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PERSPECTIVE

"Awakening the sleeping giant": re-Indigenization principles for transforming biodiversity conservation in Canada and beyond

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Abstract

Precipitous declines in biodiversity threaten planetary boundaries, requiring transformative changes to conservation. Colonial systems have decimated species and ecosystems and dispossessed Indigenous Peoples of their rights, territories, and livelihoods. Despite these challenges, Indigenous-governed lands retain a large proportion of biodiversity-rich landscapes. Indigenous Peoples have stewarded the land in ways that support people and nature in respectful relationship. Biodiversity conservation and resurgence of Indigenous autonomies are mutually compatible aims. To work towards these aims requires significant transformation in conservation and re-Indigenization. Key to both are systems that value people and nature in all their diversity and relationships. This paper introduces Indigenous principles for re-Indigenizing conservation: (*i*) embracing Indigenous worldviews of ecologies and *M'sit No'kmaq*, (*ii*) learning from Indigenous languages of the land, (*iii*) Natural laws and *Netukulimk*, (*iv*) correct relationships, (*v*) total reflection and truth, (*vi*) *Etuaptmumk*—"two-eyed seeing," and "strong like two people", and (*vii*) "story-telling/story-listening". Although the principles derive primarily from a Mi'kmaw worldview, many are common to diverse Indigenous ways of knowing. Achieving the massive effort required for biodiversity conservation in Canada will entail transformations in worldviews and ways of thinking and bold, proactive actions, not solely as means but as ongoing imperatives.

Key words: Indigenous resurgence, conservation, biodiversity, protected areas, Indigenous rights and title, Indigenous governance, Indigenous-led conservation, Indigenous Protected and Conserved Areas

Title and authorship statement

"Awakening the sleeping giant" comes from the Mi'kmaw or L'nuwey Creation Story: "Creator taught him to watch and learn about the world. Kluskap learned that mutual respect of his family and the world around him was a key ingredient for basic survival. Kluskap's task was to pass this knowledge to his fellow Mi'kmaq people, so that they too could survive in the Mi'kmaq world.... Legend says that he will

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return once again to the Mi'kmaq people when they need him most" (L. Young 2020 (**Supplementary Material 1**, pp. 6–7)).[1]

Mi'kma'kik is the name for the traditional territory of the Mi'kmaq or L'nuk (Young 2018). The Mi'kmaw concept of *M'sɨt No'kmaq* represents a kin-relationship with the land, waters and all living beings (Marshall 2020 (**Supplementary Material 2**); Young 2018). Roughly translated it means "all my relations". We have chosen *M'sɨt No'kmaq* as lead author to honour the collective and to acknowledge that all stories, learning, and language come from the land. We are just the conduit. This follows Mi'kmaw cultural teachings to speak for collective intellectual rights. Elder A. Marshall is second author, and other authors are listed alphabetically. In the Mi'kmaw language there is no stronger intonation to first person versus collective. Consistent with this teaching, shalan chooses to not capitalize her name.

Positionality statement

The stories of Mi'kmaw Elder Albert Marshall and Lisa Young form the backbone of this paper (**Supplementary Materials 1** and **2**). They come from the land of the people—*Mi'kma'kik*—in the east, *Wabanaki*, where the sun rises first. Other authors include Tłı̨chǫ citizen and young grandmother, Janet Rabesca, and two Mi'kmaw women—Sherry Pictou and shalan joudry. Lisa Young's keynote address for *Transformative Politics of the Wild*[2] inspired the title, "Awakening the sleeping giant" (**Supplementary Material 1**). Their stories are woven throughout and also amplified in podcast form by co-author Jessica Hum, of Chinese/settler and First Nation descent, in *Story-telling/Story-listening* (Hum 2020). The remaining three co-authors are peace and friendship allies who also value the land, all peoples and their Treaty agreements and obligations. Together, we listen and learn from each other through heart, mind, spirit, and body, in total reflection, with two eyes seeing and strong like two people, deepening our relationships through the exchange of stories. In our paper, in alignment with the Mi'kmaw practice of caring for *M'sɨt No'kmaq*—all my relations, we hope to be "the eye, the ear and the voice" for the ones that cannot defend themselves, in human form, and remind ourselves what our true responsibilities are.

1. Introduction: Where we are coming from

> And every night this man is singing. The bones of the animals the People have put in the woods, he is singing for them to come back to life. He puts out the fire, and he sings in the dark. He takes out a moose bone and sings over it. The moose jumps out of the bone, and runs away. He takes out a caribou bone, he beats the birch bark drum, he sings to it. The caribou leaps up and runs away. He takes out the bones of mink and beaver and bear, and while he is singing, these bones burst into animals, and the animals run away. All of them come back to life. This man, *Waisisk Ketu'muaji Ji'nm*, the Man Who Sings For Animals, the Man Who Brings Back Animals, he makes them all live again.[3]

[1]For published accounts see Battiste (1997) and T. Young (2016) citing personal correspondence from Stephen J. Augustine (Ekkian), curator of Ethnology at the Museum of Civilization, Ottawa and "a Keptin of the Santé Mawiomi, the traditional government of the L'nu people" (p. 84).

[2]*Transformative Politics of the Wild: Biodiversity loss & protected areas in Canada* is a series of connection events led by A. Olive (University of Toronto) and K. Beazley (Dalhousie University), funded by the Social Sciences and Humanities Research Council of Canada (SSHRC).

[3]This is the ending in a classic Mi'kmaw or "L'nu" teaching story. It is reprinted in full and cited in Young (2016, p. 89, note 85): "This story is reprinted with permission from RH Whitehead [1988]. Elsie Clews Parsons, who traveled in Nova Scotia in 1923 collecting folklore from African Nova Scotia communities, collected the original version of this story during a side trip to Cape Breton. She collected this story from Isabelle Googoo Morris, who had heard it from her husband's sister-in-law." The story graphically conveys "the need to treat animals with respect and to honour the sacrifices they have made. If this is not done, when the animal returns and is flesh again it will remember the treatment it received and not be so willing to give itself again to nourish the ungrateful L'nu" (Young 2016, p. 89).

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This is an excerpt from a Mi'kmaw or L'nu teaching story. It conveys "the need to treat animals with respect and to honour the sacrifices they have made" (Young 2016, p. 89). If teachings like this were to underlie the worldviews, policies and actions of Western governance, political and economic systems it is unlikely we would be in the predicament we find ourselves today. Instead, the world is facing crises in biological diversity (biodiversity), climate, and human rights. Precipitous declines in biodiversity threaten the planet's living systems (Steffen et al. 2015; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) 2019; WWF-Canada 2020). Biosphere integrity, which regulates the stability of the Earth system, is at "high risk", currently exceeding the "safe operating space for humanity": it is "beyond the zone of uncertainty" that human perturbations will destabilize the system at a planetary scale (Steffen et al. 2015). To change this trajectory will require new approaches in human relations with one another and the rest of the living world. Crucial are transformative changes in the ways Westernized systems and societies view the world. Indigenous Peoples, who have lived on this land "since the beginning", may provide guidance, through their worldviews and ways of knowing, for confronting the biodiversity crisis and its fundamental causes.

Many of the social, political, and economic systems that continue to decimate biodiversity also dispossess Indigenous Peoples of their territories, culture, language, laws, and governance systems. These systems operate through what many consider on-going extensions of settler colonialism (Pictou 2019). In historical and contemporary terms, false narratives depicted Indigenous lands devoid of people, economics, governance, and religion, which fueled British colonial inroads into much of North America. Dispossessions have been made in the service of conservation, often referred to as "fortress conservation".[4] Processes for establishing many of Canada's National Parks (e.g., Banff, Jasper, and Riding Mountain) and Provincial parks (e.g., Quetico in Ontario) have displaced many Indigenous communities from their territories (Binnema and Niemi 2006; Sandlos 2008; Youdelis 2016; Moola and Roth 2019). Despite Treaties of Peace and Friendship and other agreements and obligations, centuries of colonialism have resulted in attempts to erase Indigenous presence through government-sanctioned genocidal and assimilationist policies and practices such as the *Indian Act*, reserves, and the Residential school system (National Inquiry into Missing and Murdered Indigenous Women and Girls 2019; Pictou 2019). Such "historic wrongdoing" is not solely a thing of the past, with egregious contraventions of Aboriginal and Treaty Rights continuing in the name of mineral and energy developments, corporatization, conservation, and others, along with systemic forms of racism and other injustices (Berger 1977; Bielawski 2004; Pictou 2018). Accordingly, re-imagining biodiversity conservation must simultaneously respect and promote the inherent rights of Indigenous Peoples. This entails centering and privileging Indigenous worldviews and ways of knowing (Simpson 2013; Coulthard 2014; Zurba et al. 2019; Zurba and Sinclair 2020).

Concerned with these crises in biodiversity and human rights, we engaged in a series of dialogues focused on the intersections of biodiversity conservation and Indigenous resurgence. As part of a larger initiative called "Transformative Politics of the Wild: Biodiversity loss & protected areas in Canada" (TPoW), we hosted public talks and workshops in Halifax in February 2020. We, the co-authors, are some of the Indigenous speakers and allies/friends who engaged in those dialogues and subsequent reflections. Together we immersed in ceremony—territorial welcomes, land acknowledgements, opening and closing prayers, smudging, drumming, song and feasting, stories and talking-circles, including Mi'kmaw language. Through this relational engagement, Elder Albert Marshall shared his belief that, to be successful, conserving biodiversity will require "re-Indigenization". And from that spark grew the embers of this paper.

