-related challenge. How to actualize market-based opportunities, such as carbon offsets, is largely a mystery. Provincial and territorial policies and defined financial instruments for developing carbon markets are lacking (e.g. regulated vs. voluntary markets). There is a risk that the opportunities are being exaggerated. Currently, there isn't widespread awareness of, or knowledge about, carbon opportunities among Indigenous Nations and communities. Some Nations worry that they are being left out of the process of developing carbon markets. Meanwhile, disagreements between federal and provincial/territorial governments about climate action and carbon markets perpetuate the lack of clarity and stalled political leadership.

What We Heard

“Carbon trading and carbon markets is what we have to wrap our head around...Is there an opportunity to do something that you can enhance the environment instead of logging it in so many year cycles.”

Chief Gordon Planes, T'Sou-ke Nation (BC)

“We still have to form a whole concept of, how do you do this and what are the actual financial instruments?”

Bob Overvold, Yamoga Land Corporation (NWT)

“There's a lot of work to be done on how you actually turn positive carbon values into revenues.”

Stephen Ellis, Program Lead, Northern Canada, Tides Canada

“A barrier is just being able to provide a good business case and rationale to turn things into IPCAs and carbon sequestration projects.”

Jamie Gorman, Tobique First Nation (NB)

“[Offsets, carbon storage or carbon credits are] kind of scary to get involved in. ...there's things in the world that...are very complex and if you don't hear it from the right people it's easy to get lost in.”

Tobias McQuabbie, Lands Manager, Shawanaga First Nation, (ON)

“My main concern is being marginalized or completely left out of the process...that the regulatory bodies or markets themselves... move faster than the First Nation communities could move to fully understand the opportunities, and First Nations become either late adopters or late players with less bargaining power and leverage within their traditional lands.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Challenge: Jurisdiction



Indigenous Peoples' jurisdiction over the full extent of their territories is generally not recognized by the Crown. Most First Nations only have legally recognized control over reserve lands. This is limiting for those who want to account for and protect the carbon in their entire territory. "Carbon rights," which could be a potential lever for Indigenous Nations, have not yet been defined.

What We Heard

"[In the 1940s] it became provincial Crown land, and 6,000 years ago it became First Nations territory...The province does kind of recognize it, but they...know it's traditional territory, they've given us some recognition... So that's a huge barrier, is the province recognizing First Nations' right to actually name that as their own."

Ray Rabliauskus, Asatiwisiipe Ake/Guardians Coordinator, Poplar River First Nation (MB)

"The question that was posed to Ontario was, 'Where is your evidence that you have jurisdiction over lands and resources?...They couldn't produce anything... there's the treaty...but that treaty basically says we gave up and ceded all our lands and territories to His Majesty and his subjects forever... Now who would do that?...We're an oral society and our Elders are telling us orally that's not what we agreed to...We could not very well take a foreign document that says we gave up our land to a foreign monarch forever. We could not accept that. And we didn't...We need to have our own authority to recognize all the lands. [If the province] is not going to deal with the mechanisms or our proactive efforts to work within the system...then here is our law...I'm looking after my land and I'm keeping my land."

John Cutfeet, Kitchenuhmaykoosib Inninuwug (K.I.)

"It's that whole dynamic about who controls the resource and who benefits."

Michelle Shephard, Economic Development Officer, Eagle Lake First Nation (ON)

Challenge: Capacity Issues



Indigenous Nations commonly face capacity issues. Many communities are focused on crisis management and delivering essential services to their communities. The resources and time required to understand and develop carbon market opportunities, which are complex and unclear, are often lacking. The rules and regulations related to carbon offset projects are barriers that limit Indigenous leadership in this area.

What We Heard

“Currently elected Indigenous leaders, like Chiefs, are actually just very busy administrators often dealing with crises- they don’t have time to think about the future of their societies.

Valérie Courtois, Director, Indigenous Leadership Initiative

“There is a very technical component, but there’s also the business and economic component as to creating a stock market for air that First Nations need time and resources to fully comprehend.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

“... we’re already maxed out in terms of our capacity to pursue those [carbon related] opportunities. We have very limited capacity in terms of people to take that on.”

Michelle Shephard, Economic Development Officer, Eagle Lake First Nation (ON)

“So, having that continuity of funding and staffing is going to be a barrier.”

Clinton Jacobs, Walpole Island Land Trust/Walpole Island (ON)

Challenge: Financial Constraints



Indigenous Nations and communities have financial constraints and lack the upfront capital required to complete the feasibility and verification of a carbon project. Some Nations started exploring carbon opportunities, but when the funding terminated they were unable to continue. Similarly, many Nations have difficulty raising the capital required to acquire privately owned land to create an IPCA.

What We Heard

“We heard that it is an expensive process to get involved in...There hasn’t really been a lot of communities in Ontario that have taken advantage of exploring those opportunities. We were one of the first to start making that a priority but it quickly dissolved [when cap-and-trade ended].”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

“The first [need is] funding from the government to support a program development so we could...explore the opportunities and learn at a greater depth what this means to us, and [conduct] community engagement and integration with the rest of the Lands and Resources Department, and then external party engagement, not just the government but external parties like environmental agencies and local stakeholders.”

Michelle Shephard, Economic Development Officer, Eagle Lake First Nation (ON)

...[creating carbon credits] was a long project and a big project and one that required investment from our communities to start that initial work.”

Marilyn Slett, President, Coastal First Nations, and Chief
Councillor, Heiltsuk Nation (BC)

Challenge: Additionality



Achieving the condition of “additionality” limits Indigenous participation in carbon markets. Additionality is the principle that an activity does not ‘count’ as generating a carbon offset unless it can be proven that the carbon storage generated would not have occurred by other means. Indigenous stewardship efforts, such as deciding to protect instead of log a forest, sometimes don’t meet the additionality requirement necessary for creating a carbon offset project. To qualify, it has to be shown that something in addition to what was going to happen anyways is occurring. In contrast, degraded and deforested areas that could be restored or replanted (thereby demonstrating a net positive value in carbon storage) could meet the additionality requirement. Additionality favours degraded landscapes that could be restored or land management practices that could be improved. It is difficult to demonstrate positive carbon value in some ecosystems.

What We Heard

“[It] doesn’t even count if we stop [logging]...The province had a wood supply area and they had licenses, and we took that away and they said, ‘well, it went somewhere else, so it’s not additionality.’ And then we actually did stop the hydro transmission line. But it went somewhere else, so there’s no additionality.”

Ray Rabliauskus, Asatiwisiipe Ake/Guardians Coordinator, Poplar River First Nation (MB)

“We have the carbon sinks, that’s for sure... we have one of the largest forests in southern Ontario, one of the largest wetlands in the Great Lakes Basin. [Then government officials at a meeting said,] “No. We’re not going to involve the existing habitats in this market. We’ll only allow people who are creating new forests.” And I thought, ‘Wow. Does that mean we have to cut down all our trees and then replant them, then we can get in the market?’ That kind of made no sense to me...I thought ...’their racist approach is going to eliminate us from being players in their system.’”

Clinton Jacobs, Walpole Island Land Trust/Walpole Island (ON)

“All those areas [in coastal BC] that are now generating carbon revenues were previously under forest tenures...So the trees are going to be cut because they are under forest licenses or forest tenures. And by putting them in the conservation zone, they’re not going to be cut, and therefore there’s a positive carbon value. And [Coastal First Nations] were able to sell the fact that they were not going to get cut.”

Stephen Ellis, Program Lead, Northern Canada, Tides Canada

“Certainly, the requirement for additionality is a problem because in many of the areas that have the remaining carbon stores which would have value, there is not necessarily the same development pressure as in other areas.”

Valérie Courtois, Director, Indigenous Leadership Initiative

Challenge: Technical Challenges



Technical challenges hinder the process of carbon accounting (or measurement). Understanding how much carbon is stored in an ecosystem is a required step in the development of carbon offsets. Carbon accounting is easier to do in some ecosystems than others. In the Great Bear Rainforest (BC), where carbon offsets are managed and sold by Coastal First Nations, two technical advisory teams assisted with the accounting. Understanding carbon fluxes within ecosystems is also important. For example, wildfires cause carbon sinks to release their carbon stores when burned.

What We Heard

“Certainly, there’s lots of peat in there for storing carbon, but is it actually... a net positive value or a net negative value?...The other big consideration [in NWT] is, obviously, the Boreal forest burns, right? So that releases a ton of carbon. And again, we know for sure that there’s a positive carbon value in these areas now because of the peat, but because of burning and because of methane release in wetlands, is it still a positive value or is it a net negative?”

Stephen Ellis, Program Lead, Northern Canada, Tides Canada

“I think where we’re at right now is proving that there is a positive carbon value in some areas...I think there might be skepticism out there as to whether or not there is a positive carbon value in some of our areas. And that has to be sold and believed, I think, before we can start developing strategies and working with the [Government of the NWT].”

Bob Overvold, Yamoga Land Corporation (NWT)

Challenge: Competing Economic Interests



Competing economic interests over lands and resources can limit the potential of carbon opportunities. This is especially true when carbon-market related activities such as restoration, improved forest management practices, and land protection prevent the pursuit of extractive industries such as logging, and oil and gas projects. In the face of high unemployment in many communities, there may be a lack of community buy-in for carbon market opportunities, which are new and may seem precarious when compared to jobs in the resource sector.

What We Heard

“...the industrial forestry companies are going to feel that this is creeping up on their turf. And they have such political sway and influence that if it’s not something they’re supporting it’s going to be extremely hard for

us to get it. They'll look at it and say, "well, if this is a little bit of green cachet, and we can say we're doing this, then we can sell our other less-sustainable products easier."

Jamie Gorman, Tobique First Nation, (NB)

"There are some disadvantages to pursuing just the full cap-and-trade system within a forest unit. [The forest sector provides] economic activity that comes with revenue, employment, and jobs [in an area] where there's large unemployment rates in our First Nations [of up to] 80 to 90 percent."

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

"...for the past 30-plus years it's all been about oil and gas development. So there's still elements in a lot of our communities who think like this, '...if we're going to protect 10,000 kilometers of potential oil and gas, we may be shooting ourselves in the foot.'"

Bob Overvold, Yamoga Land Corporation (NWT)

Challenge: Community Buy-in

Community buy-in for carbon opportunities can be a limiting factor at the local level. Because carbon opportunities lack definition and clarity, and few examples of Indigenous-led carbon initiatives exist, it can seem risky for communities to go this route. The language and approach that carbon initiatives are couched in is scientific, data-heavy, and reliant on the written form. Communities can find this alienating and foreign, whereas incorporating spirituality and oral traditions are familiar to their cultures and knowledge systems.



What We Heard

"It has to be done by our way...we've seen issues get brought up and solutions...identified sometimes it takes 10 years for our community to accept before they actually adapt...I've seen it actually happen around-- yeah, usually 10-year period, it finally sinks in, "Okay. Let's just try this. Is this going to work for our community? We kind of be hearing about it, learning about it. Now we're ready."

Clinton Jacobs, Walpole Island Trust/Walpole Island (ON)

"One of the questions is, 'why should we be spending a long time and maybe some resources if we don't know this thing [carbon economy/ markets] could be real? It's a question of trying to convince people that, yeah, it can be real. And at this point in time, I've got no idea whether it is real or isn't."

Bob Overvold, Yamoga Land Corporation (NWT)

Challenge: Ethical and Philosophical Issues

Ethical and philosophical issues with commodifying ecosystem functions are important considerations, if not a barrier to some communities. Carbon offsets can be a tool that promotes economic self-sufficiency and environmental well-



being. However, the concept of carbon and ecosystem pricing is rooted in the same capitalist ideology that contributed to climate change in the first place. The inherent value of intact and healthy ecosystems is priceless. Yet, carbon offsets may be a kind of “greenwashing” that does nothing to fundamentally transform society’s relationships to the economy or the environment.

What We Heard

“I’m not sold...that [carbon offsets] are beneficial. It’s just basically permitting polluters continue to pollute. But it’s just getting, it is kind of I don’t know what you call that, greenwashing the issue.”

Clinton Jacobs, Walpole Island Land Trust/Walpole Island (ON)

“I do have some concerns personally about carbon trading...I just want to make sure it’s sustainable, meaningful, and not just a matter of moving something to another area to make it look like we’re doing something right. Then they will get into it. I don’t have a lot of faith in corporate goals they don’t seem to be in line with life form goals”

Jamie Gorman, Tobique First Nation (NB)

“...what happens to the land after people begin to buy these carbon credits and what happens to the land afterwards...is it just another way of dispossessed Indigenous people of land by paying for the carbon and then saying this land now belongs to me?...we cannot really accept that and we cannot allow that these processes...like, for example, conservation and carbon sequestering ...[to] be mechanisms to begin to remove Indigenous people from the lands that we’ve lived on.”

John Cutfeet, Kitchenuhmaykoosib Inninuwug (K.I.)

“...reducing ecosystems into services is a reductionary approach...pricing is very much based on what people are willing to pay for things rather than their intrinsic value. And so that is also kind of a challenge that I think we have to think about. What is it really worth for us all to be able to breathe?”

Valérie Courtois, Director, Indigenous Leadership Initiative

Challenge: Carbon and Atmospheric Benefit Sharing Agreements



Negotiating carbon and atmospheric benefit sharing agreements with government partners can be a major barrier to Indigenous participation in carbon markets. The negotiation process can be time-consuming and slow, and few precedents exist in Canada. Coastal First Nations has an agreement with the Province of BC, and Poplar River First Nation has been working to establish one for over a decade with the Province of MB.

What We Heard

“...we’re hoping to work with the government to persuade them that we do require a share...If there’s any benefits from saving carbon, we want our equal share.”

Ray Rabliauskus, Asatiwisipe Ake/Guardians Coordinator, Poplar River First Nation (MB)

“...[in BC] carbon revenues are distributed between the provincial government and the First Nations based on a formula agreement that they negotiated with each other. I expect something similar would happen [in the NWT] if there was to be some sort of carbon economy.”

Stephen Ellis, Program Lead, Northern Canada, Tides Canada

“When it comes to the environment, we deal with a challenging government here in Ontario, and it’s a government that is stuck in an old archaic or colonial way...It’s tough for them to do anything that addresses climate change... But we’ve got to applaud those [Nations] in BC, and those in other areas, that are developing these modern economic and modern treaties and modern agreements with the provinces.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Challenge: Political Instability

Climate policy and carbon pricing is impacted by political instability. The country is currently mired in conflicts between various provinces and the federal government, which is impacting Canada’s ability to be a leader in carbon markets and climate policy. It also perpetuates the lack of clarity around carbon opportunities that hinders the participation of Indigenous Nations.



What We Heard

“There is a push there, and there was a lot of strong support from the Liberals, federally, on doing that and the challenge being with the two provinces going against it and taking the federal government to court and not being in agreement about being aligned with those federal initiatives that creates some challenges.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Challenge: Lack of Trust

A deep lack of trust continues to define the relationship Indigenous Nations and communities have with provincial, territorial, and federal governments. This mistrust is fostered through legislation, policies, and funding decisions that reinforce unequal relations. Indigenous Nations don’t want to jeopardize their title or rights, or their relationships to their territories. Carbon markets are sometimes viewed with suspicion, particularly in the absence of information that would alleviate concerns. This lack of trust can make partnership



building a challenge, including among Indigenous communities with claims to the same territories.

What We Heard

"There is a bit of a danger, like any other emerging market, of a bit of a snake-oil salesman reality."

Valérie Courtois, Director, Indigenous Leadership Initiative

"We got to kind of just see whether or not we can trust this process and trust general society and Canadians and whoever else. Is this just a quick money-making scheme, what is it?"

Clinton Jacobs, Walpole Island Land Trust/Walpole Island (ON)

"...in the colonial relationship that's developed... you know how communities have been forced into the two year Chief and Council dynamic for governance...that's a construct that's put in place purposely to disempower...If communities are divided, that divide and conquer strategy...it works well for government, and it's hugely challenging for projects of this nature.

Michelle Sheppard, Economic Development Officer, Eagle Lake First Nation (ON)

Challenge: Inter-tribal Politics



Inter-tribal politics can complicate the development of protected areas and carbon markets. When First Nations were forced onto reserves a fraction of the size of their traditional territories, it created a scarcity of land over which First Nations have recognized authority. Meanwhile, many First Nations share claims to traditional territories, which complicates who can take charge over project leadership. Economic development and conservation projects can exacerbate these tensions. For example, for carbon offset projects to be economically viable the land base needs to be large in order to store sufficient carbon. An area that might be a sufficient for creating a viable carbon offset project could be within overlapping territories as well as Crown or private land. Therefore, it may be necessary for Nations to collaborate with a variety of actors in order to create a carbon offset project.

What We Heard

"...[there are] barriers in regards to scaling a protected area or a community...The Federal government puts First Nations in their reserve box or their boundary, First Nations have to fight to assert their jurisdiction into Crown or provincial lands to say, 'These are my traditional lands, and these are my traditional territories.' What that does with neighboring First Nations is it kind of puts them at odds at times because one community will say, 'This is my traditional territory. I have more of a say than you do,' and so forth.."

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

“Colonization created a lack of trust for the communities. Mostly, they do not trust external sources; however, there also exists some lack of trust between communities. This presents a significant challenge for collective efforts involving external agencies and other communities.”

Michelle Shephard, Economic Development Officer, Eagle Lake First Nation (ON)

“...when you have domestic populations that are divided and fighting amongst themselves [then] foreign interests may continue to control and extract their resources from those places.”

Eli Enns, President and Chief Problem Solver IISAAK OLAM Foundation (BC)

7.2. Opportunities

Participants identified many opportunities, or potential benefits, of pursuing Indigenous-led conservation and carbon storage. Participants generally agreed that IPCAs and carbon markets could be complimentary. When rooted in Indigenous leadership and cultures, carbon opportunities could catalyze or support the establishment and stewardship of IPCAs. Together, carbon opportunities and conservation activities can promote ecological, economic, and cultural benefits. New revenue streams from carbon markets could help diversify local economies, generate employment and economic development, and help finance IPCAs and Guardians programs. There are examples of Indigenous-led carbon projects paired with conservation in Canada, and globally.



Carbon financing promotes the protection of carbon-rich landscapes that are under threat of being compromised and degraded, and are particularly well-suited towards wetlands and forests. Indigenous Nations and communities could feasibly generate forest carbon offsets by implementing projects that involve:

- **Afforestation:** the establishment of a forest in an area where there was previous no tree cover;
- **Reforestation and revegetation:** the human conversion of previously forested land back to forested lands;
- **Avoided deforestation:** avoiding deforestation (cutting of a forest) where the land is thereafter converted to a non-forest use;
- **Wetland and peatland restoration:** restoring peatland and wetland areas have been disturbed by activities such as peat harvesting, and drainage for housing and agriculture;
- **Improved forest management:** forest management activities that result in increased carbon stocks within forests, and/or reduce greenhouse gas emissions from forestry activities when compared to business-as-usual forestry practices; and

- **Conservation:** creation of protected areas that store, and prevent the release of, carbon.

The following opportunities identified by participants are discussed in greater detail:

- alignment between Indigenous-led conservation and carbon storage;
- economic diversification;
- conservation economy;
- Indigenous Guardians;
- self-determination;
- restoration and protection; and
- cultural revitalization

Opportunity: Alignment Between Indigenous-led Conservation and Carbon Storage



There appears to be alignment between Indigenous-led conservation and carbon storage. Some Indigenous Nations are actively pursuing carbon opportunities in the context of conservation and have outlined their visions in land use plans. Other Nations are learning about the opportunities, are very interested in the potential, and are eager to learn more. Carbon markets can be more complimentary to territorial stewardship and protection, which many Indigenous Nations and communities would rather pursue than extractive industries.

Some of the spin-off benefits participants identified as being important include more funding for social spending, capacity development and training, land-based learning and education centres and programs, supporting Guardians, and cultural programs.

What We Heard

“[The management and sale of carbon credits and IPCAs] is aligned. You can look at the work that’s been done out there, like at the Great Bear Rainforest for example. There’s some really good examples to learn by. And, these kind of things are wrapped around our culture, our spirituality. When you talk about keepers of the land, you think about ecosystem-based management.”

Chief Gordon Planes, T’Sou-ke Nation (BC)

“Carbon sequestration aligns very well with our resource law.”

Michelle Shephard, Economic Development Officer, Eagle Lake First Nation (ON)

“Yeah, we want to create a carbon project...There’s a huge interest. That’s why it’s in our lands plan and in our lands agreement”

Ray Rabliauskus, Asatiwisipe Ake/Guardians Coordinator, Poplar River First Nation (MB)

“We had a reconciliation protocol with the province so looking at the carbon offsets and carbon credits we thought that that was something that would align with our values and can support the stewardship initiatives that we wanted to build upon within our communities, and embarked on it at that at that time.”

Marilyn Slett, President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation (BC)

“I think of that from the perspective of the carbon market... it really depends on how that would be approached and what the purpose of setting land aside are for...[It] could be a strategic approach [for] First Nations [to look] at the carbon market... to get land set aside to be protected...So it’s kind of like a no-brainer. If it’s going to be protected anyways, we might as well get something for it and be able to reallocate those dollars back into the community.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Opportunity: Economic Diversification



The future of extractive industries is uncertain in many regions, and economic diversification will support community resilience. For example, forestry mills are closing in small towns throughout Canada as lumber supplies dwindle. Similarly, mines and oil and gas projects also have limited lives. In many remote regions there are only a few options for employment, and many of these are very competitive. Indigenous unemployment rates are disproportionately high compared to the Canadian average. Developing new local markets could create direct and indirect jobs and spin-off economic benefits.

What We Heard

“So, in the foreseeable future, there isn’t much of an oil and gas, or mining economy, at least in the Mackenzie Valley area [NWT]. So we need to look at something like carbon.”

Bob Overvold, Yamoga Land Corporation (NWT)

“So the whole idea is to try and put things back towards living on the land. And I think that’s what I would like to see is, is that whole idea changing that we don’t have to keep on extracting, extracting all the time.”

John Cutfeet, Kitchenuhmaykoosib Inninuwug (K.I.)

“And we’re seeing volumes that just aren’t there for consuming mills anymore because of environmental issues like climate change.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Opportunity: Conservation Economy



Carbon markets and offsets—when paired with protection and stewardship—can catalyze a “conservation economy.” Coastal First Nations are modelling this in the Great Bear Rainforest (BC)³. Spin-offs can include direct and indirect employment, and funds to seed social enterprises and new businesses, such as in ecotourism. Many Indigenous Nations view territorial protection as the first priority, while economic development from carbon stored in protected or restored areas is a secondary benefit (or “co-benefit”).

A conservation economy can still accommodate extractive activities, like logging, but these activities must be done in a sustainable and lower-impact way than traditional harvesting or extraction. A conservation economy is consistent with the work of Indigenous Guardians who are involved in wildlife management, monitoring, land use planning, environmental restoration, research, and negotiations.

What We Heard

Meaning of a conservation economy: “the root of the source of the economy is one that’s oriented towards the maintenance and health of land first and foremost rather than the maintenance and development of particular development projects.”

Valérie Courtois, Director, Indigenous Leadership Initiative

“The return on investment varies from community to community. Some have invested in ecotourism...that can support their community with employment and a variety of different ways. Other [communities] have been developing their resource management departments, developing their capacity, hiring staff that are...monitoring, hiring staff that are developing policy, working on marine use plans, working on conservancy’s within their territories... diversifying fisheries and their shellfish aquaculture, doing research and development and developing their business. It’s been it’s a multitude of returns on investment and it’s based on the communities’ priorities.”

Marilyn Slett, President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation (BC)

³ In the Great Bear Rainforest, the federal and BC governments contributed \$60 million dollars along with another \$60 million raised by ENGOs. Alongside other efforts, this investment protected 19 million acres of coastal temperate rainforest and responsible forestry practices were enacted in the unprotected forests. As a result, more than 45 new Indigenous businesses and 500 permanent jobs have been created, many of them in the conservation economy. Each year, \$8 million to \$10 million is generated from carbon credits for additional conservation projects and economic development in the region (Nature United, 2018).

Globally, there are other examples of Indigenous-led and co-management arrangements offering climate and economic benefits. For example, 13 tribal groups are involved with Improved Forest Management projects through the US through the California cap and trade system²²; 22 Indigenous-led projects have been created through Carbon in Australia²³; and old growth forests are being protected on Maori land by a Maori owned corporation and generating revenue from carbon credits in New Zealand²⁴.

[re. financing IPCAs] “...[in] a low footprint economy, I could see ecotourism being...something that could go full circle, that would be able to use the territory in a way that you can give back and use money towards getting rid of invasive species...”

Chief Gordon Planes, T’Sou-ke Nation (BC)

“...if we can be respectful enough of [Mother Earth] and work with her, then we can regain the knowledge that we need to design wise economies and design a new global economy of peace and friendship.”

Eli Enns, President and Chief Problem Solver, IISAAK OLAM Foundation (BC)

Opportunity: Indigenous Guardians

Carbon related activities and markets could support Indigenous Guardians by providing a potentially sustainable revenue stream. Guardians could have a role in monitoring the climate, accounting for carbon, and delivering on carbon projects (e.g. through fire management, pest control, peatland restoration, protection of carbon stores, research, etc.). In turn, carbon offsets could generate capital to support Guardians programs.



What We Heard

“I would love to see that the Guardians be the ones accounting and doing the work [around carbon projects] and making sure that the large-scale [climate] models that are being developed...land properly on the ground, are well ground-tested, and have genuine good inputs. If the Guardians own that data, it would immediately give them power in the overall larger conversation...Eventually,...any Guardian program should have multiple sources of revenue; they should never depend on just one, like any other market. Diversity in sources means stability in the program...in some cases, the carbon market could be as important, if not more, for that core funding.”

Valérie Courtois, Director, Indigenous Leadership Initiative

“...one of the things we want to do in the Ramparts [Indigenous Protected Area], is build a base camp that could be used for white folks as well as Guardians that we’re going to be hiring, and a bit of a research center.”

Bob Overvold, Yamoga Land Corporation (NWT)

“Being back on the land being of one with the land being at peace with the land...getting back to what the creator meant for our people by putting us on these chosen lands at this chosen time. And I would like to begin to see our young people being out on the land, our families once again being on those lands...When our people were removed from the lands is that it took away basically the instructions that were provided to us to be at one with the land live with the land because we are part of the land.”