[4]"Fortress conservation" refers to conservation that is exclusionary in practice and not participatory in planning and policy processes.

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Fundamental principles emerged from our dialogues that we believe are crucial to transformative changes for re-Indigenization and biodiversity conservation. To ground these principles, we provide important context on where we are coming from and where we are at now in terms of Indigenous rights, responsibilities, and decolonizing conservation. We then introduce "re-Indigenization" and briefly elaborate on how we came to the principles. Finally, as inspiration for reimagining where we are going, we present each principle in turn. The principles emerge from the land, stories, and voices of our Indigenous co-authors, which we seek to privilege and amplify through our paper. Our message is aimed at biodiversity conservation scholars, practitioners, proponents, and others who may be seeking insights that provide necessary and promising alternatives to colonial conservation perspectives.

2. Where we are now: rights, responsibilities, and decolonizing conservation

Globally and in Canada there is strong Indigenous resilience and resurgence despite centuries of systemic prejudice and persecution rooted in colonial worldviews and practices. In contrast to colonial approaches, in 2007 the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) proclaimed a standard of "partnership and mutual respect" (Res 61/295, United Nations (UN) 2007, p. 4). It recognizes the "urgent need to respect and promote the inherent rights of Indigenous Peoples which derive from their political, economic and social structures and from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories, and resources", and that "respect for Indigenous knowledge, cultures, and traditional practice contributes to the sustainable and equitable development and proper management of the environment" (UN 2007, p. 2). Achieving the structural and social standards outlined in UNDRIP involves making space for diverse Indigenous worldviews, laws, and knowledge systems (Simpson 2013; Coulthard 2014; Zurba et al. 2019; Zurba and Sinclair 2020).

The Government of Canada has fiduciary responsibilities to Indigenous Peoples. It has recently expressed commitment to the UNDRIP and is working on implementing the Truth and Reconciliation Commission (TRC) of Canada's "Calls to Action" (TRC 2015a).[5] The Calls to Action serve as a guide for the Government of Canada and all Canadians (TRC 2015a). It outlines "principles of reconciliation", based on processes of "healing relationships through truth sharing, … and redress [for] past harms", as well as "constructive action on addressing the ongoing legacy of colonialism" (TRC 2015b, p. 3). While promising, reconciliation remains hindered by deeply entrenched structures and it is likely that solutions and meaningful models will require the examination of root causes and Indigenous–settler relations (Zurba et al. 2019).

These movements have created a parallel shift within conservation communities to recognize social justice and equity issues associated with displacements and exclusions of Indigenous and other local peoples from protected areas (e.g., Kothari et al. 2013; Moreaux et al. 2018; Adeyeye et al. 2019). A key marker of this shift is the Durban Accord, adopted by the International Union for the Conservation of Nature (IUCN)[6] at the Vth IUCN World Parks Congress in Durban, South Africa in 2003. The Durban Accord proposes an entirely different approach to protected areas and directly confronts and works to decolonize conservation (The Durban Accord 2003; Stevens 2014). In conjunction with the shift towards acknowledging Indigenous governance, equity, and

[5]The TRC's Calls to Action is in response to the Indian Residential Schools Settlement Agreement to seek out the impacts of the residential schools and to move toward reconciliation (TRC 2015a).
[6]The IUCN is the world's largest conservation organization, bringing together 1300 member organizations, including governments, nongovernmental organizations and communities from across the globe to address the most pressing conservation issues (IUCN 2018).

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rights is the emergence of new guidelines and frameworks to account for these characteristics, as well as organizations advancing more equitable approaches (e.g., Indigenous and Community Conserved Areas (ICCA) Consortium n.d.; IUCN 2017; UNEP/CBD 2018; International Institute for Environment and Development 2020).

Crucial to conservation advancements are provisions to reconnect Indigenous Peoples to their territories and recognize Indigenous Nations' rights to govern their territories for human participation in ecosystems (Artelle et al. 2019; Zurba et al. 2019). There is growing recognition of the effective governance of Indigenous lands by Indigenous Peoples, with 40% of the Earth's most intact remaining biodiverse areas in Indigenous stewardship (Garnett et al. 2018). Indigenous-managed lands host similar levels of vertebrate diversity as protected areas in Brazil, Canada, and Australia (Schuster et al. 2019). Inclusions of "other effective area-based measures" within the Aichi Biodiversity Targets of the Convention on Biological Diversity's Strategic Plan for Biodiversity acknowledge Indigenous stewardship outside of designated protected areas (UNEP/CBD 2010; Dudley et al. 2018; IUCN WCPA 2019). In Canada, the Indigenous Circle of Experts (ICE; ICE 2018) described such areas, referring to them as "Indigenous Protected and Conserved Areas" (IPCAs), stipulating that they be Indigenous led, represent a long-term commitment to conservation, and elevate Indigenous rights and responsibilities. IPCAs are defined in the ICE report as: "... 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 at the heart and soul of an IPCA" (2018, p. 5). The ICE further states that IPCA establishment, governance, and management be explored in "ethical space", characterized as "a place for knowledge systems to interact with mutual respect, kindness, generosity, and other basic values and principles" and "for collaboration and achieving common ground" (2018, p. 17).

The production of the ICE report has opened an opportunity for Indigenous Nations in Canada to build their own, contextualized approaches to community and cultural regeneration, as well as influence how nation-to-nation relationship building may occur in the conservation context. Such opportunities are particularly important as conservation efforts beyond 2020 expand to encompass more land, with higher area-based protection targets and ecological corridors between existing protected areas (UNEP/CBD 2010; IPBES 2019; Hilty et al. 2020). It is crucial to remember, however, that the responsibility for conservation does not lie solely with Indigenous Peoples and within Indigenous territories. And yet, with imperative shifts to Indigenous self-determination and governance, along with proven stewardship of their territories for biodiversity outcomes, insights from Indigenous ways of knowing represent important principles for transforming biodiversity conservation and human relations in Canada and globally.

3. Transformation through "re-Indigenization"

In our TPoW [7] conversations, Elder Albert Marshall used the term "re-Indigenization" to characterize how to think and act about biodiversity conservation, both for Indigenous resilience and resurgence

[7] A public talk and a talking-circle workshop were held at Dalhousie University, Halifax, Nova Scotia, 27–28 February 2020 as part of "Transformative Politics of the Wild: Biodiversity loss & protected areas in Canada", a SSHRC-funded connection event led by A. Olive (University of Toronto) and K. Beazley (Dalhousie University). The keynote talks by Elder A. Marshall and L. Young (Marshall and Young 2020), talking-circle dialogues (TPoW 2020), and follow-up podcast interviews—*Story-telling, Story-listening* (Hum 2020)—form the basis of the insights shared in this paper. Transcripts of L. Young's (2020) keynote talk and Elder A. Marshall's (2020) podcast are provided in full as **Supplementary Materials 1** and **2**. Proceedings and interviews were audio or audio-visually recorded with permission and made publicly available online, in a spirit of amplifying Indigenous voices and giving back to community (Hum 2020; Marshall and Young 2020; TPoW 2020). All keynote and workshop speakers and podcast interviewees were invited as co-authors on this paper and have consented to sharing their insights.

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and for the wellbeing of all of "ecology"—the relations and diversity of life, including all peoples (Marshall 2020). He introduced the concept to counter contemporary colonization with other ways of knowing and living, and to encompass the interrelated concepts of decolonization, inclusion, resurgence, and reconciliation. Some scholars have differentiated resurgence from reconciliation and decolonization (Yang and Tuck 2012) and often these concepts are discussed as emerging processes along a spectrum (e.g., Gaudry and Lorenz 2018; McGregor 2018). Several share Elder A. Marshall's view that reconciliation, resurgence, and decolonization are overlapping and simultaneously connected processes (Corntassel 2012; Sium et al. 2012; Artelle et al. 2019). Consistent with our view of re-Indigenization, Sium et al. (2012) point out that "Indigenous knowledges are the starting point for resurgence and decolonization, are the medium through which we engage in the present, and are the possibility of an Indigenous future" (p. iv). Resurgent Indigenous-led systematic changes involve the contemporary revival, strengthening, and adaptation of self-determined Indigenous laws and governance systems (Artelle et al. 2019). Rooted in strong ethical foundations, the resurgence of Indigenous governance also holds exponential potential benefits for ecological conservation and stewardship. Indeed, the continued push for biodiversity conservation in the absence of consent and direct involvement of Indigenous groups would only serve to further entrench contemporary and unethical colonization practices and miss important opportunities (Artelle et al. 2019; Zurba et al. 2019).

Elder A. Marshall's insights remind us that re-Indigenization is crucial for its own sake and at the same time provides deep guidance and opportunity for reimagining biodiversity conservation. Re-Indigenization entails transformations in ways of thinking and knowing that forefront Indigenous worldviews and Natural laws, amplify Indigenous languages and voices, and recognize and embrace Indigenous stories and insights. Core to re-Indigenization is an Indigenous mindset or worldview, informed by relations with the land, which sees all of the "ecologies" as alive, interdependent, and interrelating forms in flux and permeated by spirit (Young 2016). Such a mindset, if more broadly embraced, would go a long way towards setting the stage for the necessary transformative systemic changes grounded in ethics of care and responsibility for both biodiversity and all peoples.

Recognizing the transformative potential of re-Indigenization to benefit both people and biodiversity as guided by Elder A. Marshall, we entered into further dialogue and reflection. Following our early inspiration through the TPoW public talks and talking-circle in Halifax, we engaged in relational processes of "story-telling/story-listening" consistent with Indigenous ways of knowing, including through podcast interviews[8] (Hum 2020). We reflected on the stories, revealing insights central to re-Indigenizing that also represent fundamental principles for reimagining biodiversity conservation. Though we focus on principles that confront colonially based perceptions, they should, if broadly embraced, foster a reimagining that includes an underlying imperative for transformative actions. While we hope that these principles are of interest to Indigenous researchers and other readers, our intended audience is biodiversity conservation scholars, practitioners, proponents, and others who may gain insights from these Indigenous perspectives and thereby re-imagine conservation through a re-Indigenization lens.

4. Re-Indigenization principles for biodiversity conservation

Through our processes of dialogue and reflection, seven fundamental principles emerged that weave together insights for re-Indigenizing biodiversity conservation to build mutually compatible futures together: (*i*) embracing Indigenous worldviews of ecologies and *M'sɨt No'kmaq,* (*ii*) learning from

[8]"*Story-telling/Story-listening*" podcasts were conducted with approval from Dalhousie University's Social Sciences Research Ethics Board (file #2020-5062). Interview participants provided consent for the podcasts to be made publicly available online.

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Indigenous languages of the land, (*iii*) Natural laws and *Netukulimk,* (*iv*) correct relationships, (*v*) "total reflection" and truth, (*vi*) *Etuaptmumk*—"two-eyed seeing," and "strong like two people", and (*vii*) story-telling/story-listening (**Table 1**). Our principles come primarily from a Mi'kmaw worldview, emerging from *Mi'kma'kik*—the land within which the dialogues took place. Yet many are common to multiple diverse Indigenous ways of knowing and have wide acceptance, akin to the Indigenous concept that Turtle Island includes all places and that all of life within Turtle Island is interrelated. The principles are similar to others, such as those from ethics and values in Haida law (i.e., balance, interconnectedness, respect, responsibility, giving and receiving, and seeking wise council) developed to guide planning on Haida Gwaii and in the Gwaii Haanas National Park Reserve (Parks Canada 2019). Indigenous Peoples have lived within relationships of all forms of life since time immemorial, gaining deep understanding of the place, interconnections, and processes. There is much guidance to be found in their understandings.

Fundamentally, each of the principles for re-Indigenizing is grounded in Indigenous worldviews. Most Indigenous Peoples "think, act, behave, and organize their governance institutions on the basis of a relationship to their ecology inherently different from many other groups", with a foundational tenet that "all life forces are sacred and connected" (Young 2016, p. 78, citing Battiste 1997). Canadian and other colonial systems are grounded in mindsets that are "radically distinct" from an Indigenous mindset (Young 2016). To re-Indigenize such systems entails understanding their underlying sources. For re-Indigenization, those sources are the Indigenous worldviews embedded in relations with natural ecologies—sometimes referred to as the "Land," which encompasses air, rivers, lakes, and sea. Central to Indigenous worldviews is how Indigenous Peoples "express and experience their relationship with the ecological realities around them: how they view the world they inhabit, the places they shape and are shaped by" (Young 2016, pp. 77–78, citing Henderson 2000). Though particular to the specific people and place, most Indigenous worldviews share commonalities, such as conceptual, experiential, and linguistic attunement to intersecting life forces and realms in ecology (Battiste 1997; Young 2016; Marshall 2020). To re-Indigenize, respectful examination of Indigenous worldviews and rebalancing relationships is critical, such as by reincorporating traditional Indigenous principles into contemporary mindsets, governance, institutions, policies, and practices (Henderson 1995; Young 2016; Marshall 2020). This represents a "radical and daunting" transformative shift that will require "deep changes in how knowledge and reality are constructed and experienced" (Young 2016, p. 82, citing Henderson 1997).

In many Indigenous worldviews and cultures, these and other inter-relating aspects of re-Indigenization are embedded, wholistic, and circular and, therefore, not divisible or linear, as is typical of Euro-centric worldviews. As a set of wholistic and inter-relating principles, it is challenging to describe them in a paper that is static in time, limited in space, linear, and compartmentalized. Yet, we invite you to "listen", and relisten, with an open heart and open mind, and let your own insights emerge. Our sequential presentation of the principles as relatively discrete themes is artificial but typical to English writing. Nonetheless, we present them here for broad comprehension and with the hope that they may provide Indigenous insights for non-Indigenous, English-speakers, as a way to progress by transforming our worldviews and ways of knowing, as crucial foundations for transformative actions. To honour the complete truth and for those who seek the full context, we have included full transcripts of two of the "stories" that form the backbone of these principles, from Indigenous co-authors, L. Young and Elder A. Marshall, with their consent (**Supplementary Materials 1** and **2**, respectively). We apologize for the limitations our paper imposes on Indigenous voices and urge the reader to read and listen to their stories in their own words, such as through podcasts like *Story-telling/Story-listening* (Hum 2020) and *Trails, Tales and Spruce Tea* (joudry 2018), blogs and poems (joudry 2020a, 2020b) and films such as *We Story the Land* (Stiegman and Pictou 2016).

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Table 1. Seven re-Indigenization principles for transforming biodiversity conservation.

Principle		Conceptual meaning
1.	Embrace Indigenous worldviews of ecologies and *M'sɨt No'kmaq*	• Think, act, behave, and organize governance institutions on the basis of relationships of ecologies, with a foundational tenet that "all life forces are sacred and connected". • All ways of knowing, laws, responsibilities, relationships and practices are embedded in relations with natural ecologies. Relationships are central and are expressed and experienced in alignment with ecological realities and attunement with intersecting life forces and ecological realms, in ways that lead to socially and ecologically just relationships. The "highest form of existence" is "living in harmony with the life forces active in different ecological realms", with "knowledgeable respect for all life forces and relationships of balance." • As expressed in *M'sɨt No'kmaq*, "all my relations" refers to your "overall" family, which is your "natural world" and "every living thing". Humans are not the superior being, but a small part and parcel of it. *M'sɨt No'kmaq* reminds us how we are all related and dependant within all the living world.
2.	Revitalize and learn from Indigenous languages of the land	• The primary expression of Indigenous worldviews, ways of knowing, relationships, and ecologies is Indigenous languages. From Indigenous languages, we can learn the stories of the plants, animals, and the land and of the changes over time. • Indigenous languages are derived from the land, "from the sounds and rhythms of ecology, nature in action". By contemplating the nature and structure of Indigenous languages and their implicit meanings, we can gain a different filter through which to perceive, conceive, and understand the world and each other. • Indigenous languages are repositories of science, they tell of relationships, they reveal history, and they hold Indigenous identity. Reclaiming and embracing Indigenous languages and the knowledges they express will help us learn "how to live" in relationship with the land, ecologies, life forces and one another.
3.	Recognize the supremacy of Natural laws and guidance for living within them from traditional laws like *Netukulimk*	• Natural laws explain the relationships, responsibilities, and obligations that all forms of life have to one another. They emerged from the land and apply to all forms of creation; they were not created by humans; and are not required to be mandated by Western legal systems to be actualized. • Natural laws hold that the very essence and source of life—water, air, and soil—is the right of every living thing and should be our overarching objective. The Laws of Nature must supersede the laws of man. • As expressed in *Netukulimk*, "man and nature are one," "everything comes from the land," and "all that the earth holds is sacred." These values and belief systems are at the core of how we should govern and conduct ourselves on the lands and waters. Understanding natural laws can give us the power to act in a good way. • *Netukulimk* is achieving adequate standards of community well-being without jeopardizing the integrity, diversity, or productivity of our environment. As we go about sustaining ourselves, we need to take care, to become "the eye, the ear and the voice, for the ones that cannot defend themselves, in human form".
4.	Honour and deepen correct relationships with each other and all ecologies	• The importance of working together in correct relationships is intwined with principles of justice, equity, and rights and centered around balance and harmony. A primary duty is to foster alliances. The survival of one is always related to that of others. • A premium is placed on diversity and difference, encouraging respectful behaviour in dealing with others. • Justice for nature also depends on justice for people. When the people are in correct relations, it will be possible for all to come together with their insights and actions: "When all peoples come together . . . each will be able to give forth the gifts that they have been given." • Many Treaties reflect respectful relationships and alliances; it is the responsibility of both parties to honour those alliances. We are all treaty people.