John Cutfeet, Kitchenuhmaykoosib Inninuwig (K.I.)

“I think about tribal parks...as we were the stewards, guardians of our territory since time immemorial, we need to get back to that. And our people have always been on the land. And we can get back to that as well.”

Chief Gordon Planes, T’Sou-ke Nation (BC)

Opportunity: Self-determination

Indigenous-led conservation and carbon storage support self-determination by fostering greater economic independence and nation-building. When IPCAs and carbon opportunities (e.g. carbon accounting, creation of carbon offsets) are established and managed according to Indigenous legal, knowledge, and governance systems, they are an expression of economic independence and Indigenous nationhood.



What We Heard

“As a Nation you have to take ownership and leadership of your lands through your territory. Any solutions that are there have to be indigenous-based and what we need to look at is not just any one solution it’s a number of solutions.”

Jane Calvert, Land and Resource Manager, Blueberry First Nations

“We have to get back to our own roots...and then follow our own cultural teachings and instructions that were given by the Creator, and then just move ahead that way and spend the time healing...That’s going to help the land heal as well because we’re relying on all of it.”

Clinton Jacobs, Walpole Island Trust/Walpole Island (ON)

“...if [Indigenous Nations] control the pens on conservation areas, in a sense, they’re exercising their authority on those lands. It’s an extension of Indigenous authority and so it is in itself a nationhood-building exercise.. the Guardians are what makes that possible at the community level.”

Valérie Courtois, Director, Indigenous Leadership Initiative

“[Carbon credits] is a catalyst to be able to do some really great work within our communities ... based on the [individual] community’s priorities... because we’re all different...in terms of what our needs and our requirements. It’s had such a positive impact...a lot of the work that we do is around how can we really make an impact on human well-being. Carbon credits has definitely been one of the streams of developing and making that real meaningful impact.”

Marilyn Slett, President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation and (BC)

“So, looking at the regulated and the unregulated [carbon] market, First Nations have an inherent, customary, traditional and ancestral right and through self-determination should create their own market.”

Jason Rasevych, Director, Anishnawbe Clean Energy and Ginoogaming First Nation member (ON)

Opportunity: Restoration and Protection

Conservation economies and Indigenous-led conservation like IPCAs can support restoration and protection. For Nations and communities with heavily impacted territories (e.g. from industrial development and extraction, roads, etc.) it may be easier to meet the “additionality” requirement that might enable qualification for a carbon offset. By restoring degraded landscapes it’s possible to increase the net carbon storage of the ecosystem. Protecting ecosystem—and all the relatives living in them—is consistent with Indigenous cultural teachings.



What We Heard

“Our way of looking at protection is a bit different than I guess non-Indigenous peoples, where our teachings say we’re supposed to live those things and not necessarily put them on paper...Our laws are written in our hearts and we’re to recite them and practice them and live them... we were supposed to do that seasonally.”

Clinton Jacobs, Walpole Island Trust/Walpole Island (ON)

“It’s about protecting all the animals within our territory, and also looking 100 years ahead.”

Chief Gordon Planes, T’Sou-ke Nation (BC)

“...[Blueberry First Nation is] in a process of working with government and industry on restoration ... when you have an area that is so heavily impacted can we create it into ...an Indigenous-led restoration park? How can we help facilitate restoration in a way that really leads towards the ecological values...[and] cultural values [of the community]? We’re looking at finding solutions ...in terms of restoration carbon credits there is a place there as well ... I’m very excited about what the next steps are [and] actually doing something and implementing [carbon credits] on the ground.”

Jane Calvert, Land and Resource Manager, Blueberry First Nations

“...we do have protected areas within our traditional territory and it is areas that happen at one time [to be] earmarked for forestation and we felt it was really important to maintain the integrity of the landscape and our territory and we have protected areas sites means a lot to us to be able to protect it for future generations.”

Marilyn Slett, President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation and (BC)

Opportunity: Cultural Revitalization

Indigenous-led conservation can support cultural revitalization by protecting the lands and relationships central to Indigenous cultures. Spiritual connections are rooted in the relationship with the Creator and with the lands and waters. Many Indigenous Nations take a holistic approach and are



responding to pressures on the language, the land, and the economy in a unified way.



What We Heard

“We need land for cultural health.”

Chief Gordon Planes, T’Sou-ke Nation (BC)

“these are all things that we have wanted...we want to synthesize all these sort of projects, and we’re trying to synthesize...our economic development... our conservation and our language. These are all things that are important and that leaders are responding to.”

Jamie Gorman, Tobique First Nation (NB)

“Everything that we do is not in isolation of one another. Developing our carbon market has elements of wellbeing, it has elements of building a sustainable economy...about protecting who we are. That has elements to spiritually and culturally who we are... we can’t do that without looking inward [to] who we are as people...Who we are is defined by our relationship to the land and everything that we do circles back to that.

Marilyn Slett, President, Coastal First Nations, and Chief Councillor, Heiltsuk Nation and (BC)

“The prophecies say that we’re going to be allowed to rebuild that connection and be able to communicate with everything in creation... all our relations...A big part for us is rekindling our spiritual connections, our foundation of our culture because it’s not the job of the Heritage Centre or Environment Canada to care for environment ...it’s everybody’s responsibility. If we were allowed to practice our culture the way it was practiced not even 100 years ago, then things will be well..”

Clinton Jacobs, Walpole Island Trust/Walpole Island (ON)



8. Future Research & Next Steps

As discussed in Section 7, while the potential opportunities at the intersection of Indigenous-led conservation and carbon storage are great, so too are the challenges. In this section we outline some future research areas and initiatives that could make the opportunities more accessible to Indigenous Nations in Canada in the near-term. Indigenous leadership and participation in these initiatives is necessary in order for the potential of these opportunities to be realized. For example, Indigenous Nations can co-define research agendas, and funding could be obtained for community-based research projects that involve, and compensate, Indigenous partners in the research.

The suggestions outlined below are informed by the contributions of research participants and the literature. These are not comprehensive lists, but rather starting places for future discussions and collaborations. Since some of these initiatives are already well underway, it would be helpful to continue to share about and amplify each other's work.

Research Needs:

1. Research and identify clear **pathways for Indigenous leadership in nature-based solutions like carbon offsets**, drawing on successful domestic and international examples (e.g. current legislation and policies, fixed and voluntary markets domestically and internationally, negotiating carbon or atmospheric sharing benefits, outlining initiatives that would meet the additionality requirement, sharing examples of what's worked elsewhere, etc.);

2. Research and identify clear **pathways for Indigenous leadership in the establishment and stewardship of IPCAs** (e.g. precedents set in Canada and elsewhere, Indigenous governance models, incorporation of Indigenous legal and knowledge systems, ecosystem service fees, IPCA “ally” programs such as the Tla-o-qui-aht “Tribal Parks Allies,” legislative tools and policies, etc.);
3. Identify areas of **high carbon storage** in Canada in relation to areas identified as **existing or potential IPCAs** as these may be areas with excellent potential for the establishment of an IPCA with potential carbon market opportunities (the carbon mapping described in Section 6 is one effort towards this and could be a starting place for further investigation); and
4. Research the value of, and process for, creating an **Indigenous certification** (similar to Forest Stewardship Council, or “FSC” certified wood products) for carbon offset projects as this would help differentiate Indigenous offsets.

Possible Initiatives:

- **Develop tools, resources, and templates** to support Indigenous Nations, communities, and organizations who are contemplating carbon projects in understanding the opportunities available to them and the resources required to proceed (e.g. a “Carbon 101” resource that provides extensive but accessible information such as a screening tool to help identify opportunities and inputs; workshops and trainings; relevant templates such as an atmospheric or carbon benefit sharing agreement; a bibliography of relevant articles, videos, and reports; webinars and modules; etc.);
- **Develop tools, resources, and templates** to support Nations contemplating the establishment of IPCAs (e.g. generate knowledge about and capacity for Indigenous-led conservation through handouts, briefing notes, reports; workshops and trainings; relevant templates such as declarations, establishment agreements, governance protocols, and job descriptions; a bibliography of relevant articles, videos, and reports; webinars and modules; etc.);
- Convene a specialized **national Indigenous-led network** to develop recommendations, advise researchers, lobby and negotiate with governments, and create policies in support of Indigenous-led carbon projects;
- **Convene gatherings and forums** to support networking, knowledge sharing, and capacity building among Indigenous Peoples, ENGOs, legal experts and practitioners, researchers; government agencies, etc. in support of Indigenous-led conservation and carbon storage;

- **Build partnerships and alliances** in support of Indigenous-led conservation and carbon storage to increase efficiency and impact and to creatively solve problems (e.g. to further explore the concept of “Sister IPCAs”); and
- **Celebrate and share successes** to generate energy, goodwill, and momentum in the movements (i.e. creating transformative change can be draining, but when we celebrate each other’s successes we can feel re-energized and inspired).

8.1. Solutions Bundle

The Conservation through Reconciliation Partnership (CRP) is a major collaborative research project with guaranteed funding for seven years (2019-2026). It is hosted at the University of Guelph and co-directed by four Indigenous conservation leaders and two academic leads, and by an Elders and Knowledge Holders Advisory Council. The goal of the project is to support Indigenous-led conservation in Canada through the following objectives:

1. Create a network for conservation through reconciliation;
2. Ensure ethical and collaborative research; and
3. Increase capacity amongst Indigenous Nations and communities, the conservation sector and the general public.

One of the projects of the CRP is the **Solutions Bundle**, which represents the convergence of a toolkit and a medicine bundle. Currently under development, the Solutions Bundle will be a multi-media website that provides targeted information and resources for different audiences with an interest in Indigenous-led conservation. It is intended to be a practical resource that can serve Indigenous Nations, communities and organizations, as well as ENGOs, government agencies, and others.

By embracing Western and Indigenous ways of knowing the Solutions Bundle will breathe life into the concept of “Two-Eyed Seeing.” It will be an iterative source that evolves over the course of the project as new information is added.

We encourage readers to watch for the launch of the Solutions Bundle, currently linked to from: <https://www.iisaakolam.ca/solutionsbundle>. We anticipate the short films developed as part of this project to be housed within the Solutions Bundle, as well as other resources related to financing IPCAs, including through carbon opportunities and markets.

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Appendix A: Literature Review



1. Indigenous-led Conservation

Compiled by Justine Townsend, PhD Candidate

The Evolution of Conservation Practice: A Brief Overview

While Indigenous Peoples' have long histories of protecting and sustainably managing their territories, the concept of Western conservation—exemplified by parks and protected areas—is relatively new. Banff National Park, established in 1885 in Alberta, was the first Canadian National Park, modeled after Yellowstone National Park in Wyoming, U.S. When Yellowstone was created the Shoshone, Lakota, Crow, Bannock, Nez Perce, Flathead and Blackfeet peoples were displaced and hundreds killed to make way for the park, which coincided with the devastating “Indian Wars” (Colchester, 2004). Similarly, Yosemite National Park was established in California in 1864 at the time of American frontier expansionism involving the brutal wars of extermination of Indigenous Peoples. The Miwok were the subject of an extermination war followed by 105 years of repeated evictions out of the park (Colchester, 2004).

The first national parks were established to conserve an ideal of pristine and untrammelled wilderness. Early Western conservationists did not understand or recognize ways that Indigenous Peoples were in relationship to their territories. As such, when early Yellowstone officials banned the Indigenous practice of controlled or prescribed burns, they unintentionally changed the landscape over several generations (Chase, 1986). Ironically, the “pristine wilderness” park officials intended to protect was transformed. The missing piece was that Yellowstone conservationists did not understand human relations as part of the broader environmental and social relations that shaped the ecosystems of Yellowstone. Subsequently, studies have questioned the effectiveness of parks and protected areas that are emptied of human presence for conserving ecosystems (Brockington, 2004; Hayes & Ostrom, 2005). For example, one study in the Global South showed that local participation in planning, management and monitoring—even when combined with use of the forests—significantly increases biodiversity (Hayes & Ostrom, 2005).

Parks and protected areas continue to perpetuate the modernist Western view that people and nature cannot co-exist (West, Igoe, & Brockington, 2006). The “fortress conservation model” is based on the ideology that in order for nature to be preserved human occupation and use must be limited to certain activities, if not prohibited altogether. A body of literature, authored primarily by political ecologists, documents the dispossession and displacement of Indigenous and local peoples from protected areas globally (e.g. Daniel Brockington & Igoe, 2006; Chatty & Colchester, 2002; Dowie, 2009; Neumann, 1998; Spence, 1999). Canada is not exempt; it possesses its own sordid history of expulsions to make way for parks (e.g. Loo, 2001; Mason, 2014; Sandlos, 2008, 2014; Youdelis, 2016). Since the establishment of Yosemite National Park, an estimated five to ten million people globally have become conservation refugees through eviction from protected areas (Dowie, 2009). In many parts of the world conservation enforcement is militarized and violent (Neumann, 1998, 2004; Peluso, 1993; Robbins, 2012). In some places states utilize conservation as another means of extending power over local populations (Agrawal, 2005; Corson, 2017; West, 2006). In parallel processes, states and capitalist forces have restructured community-based and local ways of managing and conserving the environment (e.g. forms of shifting, or slash-and-burn, agriculture) in places like parts of Thailand and India. This has heavily impacted the

livelihoods and communities of local and Indigenous peoples as they lose common property rights and reorient cultivation practices and livelihood strategies to adapt to the spread of capitalist markets (e.g. Agrawal, 2005; Roth, 2004).