(*continued*)

Table 1. (*concluded*)

Principle		Conceptual meaning
5.	Gain insights through "total reflection" and reveal the truth	• Before we can enter into respectful alliances and dialogues and gain insights about where we are going, we need to deeply reflect on the "truth" of who we are, where we are coming from, and why we are here. • Insights come from the heart, mind, spirit, and body. It starts with "total reflection" on what has been done in the past and how to transform those into lessons learned for where we are going. • We have to remind ourselves that we have a cognitive mind. And with that we have the ability to transform our natural world. With total reflection, really looking at the mistakes, at some of the things that have been done in the past, and transforming those, as lessons learned, and abiding by those lessons, we will stand a chance.
6.	Hold other ways of knowing as valid: *Etuaptmumk*, or "two-eyed seeing," and "strong like two people"	• Indigenous ways of knowing must be respected as distinct and valid systems of knowledge, standing side by side with Western systems. Only when both ways of knowing are recognized may they be woven together to honour both. • Indigenous ways of knowing are conceived as spirit, emphasize the importance of sharing and encouraging learning, are deepened through relationship, and reflect interconnectedness. Through Indigenous ways of knowing we can deepen understanding and relationships in fundamentally crucial ways. • *Etuaptmumk*, or "two-eyed seeing," similar to a Tłı̨chǫ concept of "strong like two people," offers space for recognizing and honouring the value and legitimacy of Indigenous knowledge systems and establishes pathways to move forward in partnership, collaboration, and respect, "learning to use both eyes together, for the benefit of all". • We can begin to "bring forth perspectives that are heavily weighed in both knowledges, not just one". This opens opportunity to reflect, in ethical space, on what needs to be included as we move into the future.
7.	Deepen relationship and knowing through "story-telling, story-listening"	• Stories are the platform for teaching Indigenous worldviews, values, culture, and how to live with and uphold responsibilities to the land. The sharing of stories constitutes and deepens relationship, while honouring Indigenous ways of knowing, teaching, and learning. • Telling, re-telling, listening, and re-listening to stories is an important part of a life-long process of learning about laws, roles and responsibilities and understanding how to share ecological space, to ensure community for every life force. • Both story-telling and story-listening are important for revealing nuances and insights. The value of the exchange of stories is in generating insights that are deeper than facts, because the flow of information is through the heart, mind, spirit, and body. • In the Mi'kmaw practice of caring for *M'sɨt No'kmaq*—all my relations, watching, listening and doing are as important as sharing the lived experience with others: "what constitutes a real relationship is the exchange of stories".

Note: Though derived primarily from a Mi'kmaw worldview and emerging from *Mi'kma'kik*—the land within which our dialogues took place, the principles are common to multiple diverse Indigenous ways of knowing. Principles such as *M'sɨt No'kmaq* have wide acceptance, akin to the widely held Indigenous concept of Turtle Island as including all places and all of life as interrelated. The principles remind us that we are all related and inter-dependant within the living world. Fuller accounts of these concepts are provided in the words of Lisa Young (**Supplementary Material 1**) and Elder Albert Marshall (**Supplementary Material 2**). (Compiled from Mikmaw Spirit n.d.; Red Path n.d.; Deblois and Metallic 1984; Micmac Grand Council et al. 1987; Henderson 1995, 1997, 2000; Deblois 1996; Battiste 1997; Smith 1999; Marshall et al. 2004; McGregor 2008, 2013, 2018; Metallic 2008; Wilson 2008; Kovach 2010; Stiegman and Pictou 2010, 2016; Prosper et al. 2011; Simpson 2011, 2017; Bartlett et al. 2012; Sable and Francis 2012; Ens et al. 2015; Bawaka Country et al. 2016; joudry 2016, 2020a, 2020b, 2020c; McMillan and Prosper 2016; Young 2016, 2018; Pictou 2017, 2019; ICE 2018; Zoe 2018, 2020; CJBS 2020; Hum 2020; Marshall 2020; Rabesca 2020; TPoW 2020; UINR 2020; Young 2020.)

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4.1. Embracing Indigenous worldviews of ecologies and *M'sɨt No'kmaq*

Indigenous worldviews are diverse, embedded in contexts and regions, and yet they commonly encompass relationship with all of the world around them and articulate ways that help to sustain relationships between a particular group and its ecology (Henderson 1995, 2000; Young 2016). In general, Indigenous worldviews are "wholistic", recognizing that all peoples and all other beings are brothers and sisters, ancestors, and future generations. In the Mi'kmaw or L'nu[9] way of thinking (*L'nuwey*[10]) this is expressed as *M'sɨt No'kmaq*, meaning "all my relations." *M'sɨt No'kmaq* is "not just referring to your kin, your family, your extended family, but actually your *overall* family, which is your natural world. And every living thing" (Marshall 2020, p. 3; **Supplementary Material 2**). *M'sɨt No'kmaq* reminds us how we are all related to and dependent upon all the living world. The Mi'kmaw practice of caring for *M'sɨt No'kmaq* represents a kin-relationship with the land, waters, and all of life. This principle offers opportunities to lead us to more socially and ecologically just relationships (Young 2016; Marshall 2020).

Similarly, the L'nu concept of *Msit Mimajuaqn*—all forms of life—is close to the English concept of biodiversity (Young 2018, p. 11). For the L'nu, biodiversity is seen as the "relationships" among the life forces in the waters, the forests, and the skies, rather than as a collection of individuals, species, and communities. Key to understanding is to think first in terms of relationship—how they all connect with each other and our own lives as humans (Young 2018). It is at these "intersections of life forces that "sacred ecological spaces" occur, and these intersections or "spaces" encourage "the development of respectful behaviour in dealing with other beings and forces… about sharing resources in a given ecology, developing a system of cooperative governance between life forces" (Young 2016, pp. 81–82, citing Henderson 1995, 2000). The path to "the highest form of existence" is "living in harmony with the life forces active in different ecological realms" (Young 2016, p. 81, citing Henderson 1995, p. 226).

These kinship and sacred ways of relating to others are common in other Indigenous worldviews. It is mirrored in complementary concepts of acknowledgement and respect rooted in the Dene law, "love each other as much as possible," as echoed by young Tłı̨chǫ grandmother Janet Rabesca.

> Because I grew up with my grandparents and my nomadic great-grandparents up on the Marion River watershed… what better way to give thanks for your life. It's kind of like a universal greeting to give thanks for what we have, for being alive and not knowing in time if there is a goodbye or not. We don't have goodbyes in our language, just the acknowledgement and the respect of things that I believe falls into every nation on this planet. We're all different. We go on different paths, different journeys, but simply, the offering is all the same. We might not have tobacco or cedar or sage or clays or whatever other cultures use, it's just to bring back and offer what is given to us and that's the teaching that I grew up with (Rabesca 2020, n.p.).

Indigenous worldviews and ways of knowing and caring for the world "illustrate and demonstrate the value of ecological co-existence" (Young 2016, p. 81). As such, this value is foundational to and inseparable from Indigenous systems of law, relationship, reciprocity, and responsibilities. These entail a "knowledgeable respect for all life forces and the relationships of balance" (Henderson 2000; Young 2016, p. 79). Together, they hold important lessons and provide the seeds for cognitive and systemic transformations for the benefit of biodiversity, including all peoples. Biodiversity, conceived

[9]T. Young (2016, 2018) uses what he refers to as the original name of his people, L'nu, also known as the Mi'kmaq. We use both terms interchangeably, as used by the speaker we are citing.
[10]*L'nuwey* translates roughly as "It belongs to the L'nu" or "The way the L'nu think, behave or do something." See Micmac Dictionary (Deblois 1996, p. 38). L'nu is singular and L'nuk is plural (Young 2016, p. 77).

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as respectful and reciprocal relationships between life forces, including between human and nonhuman forces, represents a shift in how biodiversity conservation might be approached. As Elder A. Marshall points out, "We are not the superior being here, but rather, really small part and parcel of it. … [W]e have to remind ourselves … why we are here, and what our responsibilities are here…. [Y]our responsibility does not end" (2020, p. 2; **Supplementary Material 2**).

Knowing about biodiversity is embedded within the way of thinking, which is expressed in the language, the stories, the ceremonies, the rituals, and the teachings, passed down from countless generations. Accordingly, conservation of biodiversity also needs to include protection and promotion of the language, in this case *L'nuwi'simk*, to speak L'nu or Mi'kmaq (Young 2018).

4.2. Learning from Indigenous languages of the land

> The language is like a doorway which leads us to the true meaning of things (Cedar Meuse-Waterman, cited in CBC 2019, n.p.).

A critical part of re-Indigenization is revitalizing, protecting and promoting Indigenous languages (Smith 1999; Metallic 2008; Kovach 2010; Young 2016, 2018). Ways of knowing and relationships are embedded in the language. As Rose Meuse pointed out, "Our language is full of our teachings and culture, and is a must to re-awaken it" (CBC 2019, n.p.). It is the primary expression of the way of thinking, and yet while a renaissance is occurring now in Indigenous communities, many Indigenous languages are in danger of becoming extinct, including within Canada and *Mi'kma'kik* (Canadian Geographic n.d.; Moseley 2010; TRC 2015a; United Nations 2018, 2019; Young 2018). If the language becomes extinct, the knowledge within it also becomes extinct, including knowledge of relating to the land. As Chief Carol Potter of *L'sitkuk* (where water cuts through high rocks or Bear River First Nation) explained, even when we regenerate land-based practices and relations, without the language we struggle to express our relations (Pictou 2017). As shalan joudry also poignantly expressed,

> I wish I could speak the language of this land, Mi'kma'ki, as if I belonged to the land itself…. Our elders … tell us that we sprouted here, weji-sqalia'tiek, …. As the first human language here, the Mi'kmaw language holds the rest of the story of the plants, animals and geography, as it can describe the land and the changes over time (as cited in CBC 2019, n.p.).

The importance of the language for Indigenous Peoples and their ways of knowing and thinking about relationships and ecologies is recognized globally, such as by the United Nation's Year of Indigenous Languages in 2019. In Canada, endeavors are in progress to work on the TRC's (2015a, 2015b) calls to support Indigenous Nations in reclaiming and revitalizing their languages, which were systematically removed by Canadian governmental and educational institutions. The multi-generational effects of the Residential School system are part of the reasons that many Indigenous people in Canada do not speak their languages fluently today (TRC 2015a, 2015b). Shalan joudry spoke hauntingly of this.

> Like most Indigenous languages in what we now call Canada, reclaiming and restoring our language in families or regions with few fluent speakers feels like a daunting responsibility. … [W]e're staring down the precipice of language loss. I can feel the bitter taste on my tongue and it keeps me awake at night …. When I feel ashamed that I can't speak my language I take a moment to remember how we got to this point…. Yet, here I am feeling the responsibility on our generations' shoulders to rescue the language … and pass it on to our children (as cited in CBC 2019, n.p.).

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Original languages were emphasized throughout our conversations. Janet Rabesca described speaking "an old dialect that most of my peers my age don't speak" (Rabesca 2020, n.p.). Contrasting the old languages with that of the colonizer's languages, Elder Albert Marshall emphasizes the importance of language—both the study of original languages and the transmission of teachings through Indigenous languages: "we are using English to teach Mi'kmaw. And if that continues much further, our languages should be gone, even though it'll be spoken, because the spirit will not be there" (Marshall 2020, p. 8; **Supplementary Material 2**). In her poem, "I Recollect", written in both Mi'kmaw and English, shalan joudry conveys this spirit in the language, expressing its importance in generational ways of knowing.

NESTUITA'SI	*I RECOLLECT*
peway l'nuisi	*i dream i'm speaking our tongue*
aqq nukumi' l'nuisit	*and my grandmother is speaking our tongue*
nestuita'sit	*she recollects*
aqq nujj nestuita'sit	*and my father recollects*
peway	*i dream*
ntusji'jk l'nui'sijik	*my daughters speaking our tongue*
eta nestuita'si	*thus i recollect*

(joudry 2020b, p. 60)

The language reflects ways of knowing. As Mi'kmaw Elder Murdena Marshall explained, "in our culture we do not "gain" knowledge… but we "deepen" our relationships through learning" (joudry 2020c, p. 4, citing joudry 2016, pp. 30–31). As in many Indigenous languages, "knowledge" is conceived and experienced as an active and ongoing process of knowing or coming to know (i.e., as a verb), rather than as something that can be achieved or possessed (i.e., as a noun). Through (re)engaging with the language, relationships to the language as well as to ways of knowing, and to the land and all of life, are deepened. The language holds the worldview and is derived from the land, "from the sounds and rhythms of ecology, nature in action" (Young 2016, p. 93). Land is an essential component of forming language which is linked to place-based systems of relationship that have been established through interaction and engagement (Corntassel and Bryce 2012; Bawaka Country et al. 2016; Mashford-Pringle and Stewart 2019). In *Following the Trails of Our Ancestors: Re-Grounding Tłı̨chǫ Knowledge on the Land*, Dr. John B. Zoe observes this relationship:

> The further you step away from the land, the further you get away from the original teacher of the language; that is, the land. It first spoke to us to say, here's where the fish are, here's where the moose lives, here's where the caribou cross, and this is where good berries are—all that kind of information was provided to us. It communicated with us. And in that communication, we need to bring people back onto the landscape so that we reconnect with that environment of teaching (Zoe 2018, p. 21).

In *The Language of this Land, Mi'kma'ki*, Sable and Francis (2012) demonstrated how the very landscape influenced the evolution of Mi'kmaw language and how place names tell stories that Mi'kmaw culture still carries. They write, "By contemplating the nature and structure of the language, and its implicit meanings, we can gain some understanding of another world view, a different filter through which to perceive and conceive of the world than through Indo-European languages" (Sable and Francis 2012, p. 26). Margaret Kovach further stressed the importance of the relation among the land–place–and language, writing, "This is why name-place stories matter: they are repositories of science, they tell of relationships, they reveal history, and they hold our identity" (2010, p. 61).

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If we understand that language carries worldview and ways of knowing, then by allowing English-language perspectives to dominate we are privileging English ways of knowing and derogating Indigenous ways. Reimagining biodiversity conservation entails reclaiming and embracing Indigenous languages and the urgent ways of knowing they express of "how to live" in relationship with the land, ecologies, and life forces. Indigenous languages and oral traditions have transmitted Indigenous knowledge and culture across generations (Mashford-Pringle and Stewart 2019). Considering that many fluent Indigenous mother-tongue speakers and land-based cultural leaders are aging, Indigenous communities and scholars are calling for the reclamation of Indigenous languages (Smith 1999; Metallic 2008; Kovach 2010). Just as protection and promotion of the language is important to re-Indigenization, it is important to understanding and conserving biodiversity as relationship (Young 2018).

4.3. Natural laws and *Netukulimk*: the Laws of Nature supersede the laws of man

Indigenous cultures have traditional laws that govern their relationships with the environment. Natural laws were described by Deborah McGregor (2015), an Anishinaabe scholar, as having emerged from the environment and applying to all forms of creation; they were not created by humans. She adopted Borrows' (2014, p. 29) description of Natural law as being "derived from fundamental experiences and observations of the natural world". Natural laws offer and explain the relationships, responsibilities, and obligations that all forms of life have to one another, and they are not required to be mandated by Western legal systems to be actualized (McGregor 2015; Bawaka Country et al. 2016). Mi'kmaw Elder A. Marshall also stresses this latter point.

> The overall objective… is to remind ourselves, the Laws of Nature has to supersede the laws of man. If we just take three elements—water, air and soil—why is it that the corporations have exclusive rights and jurisdiction over the very source of life on which we are all dependent upon?… That has to change. These very essence and source of life—water, air and soil—should be our overarching objectives and right, as humans. And therefore, by making that declaration and sticking to it, I believe, that hopefully, or inevitably, that the message will resonate with the government, that … in fact, it is the right of every living thing (in TPoW 2020, at 2:26:10).

L'nu scholar, Tuma Young explained that *L'nu Tplutaqan*, the laws or justice systems of the L'nu (Deblois 1996), derive from the worldview—basically "the sounds and sights of the sacred L'nu ecological spaces"—and are fully expressed in the language, stories, and ceremonies (2016, p. 77). He cautioned that understanding *L'nu Tplutaqan* is impossible without understanding the worldview, and deep knowledge of the worldview is impossible without knowledge of the language (Young 2016). Yet, understanding these laws is important. As McGregor (2015) suggested, knowing Natural laws and understanding them can give us the power to act in a good way. To enact Natural laws, we need to have a strong understanding of the environment and the knowledge, perspectives, and worldviews that emerged from engaging with the land (McGregor 2015, 2018; Bawaka Country et al. 2016).

Netukulimk, a Mi'kmaw concept, like other traditional laws, is rooted in Natural laws, embedded in the language, emergent from the worldview, and shared through ceremony, ritual, and stories (Prosper et al. 2011; Young 2016). *Netukulimk* is central to the *L'nuwey* and refers to "the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community at large" (Micmac Grand Council et al. 1987, as cited in Young 2016, p. 90), "provisioning" (Deblois and Metallic 1984; Deblois 1996) or "sustainability" (Marshall 2020; Young 2020; see **Supplementary Materials 1** and **2**). As Lisa Young explained, *Netukulimk* emerges from the understanding that "man and nature are one" and "interdependent"; "everything comes from the land", which "provides for well-being" and holds the history, teachings and languages, and "all that the earth holds is sacred."

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> These are the values and belief systems at the core of how we governed ourselves and how we conducted ourselves on these lands... *Netukulimk* is the word we use today to communicate this connection. The sense of responsibility we have to the land and future generations. Simply stated "*Netukulimk* is the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community. *Netukulimk* is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment" (UINR 2020). Sustainability, such a simple concept yet as a country Canada is struggling to achieve this (Young 2020, p. 3; **Supplementary Material 1**).

Accordingly, *Netukulimk* acts as a guide for shaping the way interconnected relationships with land, resource use, and stewardship can be understood (Prosper et al. 2011; McMillan and Prosper 2016). Importantly, it goes well beyond Western conceptions of "resource use", reminding us that limiting parts of the environment by framing them as "resources" strips them of the multitude of values that they encompass and the relationships that each part of the environment has to other forms of creation (McGregor 2015). Compartmentalizing "resources" implies a separation of humans and other forms of life and the environment, and positions humans as superior entities with the authority to "manage" and "govern" the natural world (Howitt and Suchet-Pearson 2006; Prosper et al. 2011; Shultis and Heffner 2016; Pictou 2017). In contrast, *Netukulimk* reminds us of greater responsibilities and humility in our relations within ecologies:

> [A]s you are going about sustaining yourself—you have no right to compromise the ecology integrity of the area, or... the cleansing capacity of the system... *Netukulimk* is not just how one goes about sustaining themselves, but rather something in which, ... how you will conduct yourself;... how you will take care; how you will become, then, the eye, the ear and the voice, for the ones that they cannot defend themselves, in the human form (Marshall 2020, pp. 2–3; **Supplementary Material 2**).

In reimagining biodiversity, then, re-Indigenization would hold to Natural and traditional laws like *Netukulimk*, which remind us, as humans, that we have the responsibility to become the eye, ear, and voice for those who cannot defend themselves. The essence and source of life should be our overarching objective. It is the right of every living thing. And as such, "the Laws of Nature has to supersede the laws of man" (Marshall 2020; TPoW 2020).

4.4. Correct relationships: Treaty relations, respect and fostering alliances

Re-Indigenization does not mean leaving the responsibilities for reconciliation of people and nature solely to Indigenous Peoples (Marshall 2020, **Supplementary Material 2**). The importance of working together is paramount within Indigenous worldviews, languages, and laws and entwined with principles of justice, equity, human rights, diversity, and inclusion. In L'nu, for example, "correct relationships" serve to achieve and maintain concepts of justice centered around balance and harmony (Bernard Francis[11] as cited in Young 2016). All life forces and forms arise from and return to the spiritual realm, and the survival of one is always related to that of others (Young 2016, p. 82). A premium is placed on diversity and difference (Battiste 1997). These realities encourage the "development of respectful behaviour in dealing with other beings and forces" (Young 2016, p. 82). It is considered a primary duty of ecologically responsible life forms to foster alliances (Battiste 1997; Young 2016).