The 1980s marked the beginning of the movement towards more decentralized and community-based approaches to conservation. The Vth World Parks Congress (WPC) in Durban, South Africa in 2003, with its theme “Benefits beyond Boundaries,” marked a shift from previous WPCs in that over 120 representatives from Indigenous, mobile, and local communities participated. The Indigenous Peoples Ad Hoc Working Group for the WPC was very active prior, during, and after the meeting to ensure coordinated, intensive and extensive participation. The recommendation to include a new IUCN⁴ Protected Area category—Indigenous Community Conserved Areas (ICCA)—arose from this WPC. Other outcomes included statements of solidarity between conservation and the opposition to mining, as well as the establishment of protected areas in culturally and spiritually significant areas. This WPC is thought of as a turning point in global conservation that established a more progressive agenda; however many cautioned that changes on the ground would be the real sign of change (Brosius, 2004). By the mid-2000s, a counter movement endorsing the need for strict conservation values re-emerged (Hutton, Adams, & Murombedzi, 2005). A more recent expression of this counter-movement is the “half-earth” argument that advocates for the dramatic increase in conserved areas to 50% of the planet (Noss et al., 2015). This concept raises questions about how people living in that 50% of the planet will be affected by conservation. Others argue that a complete reorientation of the economy to be more socially just is needed in order to move away from a capitalist growth paradigm (Büscher et al., 2017).

Global and Domestic Conservation Policy

Conservation practitioners are increasingly engaging Indigenous knowledge and governance systems to achieve conservation goals (IUCN, 2003; Stevens, 2014; UN General Assembly, 2008; West et al., 2006; Wilshusen, Brechin, Fortwangler, & West, 2003). This includes funding Indigenous Nations, organizations and projects; the increasing co-management of protected areas involving the inclusion of Indigenous Knowledge; contributing research and other types of capacity development to Indigenous Nations and organizations, and increasingly a move towards Indigenous-led conservation.

This paradigm shift is well underway in Canada. In 2010, the Government of Canada committed to increase its protected areas network to include 17% of its land base including inland waters (lakes, rivers, etc.) and 10% per cent of Canada’s coastal and marine areas by the end of 2020. This commitment is referred to as “Canada Target 1,” or the “Aichi Targets⁵” (because the commitment was made at the Convention on Biological Diversity⁶ meeting in Aichi, Japan). Between 2010 and 2015 Canada made slow progress towards these goals. In 2015, the Government of Canada adopted the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP), with its commitment to the full and effective participation of Indigenous peoples in achieving biodiversity goals. In 2017, the Government of Canada began to focus more attention and resources on its commitment to conservation, first by convening

4 International Union for Conservation of Nature

5 Specifically, Aichi Target 11. There are other Aichi Targets Canada has been less explicit about.

6 The Convention on Biological Diversity (CBD) is an international and legally binding treaty that came into force in 1993 to lead the way to a sustainable future. To date, 193 states have ratified the CBD. Its three main goals are: “the conservation of biological diversity, the sustainable use of biodiversity, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources” (CBD Secretariat, n.d.). The CBD is governed by the Conference of the Parties (COP), comprised of all the signatories, meets every two years (United Nations, n.d.).

the Indigenous Circle of Experts (ICE; see below), and then in 2018 committing \$1.3 billion, a historically significant proportion of the 2018 budget, to conservation⁷ (Galloway, 2018; Pathway to Canada Target 1, n.d., 2018). The budget and earlier political decisions advance a greater leadership role for Indigenous Peoples in the development and implementation of conservation policy and practice in the country. At the same time, Indigenous Nations, communities, and organizations are exercising greater capacity to engage with decision-makers and civil society in advancing their own conservation initiatives across their territories. Most notably, there are now over 40 Indigenous Guardians programs in the country, such as the Ni Hat'ni Dene (Watching the Land) Program, established by the Dene community of Lutsel K'e in the Northwest Territories (ILI, 2019).

While most participating countries will not reach their 2020 goals committed to under the Aichi Targets (Convention on Biological Diversity, 2018), Canada is reportedly on track to meet its terrestrial and freshwater targets, and recently exceeded its marine conservation target (i.e. protecting 10% of marine and coastal areas) (Fisheries and Oceans Canada, 2019; Government of Canada, 2019; United Nations Environment Programme, 2018). By late 2020, signatories to the Convention on Biological Diversity will adopt the “New Deal for Nature”, which will establish an interim framework with new global conservation targets to reach by 2030. This New Deal will replace the 2020 “Aichi Targets” and create a pathway to the 2050 Vision of “Living in Harmony with Nature.”

Indigenous Circle of Experts and IPCAs

To advance progress towards Canada Target 1, the Government of Canada established the Indigenous Circle of Experts (ICE) in 2017, comprised of Indigenous leaders and government representatives. ICE was tasked with making recommendations on how IPCAs could contribute to the achievement of Canada Target 1 *and* reconciliation. ICE held four Regional Gatherings in western, eastern, northern, and central Canada supported by Parks Canada. Elders, youth, community members and government representatives attended each of the gatherings.

On March 27th, 2018 ICE delivered its report, *We Rise Together*, to the Federal Minister of Environment and Climate Change Strategy. A ceremony in Ottawa involving ICE and representatives of Canada marked this historic moment. The report contains recommendations for Indigenous, Provincial, Territorial and Federal governments as well as for civil society organizations, including ENGOs, calling upon them to support Indigenous-led conservation (ICE, 2018).

ICE defined the term “Indigenous Protected and Conserved Area” (IPCA) in its final report. The group based the term IPCA off the IUCN term, “Indigenous Community Conserved Area” (ICCA), also referred to as “territories of life”. IPCAs include various types of land and water protection in the Canadian context including Tribal Parks, Indigenous Cultural Landscapes, Indigenous Protected Areas, and Indigenous conserved areas. Many Indigenous Nations are protecting their territories and may not use any of these terms. Unlike conventional protected areas in Canada (such as national, provincial, and territorial parks) IPCAs are *Indigenous-led, and rooted in Indigenous law, knowledge, and governance systems*. At its core, Indigenous-led conservation is advancing Indigenous rights and responsibilities, while integrating both Western and Indigenous knowledge in the development and implementation of conservation initiatives (ICE, 2018).

⁷ This budget also included an investment of \$25 million over five years to create a National Indigenous Guardians Network, which is being coordinated by the Indigenous Leadership Initiative (ILI, 2019).

Other Effective Area-Based Conservation Measures (OECMs) are areas that are contributing to conservation, but whose primary purpose is in fact not conservation. Examples include military bases, land trusts, and fish hatcheries. Indigenous Nations may also create, steward, or manage OECMs. IPCAs and OECMs are recognized by the International Union for the Conservation of Nature (IUCN) and the Convention on Biological Diversity (CBD) as critical tools in a country's conservation toolbox, but neither is currently legislated in Canada. Canada, however, is in the process of creating designations for IPCAs and OECMs in collaboration with Indigenous Peoples.

ICE has reformulated into the Canadian IPCA Alliance and continues its work collaborating with Indigenous governments and communities and the Assembly of First Nations to advance Indigenous-led conservation in Canada.

Indigenous Conservation Governance

Indigenous conservation governance, or Indigenous-led conservation, is an emerging field of conservation theory and practice that re-centres Indigenous worldviews, philosophies, and methods in conservation practice. Indigenous Peoples are leading conservation efforts in their territories such as through tribal parks in the United States and British Columbia (BC) (Carroll, 2014; Murray & Burrows, 2017), conservancies in BC (Rutherford, Haider, & Stronghill, 2015), and the incorporation of Indigenous owned land into national parks in Australia (Szabo & Smith 2003). Much of the literature on Indigenous conservation governance is premised on the notion that conservation governance needs to be decolonized (e.g. Adams & Mulligan, 2003; Borrini-Feyerabend, Banuri, Farvar, Miller, & Phillips, 2002).

Indigenous Nations have been involved in the protection and stewardship of traditional lands and waters since well before Canada was established. Currently, Indigenous Nations and communities in Canada are engaging decision-makers to make visible, strengthen, and expand their conservation initiatives across their traditional territories. Several IPCAs have been established in Canada including Dasiqox Tribal Park (BC), Tla-o-qui-aht Tribal Parks (BC), Edehzhie protected area (NWT) and Thaidene Nene (NWT), with many more underway across the country.

Some Indigenous Nations are choosing to enact their rights and responsibilities in areas designated, or likely to be designated, as an IPCA through the National Guardians Program, which the Indigenous Leadership Initiative (ILI) coordinates and promotes. Indigenous Guardians are the “eyes on the ground” in Indigenous territories, monitoring ecosystems and climate change, maintaining cultural sites, protecting important areas and species (ILI, 2019). They are also the “moccasins and mukluks on the ground,” whereby Guardians are re-occupying land after a time of dispossession and disconnection, which is principally an act of nationhood (Courtois, 2019, pers. comm.).

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2. Indigenous-led Nature Based Carbon Storage

Compiled by Mary-Kate Craig, PhD Candidate

Introduction

Overwhelming scientific evidence supports the claim that anthropogenic emissions to the atmosphere are responsible for warming the planet since the dawn of the industrial revolution [4, 21]. At the same time, Indigenous Peoples around the world are struggling to secure their rights, strengthen their control over lands, territories and ecosystems [12]. Globally, there tends to be a geographic alignment between the areas that have high potential to be incorporated into carbon markets through the creation of carbon sequestration projects and the traditional territories of Indigenous Peoples [12]. For Indigenous Peoples contemplating involvement with greenhouse gas (GHG) offset projects there can be confusion about these emerging opportunities.

Since the Paris Agreement was signed in 2015, countries have begun to enact domestic carbon reduction strategies in a collective effort to hold global temperature rise to well below 2°C above pre-industrial levels. In response, in 2017, the Government of Canada developed the Pan-Canadian Framework on Clean Growth and Climate Change (PCF). PCF has four main pillars: pricing carbon pollution; complementary measures to further reduce emissions across the economy; measures to adapt to the impacts of climate change and build resilience; and actions to accelerate innovation, support clean technology, and create jobs. Together, these interrelated pillars form a comprehensive plan to reduce greenhouse gas emissions in Canada. In the PCF, the Government of Canada affirms its commitment to respect the rights of Indigenous Peoples and to engage in finding solutions that address their unique circumstances [22].

This literature review will touch on the aspects that link together the potential opportunity that carbon opportunities could offer to Indigenous Peoples in terms of livelihood and land tenure. It will outline the ways that Indigenous Peoples, the original stewards of the land, have contributed the least to climate change, and yet are disproportionately impacted, necessitating a rights-based approach to climate mitigation. It will then outline the critical debate that surrounds carbon markets as a solution to greenhouse gas mitigation, the importance of natural climate solutions in climate mitigation and the risk of natural disturbances to carbon projects. It will then provide a review of current Indigenous participation in carbon markets in regions of the world and here in Canada. The review concludes by highlighting the most central barriers currently facing Indigenous communities contemplating carbon markets as a path to economic prosperity tied to stewardship. However, these same challenges represent a significant reconciliation opportunity linked to jurisdiction, land management and stewardship.

Indigenous Peoples and Climate Change

Indigenous Peoples are amongst the groups most vulnerable to climate change and yet are the least responsible for the anthropogenic emissions causing it. Indigenous Peoples are the “stewards of the land” whose traditional knowledge has sustained Indigenous lands for thousands of years, and promotes values that compel people to have a reciprocal relationship with the environment [23]. Reaping few of the benefits of the economic growth and globalization that have contributed to climate change, Indigenous Peoples now bear the burden of a non-compensable injustice from the destruction of their territories, as a result of climate change [24]. Natural systems such as grasslands, forests and peatlands are intimately interrelated to climate change impacts. With a warming climate, forests and their

ecosystems will be altered. Therefore, Indigenous Peoples will bear the costs (e.g., disappearances of plants, fish and animal species, loss of culturally significant spaces) as they depend on these ecosystems for their economic, social and cultural survival.

Indigenous Peoples, fall into a governance gap through denial of their procedural rights to deliberate and decide upon what is to be done about climate change. Indigenous peoples' autonomous negotiating power is minimal because states tend to marginalize them and treat their territories as those of the states [9]. Indigenous Peoples start the contest for rights with the hindrance of a profound, substantive and procedural, individual and group, human rights deficit [25]. The human rights-based approach to climate change governance is necessary to redress this injustice, promote resilience and adaptation, reduce vulnerability, and ensure the resulting impacts on Indigenous Peoples' way of life will not continue.

Protecting Indigenous Peoples' rights to their ancestral lands not only supports their livelihoods, but is a strong tool for climate change mitigation. Globally, studies have shown that valuing and supporting traditional Indigenous knowledge and land tenure helps to lower rates of deforestation [26] with the added co-benefit of increasing biological diversity (Schuster et al. 2018, Moola and Roth 2018). This makes the protection of Indigenous property rights an excellent climate change mitigation tool as well as an important and necessary action for social justice [27].