[11]Bernard Francis is co-developer of the Francis-Smith Mi'kmaq Orthography. Developed in 1974, it became the official orthography of the Mi'kmaq Nation as declared by the Grand Council in 1980 (Mikmaw Spirit 2019).

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As with *M'sɨt No'kmaq*, the imperative for "correct relationship" extends beyond family to all peoples and all of nature. L'nu stories tell about building alliances "between families and groups, between L'nu and animals, and between L'nuk and spirits" (Young 2016, p. 87). Alliances are valued among peoples, animals, and ecologies, and equity is paramount, entailing reciprocity, sharing, and care (Young 2016). At the same time, it is recognized that justice for nature depends on justice for people; when the people are in correct relations, then it is possible for all of the peoples to come together (Marshall 2020). In many Indigenous cultures there is a shared prophecy that, "[W]hen all peoples come together… each race will be able to give forth the gifts, the gifts that they have been given…" (Marshall 2020, p. 5; **Supplementary Material 2**).

In many parts of Canada and elsewhere, the Treaties themselves often reflect respectful relationships and alliances (Pictou 2019). The preconfederation (1725–1779) Treaties of Peace and Friendship in *Mi'kma'ki* mark agreements among the Indigenous Peoples and settlers to share the land and to peacefully co-exist (Pictou 2019; Nova Scotia Archives 2020). All Treaties entail at least two parties, and it is the responsibility of both parties to honour those alliances and agreements (Young 2020, **Supplementary Material 1**). This relational basis that forms the "spirit and intent" for treaties is not widely acknowledged and requires "a retelling of history to illustrate that all Canadians are part of the treaties" (Pictou 2019, p. 52).

As such, both Treaty agreements and re-Indigenization entail fulfilling our primary duties to foster relational alliances, centered in balance and harmony, valuing diversity and difference and respectful and equitable behaviour (Marshall 2020). To create such alliances or "futures of co-existence" within conservation governance, research, and practice, we need to apply processes for co-producing knowledge, principles, and practices (Howitt and Suchet-Pearson 2006). Lisa Young articulated one such process that may represent a promising pathway forward for fostering alliances for Indigenous governance and biodiversity conservation in *Mi'kma'kik* (**Supplementary Material 1**). She explained that the Mi'kmaq, through the Unama'ki Institute of Natural Resources (UINR), are seeking IPCA designation of the Kluskap Wilderness Area (Nova Scotia Environment (NSE) 2017). For the Mi'kmaq, this is a sacred site. In the *L'nuwey* Creation Story,[12] Kluskap was Creator's first living being, who "once dwelled in the ocean-side cave near Cape Dauphin, at the northern tip of the wilderness area" (NSE 2017, n.p.). Designation of this area as an IPCA would provide the Mi'kmaq with the opportunity to take a primary role in the conservation of a sacred Mi'kmaw site. This would aid in the revitalization of traditional Mi'kmaw governance, grounded in Indigenous laws, knowledge systems, and correct relations and alliances, and "awaken the sleeping giant".

> It will be an opportunity to rediscover what it means to be Mi'kmaw and take back our place as stewards of this land. It will play a vital role in the revitalization of Indigenous language and culture. It will provide space for the Mi'kmaq to reconnect with the land and heal from the centuries of trauma that our people have endured. It will create opportunities to explore sustainable conservation economies and holistic approaches to governance and planning that will serve as a beacon of teaching that can light the way for a more sustainable future for all Canadians. So, perhaps you can say that the designation of Kluskap Wilderness Area will

[12]A published version of the L'nuwey Creation Story is presented in T. Young (2016, p. 84): "The following L'nu creation story was published by an L'nu woman (Battiste 1997) who received it from an L'nu man (S.J. Augustine) who in turn heard it from his grandmother, who had heard it from her great-grandparents." Stephen J. Augustine (Ekkian) is a curator of Ethnology at the Museum of Civilization, Ottawa, and "is also a Keptin of the Santé Mawiomi, the traditional government of the L'nu people" (Young 2016, p. 84). For online versions see Red Path (n.d.) and Mikmaw Spirit (n.d.), the latter of which cites the story as adapted from "Mi'kmaq Knowledge in the Mi'kmaq Creation Story: Lasting Words and Deeds," by Stephen Augustine, 8 April 1977.

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> aid in the revitalization of *Netukulimk* in Mi'kma'ki and awaken the sleeping giant whose return was promised to occur when the Mi'kmaq, and Canada, need him most (Young 2020, p. 7; **Supplementary Material 1**).

4.5. Total reflection and truth

Elder A. Marshall teaches us that enacting insights and truths is important to grounding re-Indigenization, because "the Euro-centric system and the Aboriginal knowledges have not been integrated to any degrees so far. So, we can't even talk about where are we going because we haven't even settled on the first three yet: who we are, where we will be come from, and why we are here" (Marshall 2020, p. 5; **Supplementary Material 2**). To settle on the first three will require deep or "total" reflection, and it is not possible through a purely Western or colonial lens or history. In its Calls to Action, the TRC (2015a, 2015b) also recognized that deep reflection on the "truth" from Indigenous perspectives is crucial to meaningfully moving forward with the work of reconciliation. So, too, in re-Indigenizing biodiversity conservation we need to engage in total reflection to reveal the truth of who we are, where we come from, and why we are here, to ground dialogues and insights into where we are going.

One truth from Indigenous perspectives is that their ways of knowing and deep knowledges of "who we are" in relation to the land have been suppressed and ignored (Marshall 2020). Insights from living within the ecologies since the beginning have been dismissed as "unscientific" by colonial systems. This is in part because revealing or knowing Indigenous insights or truths is not compatible with a Western science lens. Although science is generally considered the pursuit of knowledge, studies of ecosystems and history largely privilege and are conducted through Western–European-based lenses (Marshall 2020; Zoe 2020; see also Elder Leroy Little Bear's (2000) foreword in *Native Science* (Cajete 2000)). This has resulted in methodologies and epistemologies that separate humans from ecosystems and that ignore other ways of knowing (Lowan-Trudeau 2015; Ludwig and Poliseli 2018; Ryfield et al. 2019). As John B. Zoe asked: "the research nowadays—the information that we bring to the table.... [H]ow do you evaluate it, ... when there's no methods, ... because our whole system is based on a way of life from Britain? ....[Y]ou don't fit into the equation" (Zoe 2020). Elder A. Marshall echoed this, "I know, that at least from the scientific perspective, we can practically prove that we have been here 15 000 years or more. Now, ... by our knowledges being suppressed and ignored, what are they[13] really saying?" (Marshall 2020, p. 7; **Supplementary Material 2**). Elder Marshall continues, raising the challenges of trying to substantiate or authenticate traditional knowledge and insights for "research" or as "scientific fact":

> But here is something in which it has not been written. So how do I truly, how do I truly know that the subject matter I'm receiving is authentic, accurate and sacred?... Our thinking is very much circular. Simply put, you think from the heart, mind, spirit and body.... So, so unless those indicators are evident, then, ... this is the only way we can research ourselves back to life (2020, p. 6; **Supplementary Material 2**).

[13]Elder Albert Marshall is referring to the responsibilities of universities as institutions, in this instance Dalhousie University, where many of our conversations and co-authors are situated. We understand that this question extends beyond universities to colonial institutions and societies in general. Post-secondary institutions are intended to guide deep inquiry, yet Canada's education systems have historically displaced Indigenous languages and cultures. Universities must be part of healing and restoration, and a place to foster reconnection and learning journeys. To decolonize universities and other institutions will require critical reflection and change, including the support of Indigenous languages and knowledge systems.

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"Researching ourselves back to life" is about ways of knowing and speaking back against the erasure of Indigenous Peoples and their knowledge systems. It is also about, "speaking history back into place or the Land" (Pictou 2017, p. 77). Indigenous ways of knowing are rooted in deepening relationships among people and ecosystems (Wilson 2008; Simpson 2011; Sangha et al. 2015). This recognition is fundamental to the rise of decolonizing research methodologies that support and honour ceremony, stories, and relationships with the land and language and an Indigenist lens as ways of knowing (e.g., Smith 1999; Wilson 2008; Simpson 2017; McGregor 2018). For re-Indigenization, we need to change the way the system operates for Indigenous Peoples to have "meaningful" input into biodiversity conservation, starting with "total reflection" on what has been done in the past and how to transform those into lessons learned for moving forward in a new way.

> I believe we have to remind ourselves, that, with all—with the rest of all the creatures—we're the only ones that have a cognitive mind. And with that cognitive mind we have the ability—at times transform our natural world—to our advantages, to our own use, through our own greeds .... I believe, if it's going to be total reflection, and really look at ... some of the mistakes, some of the things that have been done in the past, and transform those, as lessons learned, and ... abide by those lessons, ... we will stand a chance (Marshall 2020, pp. 2–4; **Supplementary Material 2**).

4.6. *Etuaptmumk*—"two-eyed seeing"—and "strong like two people"

Etuaptmumk is a concept shared by Elder Albert Marshall and the late Elder Murdena Marshall that offers a way to weave together Indigenous ways of knowing and Western science lenses while holding the best of both. In Mi'kma'ki language, *Etuaptmumk* means "two-eyed seeing, learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing, learning to use both these eyes together, for the benefit of all" (Marshall 2004, n.p.). Two-eyed seeing opens up space for the recognition of Indigenous knowledge as a distinct system of knowledge standing side by side with Western systems (Bartlett et al. 2012). Through a two-eyed seeing lens, knowledge is framed as spirit rather than commodity or property, emphasizing the importance for sharing and encouraging learning (Bartlett et al. 2012). In L'nu culture, for example, knowledge is a deepening through relationship and the interconnectedness among all is understood and taught, whereas the Western–European mode compartmentalizes. Seeking more ways of knowing, shalan joudry yearns to bring an L'nu eye to two-eyed seeing in conservation of the land:

> I desire more clarity or inspiration as to what an L'nu or Mi'kmaw eye is or is offering. I have shared cultural teachings, yet I continue to question whether there are more ways of knowing the land around us ... and if these teachings can contribute to Two-Eyed Seeing in conservation of the land (joudry 2020c, n.p.).

There has been increased recognition of the need to include Indigenous knowledge systems within conservation objectives; however, there is a need for caution in the general "integration" of Indigenous knowledge as it can and has been co-opted by being "scientized", decontextualized, and framed as a supplement to scientific knowledge (McGregor 2008; Ens et al. 2015; Shultis and Heffner 2016). Two-eyed seeing offers a space for recognizing and honouring the value and legitimacy of Indigenous knowledge and knowledge systems and establishes a pathway to move forward in conservation practice that is rooted in partnership, collaboration, and respect (Bartlett et al. 2012). Similar concepts exist in other Indigenous contexts, such as the Two-Row Wampum (McGregor 2008) and learning together (Polfus et al. 2016).

The notion of weaving together the strengths of both Indigenous and Western knowledge systems is also the meaning behind the aspiration for Tłı̨chǫ young people to grow "strong like two people"

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(Chief Jimmy Bruneau School (CJBS) 2020). With an approach that challenged the colonial education system, the former Tłı̨chǫ Chief Jimmy Bruneau advocated for a local school so that youth would not have to live away from their communities in residential schools. "Old Chief Jimmy Bruneau said he asked for something by using his head.... If we replace something with something new, we should make sure that what is good from the old is added to the new" (John B. Zoe, as cited in Martin 1991, pp. 67, 107). The teachings impart advice about finding balance between both ways, and this is recognized in younger generations of Tłı̨chǫ people who have finished school in their home communities.

> I feel that [balance between both ways] as a younger generation that understands a little bit about technology. For example, with colonialism, the mining industry is one of the biggest destructions to our nations and land and the animals and all things around. But trying to make people [our people] understand ... when you speak like this... we're not against it [mining].... These minerals are crucial in the world; and the earth and the universe is changing so much that we have to change for our survival .... Something so destructive can be life-saving, such as you and I talking right now: that's lithium, that's through mining; medical supplies, MRI scans, even research with climate change (Rabesca 2020, n.p.).

Etuaptmumk and strong like two people provide space for learning, thinking, building relations, and deciding how the land is to be stewarded for the good of all—nations, the land, animals, and all of life. In this sense, *Etuaptmumk* and "strong like two people" offer opportunities to create and build on the concept of "ethical space". Ethical space can be envisioned as the safe, middle space that respects the strengths and limitations of two people, their cultures and communities. In *The Ethical Space of Engagement*, Ermine (2007) describes ethical space as operating between boundaries—both personal and collective. It can manifest in a multitude of ways—conceptual as well as physical (Ermine 2007; ICE 2018). As a principle, it is rooted in the need to bridge the divide between knowledge holders (and users) by being completely transparent about the intentions behind the collaboration (Jull et al. 2018). It creates "a place for knowledge systems to interact with mutual respect ... and achieving common ground" (ICE 2018, p. 17; Zurba et al. 2019).

At the intersection of re-Indigenization and biodiversity conservation, emerging practices are asking to hold ethical space for Indigenous–non-Indigenous partnerships (ICE 2018; Moola and Roth 2019; Zurba et al. 2019). For example, Canada's "Pathway to Target 1" is following the strong recommendations from Indigenous Elders to facilitate new IPCAs modelled from Indigenous conservation principles and practices and developed and governed in ethical space (ICE 2018; Zurba et al. 2019; Marshall 2020). Initiatives to explore IPCAs through ethical space are taking place across Canada, such as in the Kluskap Wilderness Area that Lisa Young speaks of. In these ways, conservation can be explored as both conceptual spaces for the co-production of knowledge and relation-building as well as physical spaces for cultural revitalization, restoration, and reclamation. Regardless of the type of initiative, Elder A. Marshall spoke to the general opportunity, now, brought by ethical spaces like *Etuaptmumk* and "strong like two people" for moving together into the future.

> ... [I]t's going to be mutual understanding, mutual exchanges .... Because, ... I think, you know, we can begin to work together and bring forth those perspectives in which they would be heavily, heavily weighed down with both knowledges, not just with one. Not just with one.... So, I believe, I hope anyway, that this will be what's an opportunity now, and to really reflect on, not only how we got here, but what's missing, and what needs to be included if everyone will be moving in the future.... [T]hat's what I would call ethical space (Marshall 2020, p. 7; **Supplementary Material 2**).

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4.7. "Story-telling, story-listening"

The importance of stories in relationship, responsibilities and learning is deeply embedded and well established in Indigenous cultures and scholarship. Indigenous stories are the platform for teaching Indigenous worldviews, values, culture, and how to live with and uphold responsibilities to the land (Bawaka Country et al. 2016; Mashford-Pringle and Stewart 2019). Telling stories about life serves to "teach about how to live and how to interact with the other life forces that share the same ecological spaces as the L'nu . . . ." (Young 2018, p. 11). Listening to the stories is an important part of a lifelong process of learning, through immersion, about Indigenous customs, laws, roles, and responsibilities (Young 2016). Listening and relistening to stories "allows for an understanding of how day-to-day life can be organized around the sharing of sufficient ecological space, to ensure a sense of community for every life force" (Young 2016, p. 82, citing Henderson 1995). In contrast to Western or English conceptions, the active role of the listener is recognized: new lessons emerge from the same story, told and retold throughout lives and generations. Accordingly, both story-telling and story-listening are important for revealing new insights and nuances. In the Mi'kmaw practice of caring for *M'sit No'kmaq* (all my relations), the actions of watching, listening, and sharing the lived experience with others are as important as doing: " . . . to us, what really constitutes a real relationship . . . is the exchange of stories" (Marshall 2020, p. 5; **Supplementary Material 2**).

Indigenous ways of knowing are circular, not linear, and deepen with the telling and retelling and relistening through stories. They share insights gained in lived experience and relationships, being quiet on the land, and being open to thinking with not only the mind but also the heart and spirit, accessing the deepest parts of being, relating and learning, and changing through seasons and cycles (joudry 2020c). To immerse and express her storied experience, shalan joudry writes poetry. "To me, sitting in nature long enough reminds me about what it means to be part of the land, what it means to be human" (joudry 2020a, n.p.). Through one poem, shalan conveys the story of the birth of language from the land and the imperative to speak of it, deepening the relationship and knowing, since the beginning.

HERE
it was this maqamikew[14]
who birthed our language
cradled and cawed
bellowed lightning into drumlin fields
bled fire
until we spoke of it
of mastodons
and the way rivers move
(joudry 2020b, p. 17)

Similar insights are shared by Sherry Pictou, from *L'sitkuk*, in her co-produced film, *We Story the Land*. In the film, which records a paddling trip along ancestral canoe routes in her ancestral territory, Sherry reminded us that "We are part of the landscape. And I don't think I fully comprehended that until later in life. How we are part of this landscape. It's a balance between the human ecology and the natural ecology" (Stiegman and Pictou 2016, n.p.). The importance of keeping these stories alive is expressed by Royden Messer, also from *L'sitkuk*:

> All of those stories I heard . . . . [On one of the ancestral canoe routes] was the main fishing-story place I always heard about. If you don't try to teach . . . and show it, it's going to be

[14] *maqamikew*—land/ground/landscape.

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> gone. These places are going to be just still waters . . . and there aren't going to be any stories coming from them (in Stiegman and Pictou 2016, n.p.).

Poems, films, and other ways of writing and recording the voices of Indigenous story tellers in their own language is one way to archive and give back the stories, language, and its meanings to the people. It records the oral culture and revives oral stories that are at risk of being lost as fluent speakers grow older and pass away. For non-Indigenous-speaking listeners, oral and written translations are important too, for sharing and archiving the stories. Through recording and restorying, story listeners can simultaneously practice the harmonious relationship of story-telling and story-listening and, in so doing, put into action the principles of reciprocity, humility, honesty, and respect (The First Nations Information Governance Centre 2014; Johnston et al. 2018; imagineNATIVE and Nickerson 2019). Recording and sharing stories can give back to community in ways consistent with ethical principles and practices, respecting communal intellectual rights and group learning, while revitalizing language and ceremony (Smith 1999; Kovach 2010; Bull et al. 2019). Circular and relational ways of learning and processes of coming to know through story-telling/story-listening are also consistent with Indigenous methodologies that recognize that research is ceremony (Wilson 2008).