Carbon Markets for Greenhouse Gas Mitigation

Carbon sequestered from the atmosphere by plants and stored in biomass has value because it provides humanity with at least one key ecological service: mitigation of damaging climate change. A huge percentage of carbon stored in natural systems in Canada is located on lands claimed by Indigenous Peoples [28]. These lands, such as forests, wetlands and peatlands offer an efficient global store of terrestrial carbon. The last few years have seen the emergence of an entirely new market, one that creates value for GHG emission reductions. This means an ecological service, such as carbon sequestration, can be commodified by the introduction of carbon credits that are tradable within markets. Carbon trading aims to provide a means to convert the forest property into financial capital, while protecting the physical property of forests, thereby providing new incentives for in situ forest management and numerous associated ecological benefits.

Political leaders from major industrialized countries and global business leaders from a range of industrial sectors have affirmed that a key element for a successful global climate regime is an efficient and effective carbon market [29]. Market-based approaches and especially emissions trading have been central to the development of the global climate change regime to date [10, 30-32]. Proponents of the use of carbon markets as an approach to reducing carbon emissions claim that well-designed carbon markets and emissions trading offer the best global approach to climate change. They say that this approach establishes rigor around emissions monitoring and reporting and is the best policy tool to respond to economic fluctuations [31, 33-37]. It delivers emission reductions alongside driving investments in clean technologies, incentivizing low cost solutions and raising revenue [38]. Further, that carbon offset projects can be "triple win" scenarios where climate change mitigation, biodiversity conservation, and local economic development have the potential to be achieved simultaneously [39-41].

Others argue that the use of markets as an approach to reducing carbon emissions is part of a wider neoliberal paradigm, and is more about commodifying nature than it is about practically solving an environmental problem [42-46]. Critiques of carbon markets are numerous; indeed, a large body of

theoretical and empirical scholarship warns against the use of carbon markets (Rocheleau 2015,[40, 41, 47-56]. Critical literature reveals six main concerns: 1) the focus on carbon commodification, marketization and financialization; 2) underlying structural and power dynamics; 3) measurement fraud; 4) legitimacy of actors; 5) equity and fairness; and 6) control of land.

Nature Based Climate Solutions

Despite these concerns the provision of economic incentives through carbon financing and carbon offsetting has been central to efforts at forest carbon mitigation in recent years [57]. In particular, forests have attracted substantial policy interest due to their great climate change mitigation potential, and forest management is considered as one of the most cost-effective mechanisms for pursuing carbon mitigation.

In October 2017 a study published in Proceedings of the National Academy of Sciences found that GHG can be cost-effectively reduced and stored in forests, farmland, grasslands, and wetlands to deliver more than a third of the reductions required by 2030 to prevent dangerous levels of global warming [58]. Nature based climate solutions (NBS), such as preserving existing ecosystems as well as planting more trees, reforesting degraded forests, engaging in responsible forest management, improving cropland and peatland management, hold promise as an integral part of regional, national and international climate change solutions to limit global warming below the 2°C threshold set by the Paris Climate Agreement. In addition, NBS provide a range of co-benefits to people and ecosystems.

The opportunity is immense. Canada is home to 3.48 million square kilometers of managed forest—almost 9% of the world’s forests [59]. British Columbia has 550,000 square kilometers of forests (more than any European country except Russia), 95% of which are publicly owned [60]. The Acadian Forest Region spans all three Maritime provinces, covering 237, 600 square kilometers representing a unique transition between the boreal spruce-fir forest in the north and the deciduous forest in the south. Much of this forestland is under private ownership (45%) stewarded by 80,000 small forest operators [61]. In contrast, the boreal forest is the largest terrestrial carbon storehouse in the world and represents 5.6 million square kilometers, much of which is intact forest [62]. The Canadian boreal region covers 60% of the countrys land area and spans the landscape from the most easterly part of the province of Newfoundland and Labrador to the border between the far northern Yukon and Alaska. The boreal area is dominated by coniferous forests, particularly spruce, interspersed with vast wetlands, mostly bogs and fens [28]. Here, carbon is stored in surface vegetation, and has accumulated and been conserved over millennia in the soils, wetlands (the largest wetland in North America is in the boreal), peatlands (the second largest peatland in the world is in this region), and permafrost. Taken together, the boreal forest and associated soils and wetlands store an estimated 208 billion tonnes of carbon [63].

If natural areas are disturbed, carbon is released from this massive carbon storehouse, accelerating climate change. This disturbance could be caused by industrial development such as forestry, mining, hydroelectric development and road building or from natural disturbances. Either way there is always a risk that the stored carbon in natural features will be re-released [64]. The natural threats to stored carbon stem from disturbances such as: fire [65]; drought [66]; temperature [67]; and, pests [68, 69]. Fire is the predominant disturbance in forest systems [65] and in peatlands where it accounts for 97% of total disturbance-related carbon losses [70]. In peatlands, fire occurs as smoldering flameless combustion which can persist for long periods of time even in wet and low oxygen conditions. This is exacerbated by activities which lower the water table, often caused by climate change and human activity [2]. Scholars

provide evidence that the severity and frequency of wildfires and peatland smoldering fires will increase in the future due to climate related changes (e.g. [65, 69, 71, 72].

Indigenous Participation in Carbon Markets

Some Indigenous Peoples have strongly challenged the use of international markets for carbon credits that turn nature's ability to absorb carbon dioxide into a commodity to be bought and sold. They see international carbon trading as a false solution to climate change, one that has too often violated Indigenous Peoples' rights [73]. The IPCC report "Climate Change and Land" released in 2019 recognizes that, Indigenous Peoples and local communities play a critical role in stewarding and safeguarding the world's lands and forests and that strengthening Indigenous rights to the land is a critical solution to the climate crisis." [4].

Ultimately carbon offset projects are about control of the land [74]. Issues around Indigenous-Crown rights, with land jurisdiction at their centre, are presently the largest barrier to implementing widespread NBS. Globally, Indigenous Peoples' lands have not been fully recognized nor has adequate climate funding been provided, reducing their ability to fulfill their maximum potential as part of the climate solution." [75].

For those Indigenous communities who do wish to participate in carbon markets the questions of property rights, jurisdiction and control of the land are at the forefront, and may gain strength internationally as Indigenous rights at national and global levels improve [76, 77]. The potential benefits of Indigenous communities' participating in carbon offset schemes could be significant in some regions and include improving the social and economic well-being of local communities and contributing to the sustainability of Indigenous livelihoods generated through the delivery of ecosystem services [78].

Global Case Studies of Indigenous Participation in Nature Based GHG Offset Projects

Globally there are numerous examples nature based GHG offset projects which have not created benefit for Indigenous Peoples e.g. see [73, 79-81]. Indigenous participation in GHG offset programs have occurred in a variety of developing countries under Reducing Emissions from Deforestation and Forest Degradation (REDD), REDD+ and jurisdictional REDD. Despite a few examples of successful projects, REDD+ has for the most part fallen short in delivering many of the expected positive outcomes.

Scholars report numerous failures and issues with REDD projects such as: contention over land rights [82-86]; unclear land tenure [87, 88]; violation of customary land rights [87, 88]; dispossession [80]; land grabbing [88-90]; fraud in the form of "carbon cowboys" and exploitative carbon contracts [85, 91]; commodification [91]; land conflicts and disputed territories [86, 92, 93]; and, loss of livelihood [88].

Essentially the issues boil down to access to land, loss of Indigenous rights, the failure of compensation mechanisms to deliver funding at scale, along with insufficient engagement and unrealistic expectations of REDD+ to solve a broad range of social, economic and environmental ills beyond its intended scope. Tom Goldtooth, executive director of the Indigenous Environmental Network (IEN) warns that, "forest carbon offset regimes have no safeguards to protect the land and forest rights of Indigenous Peoples" and that "these initiatives could result in land grabs and exploitation of the forest rights of local communities." [73]. To date, most of the carbon standards developed have not adequately addressed the complex social issues of the regions. The standards were created with the principal purpose of

carbon verification for an offset market that only values tonnes of carbon [88, 94] and not biodiversity conservation and Indigenous reconciliation.

Despite these early shortcomings, some scholars contend that providing REDD programs are explicit in their recognition of Indigenous Peoples rights, those programs do hold the potential to be a route for Indigenous Peoples to secure their land ownership and draw revenues [87, 88, 92, 94-97]. Elsewhere in the world, there are examples of Indigenous-led carbon projects that appear to have created community benefit. For instance, projects in Australia, New Zealand and in the US, through the California cap-and-trade program, have all brought economic development through carbon projects to Indigenous nations. A brief overview of Indigenous-led projects in these regions is provided below.

Australia

Australia has engaged in a payment for ecosystem services (PES) partnerships to deliver carbon offset projects with local Indigenous and rural communities through the Carbon Farming Initiative (CFI). The CFI is a government-regulated voluntary carbon offset scheme, which includes a mechanism for selling carbon credits by reverse auction to the Australian government (Commonwealth of Australia, 2011). Indigenous Peoples' participation in the CFI was encouraged by the Australian government through a \$AU 22 million 'Indigenous carbon farming fund' (ICF) and \$AU 1 billion for increasing biodiversity. Indigenous Peoples in Australia are reportedly highly motivated to participate because the projects provide a range of co-benefits which enable them to re-establish stewardship and cultural activities [78, 83, 98, 99].

Australia's Aboriginal Carbon Fund (AbCF) holds a vision to catalyse life-changing, community prosperity through carbon farming. The aim of AbCF is to build wealth for Indigenous communities with social, cultural, environmental and economic core-benefits through the ethical trade of carbon credits with corporate Australia, government agencies and international bodies. To date, AbCF has helped to bring forward 22 Indigenous-led GHG projects across Australia. It develops methodologies that can be used to undertake carbon projects such as: savanna burning, planting trees, rangelands and savanna enrichment and currently have 26 methodologies approved for use in the Carbon Farming Initiative (CFI). In 2017, AbCF signed an agreement with some First Nations in Canada to help build a similar program in Canada [100].

Evidence in Australia reveals challenges in designing GHG offset schemes that address Indigenous Peoples world views and confirm that it is vital that the process is led by Indigenous Peoples in order to create success [16]. For some of the projects in Australia, the carbon sequestration benefits were reportedly limited [99]. Rather, the drivers for participation were co-benefits such as safeguarding local landscapes; livelihood benefits; training; employment; decision making authority; community capacity development; habitat restoration; and co-management arrangements that form part of a collective effort to build robust and resilient communities.

In practice in Australia, designing carbon offset programs and policies that achieve both carbon and associated co-benefits has proved challenging with efforts frustrated by: adequate information and the need for Indigenous organizations to build partnerships with landowners who own or hold title to their traditional land [101]. In terms of barriers, land tenure was identified as a primary factor in the ability of Indigenous communities to create carbon offset projects [78]. Those Indigenous organizations with greater access to clear Indigenous land tenure, land management resources and expertise were

in a position to pursue carbon projects that build on existing rights, investments and institutional arrangements. In contrast, Indigenous communities with limited access (or no access) to appropriate Indigenous land tenure and Indigenous land management resources maintain a focus on projects that represent incremental steps toward community engagement and capacity building [99]. There was frustration about the lack of understanding about the parameters under which benefits for Indigenous communities can be sought and by the realization that there may be fewer opportunities than anticipated to simultaneously realize a full suite of carbon and Indigenous co-benefits [78].

Australia provides examples of the successful integration of Indigenous Peoples into carbon market projects which provided community co-benefits, some climate benefits but were not without numerous challenges.

New Zealand

Carbon financing operates in the New Zealand forest sector through the (NZ ETS). The NZ ETS is a partial-coverage, all-free allocation, uncapped, highly internationally linked emissions trading scheme. New Zealand was the first developed country to provide mechanisms that enabled private ownership of forest carbon within the Kyoto Protocol framework. There are currently two forest carbon schemes, the Permanent Forest Sink Initiative (PFSI), and post-1989 forestry projects under the NZ ETS. Under each mechanism owners of forests established after 1989 are awarded carbon credits for increases in forest carbon stocks that occur after January 1, 2008. In a way that is similar to Canada, forestry is important in helping New Zealand meet its international climate change obligations. By putting a price on greenhouse gases, the NZ ETS encourages landowners to establish and manage forests in a way that increases carbon storage.

The Rarakau Rainforest Conservation project produces 2,458 tCO₂ carbon offsets annually from 738 hectares of mature Indigenous rainforest on Māori land in Western Southland on the South Island. The project is New Zealand's first and only REDD+ project developed. It functions by enabling the creation and sale of carbon offsets from rainforest (i.e. Indigenous forest) protection as compensatory revenue for voluntarily giving up rights to logging (and associated revenues). The land is owned by the Rowallan Alton (Māori) Incorporation. This project offers an example of a carbon offset project created in an old growth forest in an area that would not have been eligible for offsets under the NZ ETS because it is restricted to afforestation activities that did not start prior to December 1989 (Weaver 2016). In the past, the community landowners logged these forests to help fund community development. In 2007, the forest land use was changed from production to protection. Revenue from the sale of carbon credits was used to finance conservation management, biodiversity protection and improved water quality and community development.

This case study shows that it is possible to create real, verifiable, carbon credits from old growth forests. However Weaver, 2016 warns that doing so under a voluntary mechanism, such as REDD+, may not create the financial rewards that a regulated market opportunity would [102].

United States under California Cap and Trade

In 2006, California passed The Global Warming Solutions Act (AB 32), requiring statewide emissions in California to be reduced to 1990 levels by 2020. California, which has the fifth largest economy in the world, launched its cap-and-trade program in 2013 as one of the primary policies implemented to achieve this target. The cap-and-trade rule applies to large scale emitters (around 450 businesses),

such as large electric power plants, large industrial plants, and fuel distributors (e.g., natural gas and petroleum) which are responsible for about 85 percent of California's total GHG emissions. The program includes two permit types: allowances and offsets. California has linked its program with similar programs in Quebec, meaning that businesses in one jurisdiction can use emission allowances (or offsets) issued in another jurisdiction for compliance. California's program allows emitters to purchase offsets for 8 percent of their emissions [103]

In January 2013, California implemented a forest carbon offset protocol under its regulated carbon market, which aims to promote carbon sequestration and storage in private forests. This protocol offers significant financial returns to landowners who develop viable projects. Under the California protocol, projects can be anywhere in the United States (except Hawaii). Currently, there are three project types: Reforestation, Avoided Conversion and Improved Forest Management. Each project type has standardized methods, an intensive initial survey, ongoing periodic monitoring and reporting obligations, project verification by third party experts and a requirement for permanence (at least 100 years). Forest projects currently account for over three-quarters of the offsets issued to date [104]. Tribes, because of their unique status as sovereign nations, must include a limited waiver of sovereign immunity that is legally binding under the Tribe's laws as part of the offset project listing requirements to participate in the Compliance Offset Program [103]

Native American Tribes have become a driving force on California's carbon markets, generating revenue while conserving lands and creating associated co-benefits. The opportunity of carbon offsets has created a significant new own-source revenue commodity market that Indigenous People can benefit from which simultaneously supports traditional land practices. Under the California system, Indigenous-led carbon offsets form the largest percentage of forest carbon offset projects developed in the US (Kelly et al. 2017, Szymanski 2015, Biggar 2017). There are currently thirteen Tribes which have created carbon projects from California to Maine and right up to Alaska. The size of the project areas range from 5550 acres (Round Valley, California) to 487,417 acres (Confederated Tribes of Colville).

One of these Tribes, the Yurok, has been using wealth generated through its involvement with the California Forest Offset program to purchase back its ancestral lands [105-107]. Each new parcel is then created as a new carbon offset project.

Another group, the Confederated Tribes of Colville comprises twelve tribal bands in north-central Washington. Turning conventional practice on its head, the Colville Tribes now use a 100-120 year cutting rotation, which more than doubles the carbon storage compared with forests under the more typical 40-year practice. Though the Tribes lose income on the longer rotation, they believe the tradeoff is worth it. The experience of the Tribe has been the co-benefits associated with the improved management show that forests that grow for a century or more yield a host of benefits in addition to carbon storage: better air and water filtration, improved wildlife habitat, and cultural preservation [104] Along with extended rotations, the Colville Tribes also employ additional practices that also boost forest health and carbon density. For instance, they cultivate a species balance similar to that of native forests, which can increase tree longevity and ecosystem resilience. In many cases, this requires growing and manually planting seedlings of native species. In addition, the Tribes monitors for pest infestation and wildfire risk to reduce tree mortality rates compared with unmanaged forests. This stewardship of the forests on the Colville reservation means that the forests hold at least 14 million more tons of carbon dioxide than typical forests of similar size in the area [104] In 2017, the Colville Tribes began selling credits for this carbon in California's cap and trade carbon market, committing to keeping the carbon

locked up in their forests for at least 100 years. Presently, they are the second-largest seller of carbon offsets in California's market.

The example provided by Tribes developing projects under the California cap and trade market offer examples of the integration of carbon storage into successful land management of Indigenous lands which meets the stewardship aspirations of the Nations as well as creating climate mitigation gains.

Indigenous Participation in Nature Based GHG Offset Opportunities in Canada

Inevitably programs involving carbon sequestration and storage projects in Canada will impact Indigenous populations whose territories those programs will involve. Evidence from other regions shows that, if not carefully crafted, these programs can have significant negative effects on Indigenous communities [57, 78, 87, 99, 108, 109]. Indigenous carbon market participation in Canada could happen through either voluntary or regulated carbon market mechanisms under conditions that is informed by participation in Indigenous-led carbon sequestration elsewhere in the world. Providing the efforts are Indigenous-led and the regulatory environment is constructed in response to Indigenous actors, then there is potential for great benefit for carbon to be part of a conservation economy that provides significant co-benefits.

Presently there are only a handful of successful examples of Indigenous participation in carbon markets in Canada, such as the Great Bear Carbon Project and the Cheakamus Community Forest Offset Project, which are both examples of Improved Forest Management projects in British Columbia. For many Indigenous Nations, rather than resisting carbon markets, they actively promote a conservation economy and express a desire to participate in carbon markets [109, 110] but many have thus far been unable to actualize this. This interest stems in part because market-oriented mechanisms represent non-authoritarian modes of governance that allow Indigenous People to exert greater control over their land and resources. In Canada, this would be a welcome change from colonial approaches which traditionally displaces Indigenous People from their land [57, 110, 111].

Barriers to Indigenous People Participating in Carbon Sequestration Opportunities

Although nature-based sequestration/storage pursuits in carbon-rich regions of the country are theoretically aligned with Indigenous community interests, in practice the pursuit of carbon management by Indigenous Peoples is complex and challenging [57, 88, 112]. Both proponents and critics of market-based methods have shared a tendency to characterize these governance tools as a shift from former state centred management to a greater reliance on markets and market actors as a means of achieving conservation and GHG reduction goals. However, market-based instruments can be limited and contrary to intention, are often shaped to a large extent by state forces. These state forces, such as provincial or federal governments, can actually limit the development of a market-based system and create parameters which seek to avoid risks and support existing power dynamics. Often the status quo favours industry-non government carbon offset projects over Indigenous-led projects [113].

The barriers facing Indigenous Peoples globally and in Canada when participating or contemplating participation in carbon offsets have been reported by scholars in reviews [85, 87, 88, 94, 95, 114-117] and case studies [57, 64, 76, 78, 83, 118-122].

A summary of these barriers includes:

1. technical and legal issues exist in creating a site-specific project on Indigenous lands due to uncertain or non-defined carbon rights. The pathway to participation in carbon projects is ambiguously defined at a federal or provincial level particularly with respect to delineation of who has the right to manage, and potentially benefit from, the carbon stored in lands;
2. issues around sovereignty where unclear land tenure is a barrier to being able to show a clear path to carbon rights.
3. inadequate capacity in terms of financial resources and experience of community members to undertake the technical aspects of the project (feasibility, project development, verification, monitoring and reporting);
4. there is no appropriate protocol developed in the region;
5. concerns about navigating the legal requirements and achieving the compliance requirements
6. concerns about the required length of contracts (often over 100 years);
7. the risk of limited economic benefits particularly because there has been no clear route to various markets for forest carbon projects or other NBS carbon projects. To date there has been a deficiency of carbon markets to deliver buyers of the developed offsets and therefore a secure revenue.

Despite the above barriers, there are emerging examples of parties coming together to acknowledge and address barriers to Indigenous carbon market participation, especially in British Columbia. Several First Nations in British Columbia are Indigenous carbon management leaders, taking on advocacy roles provincially, nationally and internationally. This is in part due to BC provincial policy and regulatory leadership to eliminate barriers through establishing Atmospheric Benefit Agreements, recognition of Indigenous jurisdiction and incentives provided to industry and First Nations to advance free, prior and informed consent.

Formal land tenure and the subsequent negotiation of Atmospheric Benefit Sharing Agreements (ABSAs) that grant rights to carbon improvements made on the landscape are critical steps to project development [123]. British Columbia has issued First Nations-specific ABSAs through its Ministry of Aboriginal Relations and Reconciliation, as well as a commercial, non-First Nations-specific ABSA through its Forestry, Lands and Resource Operations ministry, via Treasury Board approval. Other provinces will need to implement an ABSA process to enable carbon offset project development on crown land, if Nations wish to be positioned to implement projects that includes non-private land and encompasses their traditional territories [123].

In the following sections the most central barriers facing Indigenous Peoples in Canada - land title and authority to manage natural resources and undifferentiated carbon rights - are explored in greater depth.

Land Title and Authority for Natural Resources

Of central importance in actualizing NBS carbon offsets in Canada will be unresolved issues around land title and the authority of Indigenous People over natural resources (e.g forests, wetland and peatlands) in their traditional territory.

The United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) consists of 46 articles ratified by the United Nations, recognizing the basic human rights of Indigenous People along with their rights to self-determination. Canada has not implemented UNRIP but has stated it will accept the legal and moral legitimacy of Indigenous rights, and then make the requisite changes to law, policy and institutions [77].

Indigenous Peoples have resided in and relied on their territories for tens of thousands of years and the areas historically and currently used for traditional activities are vast. Ownership of these lands has been claimed both by provinces, that define them as “crown” land, and by Indigenous Peoples, that define them as “traditional territory”.

In different geographic regions across Canada, Indigenous Peoples face a variety of situations when contemplating a path towards the creation of carbon offsets in their territory.

The key questions that arise when Indigenous Peoples are contemplating carbon offsets in the context of land tenure are:

1. What are the current negotiations regarding land claims that might be unsettled in the traditional territory?
2. What would be required in order for a Nation to enter into an agreement that would allow them to pursue a carbon offset in their territory such as an Atmospheric Benefit Agreement?

Issues related to jurisdiction, traditional territories, treaties, and the legislative statute in place all intertwine to form a complex context for efforts to create carbon offset projects in a Canadian context.

First, land jurisdiction, who has the rightful claim to be the decision maker and beneficiary of an area, is a central issue. UNDRIP states, that Indigenous Peoples have the right to self-determination and autonomy or self-government in local affairs [77]. These rights are constitutionally guaranteed through section 35 of the Constitution Act. Currently, very few Nation have exclusive jurisdiction, enshrined in law, over the land considered to be their traditional territory.

Second, carbon offset projects are more feasible in the context of traditional territories (as is the case in the Great Bear Carbon Project in BC), rather than being limited to reserve lands which tend to be much smaller small areas [123].

Third, is the status of Treaty. There are historic treaties and there are modern treaties. Historic treaties were made between 1701 and 1923 and were marked in Ontario, Manitoba, Saskatchewan, Alberta and parts of British Columbia. Regions that are not under treaty in Canada include most of British Columbia, large parts of Quebec and Atlantic Canada [124].

The Supreme Court of Canada has provided some guidance on Treaty rights in their decisions over the past 125 years. However, Indigenous Peoples generally disagree with how these rights continue to be interpreted by the courts. For example, decisions are often based on the erroneous principle that rights have been “granted” by Canadian law rather than the Indigenous principle that “rights are rooted in pre-existing sovereignty” [125-127]. The United Nations have looked at the nature of treaties in Canada and have confirmed that to be considered legal, “only Nations can enter into treaties” [128]. The very fact that treaties exist affirms pre-existing Indigenous jurisdiction and sovereignty. The current unresolved treaty negotiations and challenges to the interpretation of historical treaties means that authority over

land management is a barrier to creating projects carbon offset. Currie in 2016 investigated whether treaty right to carbon offset on traditional territory in Ontario existed. The author found no clear and obvious treaty right as the concept of carbon predates these agreements, but offered many potential paths for Nations to argue the pre-existing right existed through this mechanism using more circuitous approaches. Currie went on to state that, “the recognition of this right by [provincial governments] would constitute a valuable step towards reconciliation, and would support the efforts [for provinces] to do their part to mitigate climate change” [129].

Modern day treaties are signed through comprehensive land claims agreements, which aim to settle long outstanding grievances and provide for Indigenous self-determination. This process started in 1975, since then twenty-six other modern-day treaties have been agreed to between the Crown and Indigenous Peoples covering nearly 40 per cent of Canada’s land mass. Nations with modern day treaties could be shown to have exclusive authority over their forest resources and as such would not be required to share participation in decision-making processes with the governments [76]. Their treaty agreements could provide them the power to make their own forest laws, and furthermore provide them the authority to own a carbon offset project and to receive 100% of the benefits [76].

Limited or Uncertain Carbon Rights

Presently, Indigenous Peoples’ rights to the carbon stored on their lands and its related potential revenues are for the most part not yet recognized by the Canadian government. Without clear and defined property rights which are secured and legally upheld [76] it remains difficult for Indigenous Peoples to fully participate in carbon offset opportunities. In the areas where Indigenous Peoples have an interest in creating carbon projects in their traditional territory, outstanding and sometimes long-standing disputes over who has the right to manage land must be settled and agreements created before projects can proceed. Until this occurs, Indigenous Peoples remain marginalized in this regard.

Carbon rights are open to many different interpretations and vary between different legal contexts. For example, one interpretation is that carbon can be considered as a new form of property in forest ecosystems. This raises legal issues surrounding how rights to carbon as property, and the associated rights to transfer and trade carbon, are determined. However, Indigenous Peoples may also face new risks if actors, such as “carbon cowboys” (people who attempt to exploit Indigenous Peoples to gain access to the carbon in their land) [130], corporations or provincial governments [113] move to secure rights to carbon.