While podcasts are a modern invention for recording and sharing stories through internet broadcasting, they build on the age-old medium of storytelling. Sharing stories to the internet offers many benefits: it can bring stories to wide-ranging public audiences, it is accessible as a medium not requiring much skill or resources to produce, and the recording of audio is considered less intrusive than video/photo recording, though these are important too. The microphone can become a metaphorical talking stick or other "sacred object" such as an eagle feather: "while the object denotes the speaker, many objects are considered sacred and thus provide strength to speak from the heart" (Stiegman and Pictou 2010, p. 241). Podcasts can create ethical space to allow for meaningful dialogue: a space is shared with voices often not heard while at the same time honouring precolonial oral histories.

Beyond considerations of the medium, in the podcast *Story-telling/Story-listening* (Hum 2020), Elder A. Marshall speaks to the value of the exchange of stories. He shows us that sharing stories can generate insights that are deeper than facts, because the flow of information is through the heart, mind, and soul.

> But, you know, this, this exchange of stories, and it's really—really very quickly—quickly, it is very, very effective. Because when you turn facts into research, you actually are putting blinders on. But if you were to truly integrate insights, especially to the Aboriginal peoples, because every, the information will always be presented in the form of a story, rather than "I tell you that this is a fact." I am giving you a prerogative to extract what you will need from these stories that I have been telling you. In other words, I am giving you the benefit of the doubt that you can—because I have given you more than, more than what you would have required or asked, when you were constructing your fact, your factual questions—because now, the flow of information is going to be based on the insight: that is your heart and mind and soul (Marshall 2020, p. 10; **Supplementary Material 2**).

The exchange of stories is fundamental to re-Indigenization and biodiversity conservation. Circular processes of (re)story-telling/story-listening reveal new insights and nuances about the land and ecologies and how to live within and share ecological space with other life forces. They provide another way to become "the eye, the ear, and the voice" for the ones that cannot defend themselves, in human form (Marshall 2020). Importantly, the sharing of stories constitutes and deepens relationship,

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fostering alliances, while honouring Indigenous ways of knowing, teaching, and learning, with heart and mind and soul.

5. Reflections on where we are going

Healing Indigenous Peoples and Mother Earth will require re-Indigenization. Indigenous worldviews, languages, Natural laws, ways of knowing, insights, alliances, and stories provide crucial guidance on "how to live" in reciprocal, circular, and ongoing inter-relationships with all ecologies (biodiversity), including all peoples. Embracing and acting upon these guiding principles will entail transformation of Western mindsets as well as transformations in policies and practices in governance, economies, and other societal systems. Defining new ways of being will require understanding where we are coming from and how we got here, pre- and post-"Canada". Engaging in "total reflection" through dialogue in ethical space, we can seek to uncover the truth, build alliances, strengthen relationships, and reimagine ways for walking together. Thriving, for all peoples and ecologies, will require foregrounding Indigenous worldviews and ways of being.

At this moment, we have an opening—an ethical–philosophical–political–policy window—emerging from promising principles and policies in the global arena (e.g., ICCA Consortium n.d.; The Durban Accord 2003; UNDRIP (UN 2007); IUCN 2017; CCIUCN Secretariat 2018; IUCN WCPA 2019) and in Canada (e.g., TRC 2015a, 2015b, 2015c; Canada Pathway to Target 1 (CPC n.d.); ICE 2018), providing opportunity for ethical space. At the same time, deep colonization remains, with atrocities (e.g., missing and murdered women; on-going dispossessions; militarization of police; precipitous declines in biodiversity) signalling the imperative for change (Artelle et al. 2019; IPBES 2019; Moola and Roth 2019; Zurba et al. 2019; WWF-Canada 2020). The complexities and challenges associated with acknowledging Indigenous rights, worldviews, and ways of knowing has highlighted critical ways to transform how we engage in conservation to encourage shifts in ideology and practice at the institutional level (Ens et al. 2015; Shultis and Heffner 2016; Diver 2017). Within the conservation community, there is an increased call for a fundamental shift in how to engage with Indigenous Peoples at the philosophical and nation-to-nation level as a critical way for building new conservation directions and approaches that are grounded in ethical practice and partnership rather than built around tokenistic inclusion where Indigenous Peoples' knowledge and experiences are molded to fit around Western systems (Ens et al. 2015; Shultis and Heffner 2016). Key to this fundamental shift will be a broad, underlying, systemic transformation to embrace Indigenous worldviews and principles.

It is important to be clear that re-Indigenizing entails more than moving from a Western–European model to two-eyed seeing or ethical space. While these are crucial, re-Indigenizing also means that we acknowledge that the system has been largely created by Western–European teachings and ideas, and now we need to take a moment to pause and ask Indigenous voices to share worldviews, ways of knowing, teachings, history, perspectives, insights, and so on. It is time for Indigenous voices to take the spotlight. Only after that may authentic re-Indigenized ways of weaving and partnering begin. Indigenous voices need the moment to be all theirs, rather than forced into colonial structures. Insights will then require learning from each other; from the land; from the languages; through reflection and immersion in ecologies, stories, and ceremonies; and revisiting and revitalizing relationships and responsibilities. Ultimately, "decolonizing" people and nature means (re)Indigenizing ways of seeing, being, knowing, and relating; it means changing the way we think and act and the way the system operates.

We are at a point where old and new Indigenous wisdom and Western science converge: the living planet and all its beings are in deep trouble, we are the cause of it and we must be the solution. Only transformative solutions forged through respectful and equitable alliances will suffice.

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Alliances require commitment, effort, and time for building relationships and reflecting on positions (Sium et al. 2012). Recognizing settler responsibilities to honour Indigenous ways of being and to restore reciprocal relations between people and the land is essential in supporting the resurgence of Indigenous Peoples and decolonizing our hearts and minds (Sium et al. 2012). The success of both biodiversity conservation and Indigenous resurgence requires changes to the ways we see ourselves in the world and changes in our actions. At base, these entail transformations to epistemologies, ontologies, laws, and governance systems that value people and nature in all their diversity and relationships (Simpson 2011, 2017; Patterson et al. 2017).

Conservation policy advancements open up opportunities for Indigenous autonomy and developing partnerships between Indigenous and conservation communities, revealing mutually beneficial and interrelated objectives linking biodiversity and Indigenous resurgence. The fundamental principles summarized herein represent core values that if broadly internalized and practiced would represent a deep cognitive transformation among all people and support the bold and proactive actions needed to heal the world and its inhabitants. As Elder Albert Marshall reminds us, the prerogative is ours. It is vital that we think and listen deeply, and learn, evaluate and collaborate together as peoples and nations at this time of accelerated global environmental and social change.

> If we can somehow humble ourselves, ... as we are now on a crossroads .... [We] have a prerogative—if it's going to be business as usual, well, ... we know what the outcome of that one will be ....[I]f it's going to be total reflection,... and transform those lessons learned ..., we might stand a chance. Because ..., in my culture, there is no such word as "end of the world". The world will not end. Only people will be gone (Marshall 2020, p. 4; **Supplementary Material 2**).

Imperative to the pivotal times that we are living through is the recognition that re-Indigenization holds value for all people, has great potential for reckoning with past and present wrongdoings, and provides pathways towards building meaningful reconciliation and reestablishment of reciprocal relationships with "all our relations", *M'sɨt No'kmaq*.

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Dalhousie University is located in *Mi'kma'ki*, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.

Author contributions

KFB, JH, AP, SP, and MZ conceived and designed the study. KFB, JH, SP, JR, and LY performed the experiments/collected the data. KFB, JH, AP, SP, and MZ analyzed and interpreted the data. AM, KFB, JH, sj, JR, and LY contributed resources. KFB, JH, sj, AP, SP, and LY drafted or revised the manuscript.

Competing interests

KFB is a co-guest editor of the Special Collection.

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"*Transformative Politics of the Wild*" held at Dalhousie University, Halifax.[15] The event consisted of public talks by Elder Albert Marshall and Lisa Young on the *Re-emergence of Netukulimk in Mi'kma'ki: Awakening the sleeping giant*, and a day-long talking-circle workshop with 25 Indigenous and non-Indigenous speakers. Funding support for the event was provided by a SSHRC-Connection grant (611-2019-0162) held by A. Olive, University of Toronto, and K. Beazley, Dalhousie University). The *Story-telling/Story-listening* podcast series was produced by J. Hum, with recorded oral interviews with Dr. John B. Zoe (Episode 1.1: Decolonizing Research), Janet Rabesca (Episode 1.2: Adaptation), Elder Albert Marshall (Episode 1.3: Resilience), and Sherry Pictou and Melanie Zurba (Episode 1.4: Reflections), available from spreaker.com/show/storytellingstorylistening. The authors thank John B. Zoe, another Indigenous speaker who shared his stories. Podcasts interviews were conducted with approval from Dalhousie University's Social Sciences Research Ethics Board (file #2020-5062) and made publicly available online with the consent of the participants.

Data availability statement

All relevant data are within the paper and in the Supplementary Material.

Supplementary materials

The following Supplementary Material is available with the article through the journal website at doi:10.1139/facets-2020-0083.

Supplementary Material 1

Supplementary Material 2

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[15]The Transformative Politics of the Wild (TPoW) public talk and workshop held 27–28 February 2020 at Dalhousie University, Halifax, Nova Scotia, was the second of a two-part series of events conducted as part of a larger SSHRC Connection Grant (Applicant, A. Olive, University of Toronto; Co-applicant, K. Beazley, Dalhousie University). The first part of the series was a public talk and workshop held at University of Toronto, 6–7 February 2020.

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