Even before international carbon markets were seen as mechanisms to support forest conservation, there were precedents for how to deal with rights to land-linked resources. In regions where forests are owned by governments, rather than allowing private timber firms and other would-be land users to own forests outright, governments have favored concession systems where only specific use and management rights are allocated. It is not necessary for companies entitled to harvest and sell timber, to “own” the land. Similarly, Nations do not need to “own the carbon rights” to create a carbon project and governments could give concessions of carbon rights to Indigenous People to support the creation of GHG offsets.

There are international examples where agreements or settled land disputes have cleared the way for clearer carbon rights. For instance, in the United States and New Zealand, Indigenous Peoples have been able to participate in forest carbon markets because the land tenure was defined in a way that

clearly delineated their carbon rights [88]. Knowing that carbon rights do not necessarily need to be tied to land rights opens up an opportunity for governments to think creatively about who ought to benefit from schemes and craft policies accordingly to account for concerns about justice, equity and who should lead the process. [88].

The Indian Act pertains to First Nations in Canada. The complexity and limitations of the Indian Act make carbon rights for First Nations unclear. For instance, the Act states that First Nations own the trees on their reserve lands, including plants and plant products, and may harvest and sell them for the economic benefit of the community, but it does not include carbon as a product of the trees and timber. Therefore, the property right is a grey area [76]. Currently, for Nations under the Indian Act to create a GHG offset project, they must engage with provincial governments to create bilateral agreements, which are negotiated as reconciliation, resource and revenue-sharing protocols such as ABSA [76]. To date, this has successfully occurred in just a small number of instances.

Currie, 2016 provides a review of carbon offsets under the emerging cap-and-trade in Ontario prior to its cancellation in 2018. The paper asks the question, “Do Ontario’s treaties with First Nations in Northern Ontario create a right to ownership and control of carbon offsets situated on traditional territories?” The author explores some of the overarching obligations of the Crown in relation to Indigenous communities generally and the more specific rights of First Nations communities in Northern Ontario. She provides three arguments that First Nations could use to assert a right to a sui generis ownership of the carbon sequestration capabilities of their traditional territories. These are:

1. An incidental right to the enumerated treaty rights,
2. Framed as a right to harvest carbon offsets, and,
3. Expansion of the interpretation of the treaties to include sharing in the benefits of the land.

Currie, 2016 admits that these arguments are tenuous and yet they provide some tools for First Nations to use in negotiations with the Crown during the development of offset protocols and regulations surrounding the offset market [129].

In a review of carbon rights conducted by the Center for Indigenous Environmental Resources (CIER) for the Assembly of First Nations in 2006 an approach for First Nations to assert jurisdiction over traditional territory using Aboriginal land title [131]

This report lays out three legal arguments for First Nations claiming ownership and rights of use of carbon credits:

1. Claiming ownership to carbon as a resource that was not ceded by First Nations to the Crown specifically, and thus ownership and rights of use is still retained by the First Nation.
2. Asserting territorial jurisdiction over forests and areas that can be managed and conserved in a way that is compatible with recognising the existence of carbon offset credits. This could happen in areas controlled by First Nations governance structures under settled land claims agreements, on reserves, and off-reserves through assertion of Aboriginal title.
3. First Nations can argue that they have Aboriginal and treaty rights to or related to the conservation and environmental management practices that would also create for them interests in owning and selling carbon offset credits.

The outcome would be significantly affected by the particular circumstances of a First Nation, the evidence they would be able to offer in support of these legal arguments and also the specifics of the offset system developed to meet Canada's greenhouse gas reduction objectives. For instance, the result might be a co-management arrangement between the Indigenous Nation and Canadian government as to how territories concerned will be managed and conserved, and how benefits will be allocated. Given the case law and opinions of legal scholars summarised throughout the CIER report, it is likely that First Nations would be able to effectively argue the merit of their rights to claim carbon offset credits through their ownership over carbon and their jurisdiction over environmental management resulting in the creation of offset credits [131]. This report concludes that, "conflict between First Nations and federal or provincial jurisdiction over a territory claim under Aboriginal land title would have to be resolved in advance of one of these parties reaping benefit from it under the carbon offset system" [131].

Summary

The evidence in this literature review shows that NBS represent a huge potential opportunity for Indigenous Nations to create carbon offsets, which, if actualized could offer a route towards both prosperity and stewardship. The participation of Indigenous people in some carbon markets elsewhere, provides evidence that carbon trading, when poorly designed and implemented, can marginalize Indigenous people and leave them with little financial reward. However, observations of the experiences from regions such as US through the California cap and trade, Australia and New Zealand, and British Columbia, show that, in a well-designed system that is cognizant of the barriers Indigenous peoples have faced and overcome, Indigenous people have benefitted from participation in carbon markets. Currently issues around land tenure and carbon rights are the largest barrier to creating carbon offset projects although a clear pathway and precedent exists in the form of ABSA between Nations and provincial governments. If properly executed the opportunity of carbon offset generation can form a part of a movement catalyzing the creation of large scale Indigenous-led protected areas that are part of a conservation economy. This could hold great promise for actualizing Indigenous peoples' aspirations and supporting livelihoods as part of climate change mitigation efforts.

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Appendix B: May 2019 Forum, Agenda

Time	Activity
May 29, 2019	
5:00pm-5:40pm	Arrival and mingling; video booth open
5:40-6:00pm	Territorial welcome by Elder Garry Sault of the Mississaugas of the Credit First Nation
6:00-6:20pm	Opening remarks: Larry Sault, Anwaatin Inc.
6:20-7:15pm	Dinner; video booth open
7:15-8:45pm	Panel Discussion: <i>Indigenous-led Conservation in Canada and Possibilities for Carbon Management</i> Marilyn Slett, Coastal First Nations/Heiltsuk First Nation Eli Enns, IISAAK OLAM Foundation/Clean Technology Community Gateway John Cutfeet, Kitchenuhmaykoosib Inninuwug
8:45-9:00pm	Closing remarks and plan for days ahead: Justine Townsend/Mary-Kate Craig Closing song: Elder Garry Sault
May 30, 2019	
8:00-8:30am	Space open; video booth open
8:30-9:00am	Light breakfast; video booth open
9:00-9:30am	Activity: <i>Getting related to each other</i>
9:30-10:30am	Presentation and Discussion: <i>Boreal forest carbon storehouse?</i> Jeff Wells, Audubon Society Merritt Turetsky, University of Guelph
10:30-10:45am	Break
10:45am-12:15pm	Workshop Session: <i>Experiences with, or aspirations for, Indigenous-led conservation and carbon storage</i>
12:15-1:15pm	Lunch; video booth open
1:00-2:00pm	Presentation and Discussion: <i>The future of the conservation economy</i> Valérie Courtois, Indigenous Leadership Initiative
2:00-3:15pm	Workshop Session: <i>Carbon and conservation: What's possible?</i>
3:15-3:30pm	Afternoon break and refreshments; video booth open
3:30-4:00pm	Outdoor activity: <i>Healing the land</i> With Elder Gary Sault
4:00-5:00pm	Group harvest/Sharing back (from whole day)
8:00-10:00pm	Dinner at Mijidaa Café and Bistro (37 Quebec St., Downtown Guelph)
May 31, 2019	
8:00-8:30am	Space open: video booth open
8:30-9:00am	Light breakfast; video booth open

Time	Activity
9:00-10:15am	Concurrent workshop sessions (5 min. introductions of each topic) <ul style="list-style-type: none"> • Pathways to forest carbon finance (with Joseph Pallant, Ecotrust Canada); • Carbon agreements (with Jonathan McGillivray, DeMarco Allan LLP); • Guardians as a pathway to carbon and conservation (with Valérie Courtois, Indigenous Leadership Initiative); • Certification, traditional knowledge and intellectual property (with Carol Godby, Westaway Law Group); and • Other potential topic/s, TBD by group?
10:15-10:30am	Break; video booth open
10:30-11:30am	Concurrent workshop sessions (continued/switch) <ul style="list-style-type: none"> • Pathways to forest carbon finance (with Joseph Pallant, Ecotrust Canada); • Carbon agreements (with Jonathan McGillivray, DeMarco Allan LLP); • Guardians as a pathway to carbon and conservation (with Valérie Courtois, Indigenous Leadership Initiative); • Certification, traditional knowledge and intellectual property (with Carol Godby, Westaway Law Group); and • Other potential topic/s, TBD by group?
11:30am-12:15pm	Group harvest/Sharing back <ul style="list-style-type: none"> • What else do we know we don't know? • Where to from here?
12:15-12:30pm	Closing remarks. Closing ceremony with Garry Sault
12:30-1:30pm	Lunch and formal end; video booth open
1:30-4:00pm	Optional: mingling, walks in Arboretum; video booth open until 3:00pm

Appendix C: May 2019 Forum, Host and Presenter Biographies

Forum Hosts

Elder Garry Sault

Garry Sault is an Ojibway elder from Mississauga's New Credit Nation. His people signed over 20 pre-confederation treaties with the Crown which cover most of the Golden Horseshoe. He is a veteran who served in the U.S. Navy. He resides on the New Credit First Nation with his wife of 46 years and enjoys spending quality time with his grandchildren. Garry is a storyteller & has welcomed chiefs, premiers, environmentalists, & many more to the traditional territory of the Mississauga's of the New Credit.



Larry Sault

CEO, Anwaatin Inc.

Larry is the owner of Anwaatin Inc which is a company that provides technical support and opportunities to ensure Indigenous Nations can benefit from carbon opportunities aligned with land stewardship. Larry is a current councillor with Mississaugas of the Credit First Nation. Larry brings 30 years of experience working with First Nations, Inuit and Tribal Nations across North America. He has held key positions in political leadership, private sector corporations and non-profit organizations, including his time as the former Grand Chief of the Association of Iroquois and Allied Indians. He is currently focused on governance, policy, legislation, regulation and First Nation participation in programs related to climate change, low-carbon energy, and First Nation energy poverty issues. Larry is on the Board of QUEST Smart Energy Communities and is the only Indigenous member at the IESO – The Electricity Outlet – CEO – Roundtable on Market Renewal. He is a Certified Professional Coach and has training in negotiation, economic development, and leadership.



Justine Townsend

PhD Student, University of Guelph, Department of Geography, Geomatics and Environment

Justine Townsend is a PhD Candidate working at the intersections of environmental and social justice living in unceded Coast Salish territory (West Coast, BC). Justine's research interrogates the possibilities for decolonization and reconciliation through Indigenous-led conservation in Canada. She is



currently working with Tsilhqot'in Nations in Dasiqox Tribal Park (BC), and Kitasoo/Xai'Xais in the Great Bear Rainforest (BC) researching Indigenous-led governance models. Prior to commencing her doctorate, Justine worked with industry, and First Nations, Inuit, and Métis peoples in the context of consultation for environmental assessments of mining projects in Canada. She is a co-founder and co-producer of the podcast, *Big Bright Dark*, a podcast about making our way on a changing planet.

Mary-Kate Craig

PhD Student, University of Guelph, Department of Geography, Geomatics and Environment



Mary-Kate is a consultant, entrepreneur and passionate community builder whose work is related to climate change action and the transition to low carbon living. She is a catalyst and connector. Mary-Kate has worked in not-for-profit, private sector and academic settings where she has been involved with the governance and development of several local organizations which are part of the vision she seeks to create. Along with partners Larry Sault and Don Richardson of Shared Value Solutions, she is a cofounder of Anwaatin Inc, an Indigenously owned company working with Indigenous stewards on the front lines of climate change. Since September 2017 she has been enrolled in a doctoral degree at the University of Guelph in the Department of Environment, Geography and Geomatics under the supervision of Benjamin Bradshaw to assess the compatibility of the aspirations of North American Indigenous communities with the creation on of nature-based carbon offsets.

Opening Panel Presenters (listed alphabetically)

Eli Enns

President and Chief Problem Solver, IISAAK OLAM Foundation, and CEO, Cleantech Community Gateway



Eli Enns is the great grandson of Na'waas'um (historian and public speaker for Wickanninish) from Tla-o-qui-aht on his father's side. On his mother's side, Eli is a 2nd generation immigrant from the Netherlands, grandson of Peter Enns (Dutch Mennonite). Eli is a happy father of three daughters and three sons, and a grateful grandfather.

Eli is also an internationally recognized expert in bio-cultural heritage conservation and Indigenous economic development. He is a nation builder and Canadian political scientist focused in constitutional law, geopolitics and ecological governance. Eli has recently joined the board of directors for the Canadian Committee for IUCN and the Canadian network of UNESCO Global Geoparks.

Co-founder of the Ha'uukmin Tribal Park in the Clayoquot Sound UNESCO Biosphere Reserve on Vancouver Island, Eli was Co-Chair for The Indigenous

Circle of Experts for The Pathway to Canada Target 1 (Aichi Target 11), is a Research Associate at The Polis Project on Ecological Governance at the University of Victoria and serves as the Regional Coordinator North America for the Indigenous Peoples and Community Conserved Territories and Areas (ICCA) Consortium.

John Cutfeet

Kitchenuhmaykoosib Inninuwug (KI)

John Cutfeet is a member of Kitchenuhmaykoosib Inninuwug (KI) and is dedicated to the protection of KI lands and territory for the benefit of the future generations. He is also interested in how communities in the Ring of Fire will be impacted and provides technical support and information to some communities in the region. John lives in KI and continues to engage in the traditional pursuits of living off the land.



Marilyn Slett

President of Coastal First Nations, and Chief Councillor of Heiltsuk Nation

Marilyn Slett is a citizen of the Heiltsuk Nation and the elected chief councillor of the Heiltsuk Tribal Council. She is currently serving her third consecutive term as chief councillor, beginning in 2008 and following previous positions as tribal councillor and executive director of the Heiltsuk Tribal Council. She is also currently the president of Coastal First Nations, on the board of directors of the British Columbia Assembly of First Nations, the co-chair of the Wild Salmon Advisory Council to British Columbia, and she has served as the B.C. women's representative on the Assembly of First Nations Women's Council.



Keynote Speaker

Valérie Courtois, “The future of the conservation economy”

Director, Indigenous Leadership Initiative

Valérie is a registered professional forester who specializes in Indigenous issues, forest ecology and ecosystem-based management and planning. She is a member of the Innu community of Mashteuiatsh, located on the shore of Peikuakami, or Lac-St-Jean.

Courtois holds a degree in forestry sciences from the Université de Moncton. She has served as a forestry advisor for the Assembly of First Nations of Québec and Labrador, forestry planner for the Innu Nation, and as a consultant in Aboriginal forestry, including certification and spatial planning, and caribou planning. In 2007, she was awarded the James M. Kitz award from the Canadian Institute of Forestry for her early-career contributions to the forestry profession.



Courtois has been the Director of the Indigenous Leadership Initiative since 2013. In addition to her work in conservation and planning, Courtois is an avid photographer. She is also on the Board of Directors of the Corporation du Mushuau–nipi, a non-profit that encourages cultural and professional exchanges on the George River. She lives in Happy Valley—Goose Bay, Labrador.

Session Presenters, “Boreal Forest Carbon Storehouse”

Jeff Wells

Vice President, Boreal Conservation Program, National Audubon Society



Senior Scientist and Environmental Policy Analyst with a demonstrated history of success in the fields of environmental policy, conservation science, ornithology, government relations, education, and communication, working with NGOs, and with state, provincial, Indigenous, and federal governments. Skilled in Science and Environmental Policy Analysis, Science Communication and Advocacy, Conservation Planning, and Strategic Planning. Strong scientific researcher and planner with a Doctor of Philosophy (Ph.D.) focused in Ecology and Evolutionary Biology from Cornell University. Author of “Birder’s Conservation Handbook” (Princeton University Press, 2007); co-author of award-winning book, “Birds of Aruba, Bonaire, and Curacao: A Site and Field Guide,” (Cornell University Press, 2017); co-author of “Maine’s Favorite Birds” (Tilbury House, 2012); editor, “Boreal Birds of North America,” (California University Press, 2011); and author, “Important Bird Areas in New York State” (National Audubon Society, 1998). Weekly bird watching columnist with “Boothbay Register” and “Wiscasset Newspaper.” Frequent contributor National Geographic and HuffPost Canada blogs, and frequent op-ed author and co-author in major newspapers across the U.S. and Canada. I have authored hundreds of reports, popular articles, scientific papers, blogs, and book chapters.

Dr. Merritt Turetsky

Associate Professor & Canada Research Chair, Department of Integrative Biology, University of Guelph



Dr. Turetsky has more than 20 years of experience working in boreal and arctic ecosystems. Her work contributes to theoretical predictions of ecosystem structure and function, but it also applies to regulation of carbon in a global change world.

Dr. Turetsky has played leading roles in the Permafrost Carbon Network, NASA’s ABoVE campaign, and the recently formed Canadian Permafrost Association. She sits on the executive committees of several international research networks and was selected this year as a AAAS Leshner Science Engagement Fellow.

She is passionate about northern ecosystems and the people who depend on them. Through her research and teaching, she hopes to train the next generation of scientists in the interdisciplinary skills required to tackle ongoing challenges in the north related to food and water security, energy sustainability, carbon and greenhouse gas emissions, and landscape change.

Workshop Hosts (listed alphabetically)

Carol L. Godby, “Certification, traditional knowledge and intellectual property”
Senior Counsel, Westaway Law Group



Carol represents Indigenous clients on a broad range of issues including aboriginal/treaty rights claims and the resolution of historical grievances to achieve high value settlements through litigation and alternative dispute resolution processes. She has worked with clients and multiple stakeholders developing effective strategies to advance collaborative partnerships, promote economic development and bolster healthy communities.

In 2008, Carol obtained her LLM in Intellectual Property Law from Washington University in St. Louis and spearheaded a collaboration between the business development unit of the Law School and First Nations designed to protect and preserve traditional knowledge.

Jonathan McGillivray, “Carbon Agreements”
Lawyer, DeMarco Allan LLP.



Jonathan McGillivray is an associate at DeMarco Allan LLP. He is building a broad practice in all aspects of climate change law, energy law, and corporate/commercial law.

Jonathan earned joint common law and civil law degrees from McGill University and completed his articles at DeMarco Allan LLP in 2016. In law school, Jonathan acted as an editor of the McGill Journal of Sustainable Development Law and co-chaired the Green Law Committee. Jonathan earned a Master of Arts in climate science and policy from Columbia University prior to law school. Jonathan also holds a Bachelor of Arts (Honours) in international development from the University of Guelph.

Jonathan sits on the board of directors of GreenPAC, a non-partisan, non-profit organization working to elect and support environmental leaders running for office. He was called to the Ontario bar in 2017 and is a member of the Law Society of Ontario.

Joseph Pallant, “Pathways to forest carbon finance”

Director of Climate Innovation at Ecotrust Canada



Joseph has been a pioneer shaping Canada’s carbon market since 2004, building leading-edge offset projects, contributing to the development of strong standards, and helping society understand the role of ecosystem-based projects in halting climate change. He developed first-of projects in forestry, fuel switching and transportation, founded CPS Carbon Project Solutions Inc., as well as Blockchain for Climate Foundation, who are “Putting the Paris Agreement on the Blockchain.” A 2019 “Canada’s Clean50” award winner, Joseph’s work, insight and advocacy continue to shape the growth of Canada’s low-carbon economy.

Joseph holds an MBA degree from INSEEC, Paris, France, a post graduate diploma in Latin American Management from the McRae Institute of International Management (Capilano College) and a Bachelor of Science degree in Biology and Environmental Studies from the University of Victoria. His contributions as a member of International Emissions Trading Association, and attendee at many of the UN Climate conferences add both context and vision to his work for climate solutions.

Valérie Courtois, “Guardians as a pathway to carbon and conservation”

Director, Indigenous Leadership Initiative

See above.

Appendix D: Background Information

The following background information was provided to Forum participants as part of an information package. We gratefully acknowledge the contributions of Carol Godby who prepared this information.

Traditional Knowledge, Certification Marks and the Potential to Add Value to Indigenous Carbon Offsets

Carol L. Godby

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Intellectual Property (“IP”) rights refer to creations of the mind: inventions, literary and artistic works, designs, symbols, and names and images used in business. Traditional forms of IP, such as, patents, trademarks, copyright, industrial designs, and trade secrets provide rightsholders with economic and moral rights over their creativity and innovations for a fixed period of time.



Traditional Knowledge (TK) and Traditional Cultural Expressions (TCEs) generally include the intellectual and cultural heritage, practices and knowledge systems of Indigenous communities. TK and TCEs often have one or more of the following characteristics:

- They are passed between generations;
- They are integrally linked to the community’s social and cultural identity and heritage;
- TK and TCEs are generally collectively held and not always traceable to a single author or inventor; and
- They are usually dynamic and evolving within a community

IP laws, both in Canada and globally have done a relatively poor job in recognizing the special characteristics of Indigenous knowledge and protecting TK and TCE’s within the “western” legal framework and there has been little effort to harmonize Indigenous legal traditions with Canadian law. With an emphasis on the commercialization of creative endeavours, existing IP laws fail to accommodate the complex, holistic, cultural and spiritual essences of Indigenous creativity.

In fact, existing IP regimes appear to support and excuse the uninvited appropriation of Indigenous culture. Examples of this abound, in Australia, sacred designs have been found on T-shirts and carpets, ‘Navajo’ rugs have been commercialized although there is no connection to the Nation as the producer of these rugs. In Canada, Laszlo Szabo, a University of New Brunswick professor recorded Maliseet First Nation stories from the elders and, as the man operating the tape recorder, the Canadian Copyright Act gave him copyright in the recordings.

IP and Indigenous knowledge systems are based on different world views and approaches which raise challenges to using the formal IP systems for protection. Examples of some of these potential gaps and barriers include:

TK and TCEs may not meet formal IP standards of “originality” as required under copyright law or

“novelty” under patent and industrial design law;

- IP protection often requires the identification of a known individual creator(s) or inventor(s). The concept of “ownership” in the IP sense does not fit well with forms of knowledge that are collectively held by Indigenous communities.
- TK and TCEs are often transmitted or shared orally and therefore they do not meet the requirement that an idea needs to take on a fixed form (e.g., a book) in order to be protected.
- innovations based on TK may be eligible for protection under existing IP frameworks, but not the underlying TK;
- the limited term of protection for some IP, such as copyright, industrial designs and patents, would not protect TK and TCEs indefinitely or at least as long as the community exists, and the limited term of protection may require certainty as to the date of a work’s creation or first publication, which is often unknown;

As ill-suited as the current IP system is in offering protection to intangible TK and TCE’s, existing IP tools can be leveraged to protect Indigenous works and add value to Indigenous products.

One kind of trademark is a certification mark (CM): a specialized type of trademark used to distinguish goods or services which comply with a defined standard, in contrast to a trademark used to distinguish goods or services of the owner from goods or services of others.

Use of a CM can assist in selling the goods or services sold or performed in association with it by taking advantage of the reputation acquired by the certification mark. Under the Trademarks Act in Canada, a certification mark means a mark that is used for the purpose of distinguishing goods or services that are of a defined standard with respect to:

- the character or quality of the goods or services;
- the working conditions under which the goods have been produced or the services performed;
- the class of persons by whom the goods have been produced or the services performed; or
- the area within which goods have been produced or the services performed.

CMs may be adopted and registered only by a person not engaged in the manufacture, sale, leasing or hiring of goods or performance of services similar to those that the certification mark is used in association with. In other words, the owner of the CM licenses its use to others who meet the defined standards of the certification and is responsible for the enforcement of the mark. This can include unincorporated bodies or associations.

Certification marks can add value to products which meet the standards of certification. Think for example, of “fair trade” and “organic.” Several Indigenous communities and organizations in Canada have registered CMs. Some well-known examples include the “Genuine Cowichan” official mark and certification mark, and the Igloo Tag trademark which was recently transferred to the Inuit Art Foundation. With respect to carbon offsets, consider whether value could be added through:

- aggregation; and
- distinguishing, through a CM, that the carbon offsets were produced by Indigenous businesses, groups or Nations, acting together to reduce Greenhouse Gas emissions and promote sustainable economic development in their respective communities.

Aggregation would reduce the transaction costs associated with registering, monitoring, and verifying an offset project. By reducing transaction costs and enabling geographically and temporally dispersed projects, aggregation can help forestry, agriculture, and even household projects to more easily access

evolving carbon markets.

As for adding value, the notion of a customer paying more to support deeper social causes as well as cutting carbon emissions is having success elsewhere:

On May 4, 2018, a little over one year ago, an article appeared in Australia's Sydney Morning Herald announced:

An Indigenous group has launched a carbon fund that will support social and cultural causes, calling it a "boutique restaurant" alternative to the government's cheaper "McDonald's" offsets. The Reducing Carbon Building Communities fund (RCBC), backed by the Aboriginal Carbon Fund, has been established to build connections between groups looking to become carbon neutral or offset their carbon output while also providing broader social benefits.

People are now looking for other value measurements for their carbon credit instead of just pricing."

The Aboriginal Carbon Fund was established in 2010 and carries out emissions reductions through land management, savanna fires, livestock management, or increasing the amount of carbon that is stored in trees and soil.

Its latest fund aggregates offsets from multiple carbon farmers, certifying their social and cultural impacts before wrapping them into a credit package..... the RCBC provided three levels of carbon credits, split into gold, black and ochre – the colours of the Aboriginal flag – that had differing degrees of certified social and cultural values attached.

The higher the colour, the better the social and economic outcomes for the carbon farmers...The point of this fund is to provide the market with the ability to buy funds with real social benefits, [whereas] the objective of government carbon credits is simply to provide the least cost offsets."

The fund will provide an innovative and cost-effective way to invest in rural farming economies, support Indigenous communities and tackle climate change.

This model is unique and it is hoped it will revolutionize Australian corporate support for carbon farming in Australia. There is significant potential for this model - or parts of this model - to be embraced by indigenous communities in other countries."⁸

We believe there is value to be created in aggregating and certifying Indigenous originated carbon offsets.

Climate change has become a pressing if not urgent issue. Reconciliation has rightfully risen to the top of the Canadian agenda. These two factors present opportunities to appeal to consumers who have a desire to contribute to environmental protection through the purchase of carbon offsets while strengthening the source communities who were the original stewards and who continue to be the protectors of mother earth.

⁸ <https://www.smh.com.au/business/markets/indigenous-group-launches-nation-s-first-private-carbon-trading-fund-20180504-p4zdbj.html>