

# Indigenous protected and conserved areas (IPCAs): Canada's new path forward for biological and cultural conservation and Indigenous well-being

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## Abstract

Wilderness and national parks play a fundamental role in defining Canadian identity, yet Indigenous Peoples have historically been excluded from conservation decisions, resulting in systematic dispossession and oppression. In this article, we collaborate with Dene Tha' First Nation to discuss the recent paradigm shift towards Indigenous-led conservation and propose guiding principles to advance and assert the critical role of Indigenous Peoples in conservation. We begin with a brief history of Indigenous Peoples in conservation, followed by the concept of Indigenous protected and conserved areas (IPCAs). Our analyses show that IPCAs have gained momentum recently, driven by the Truth and Reconciliation Commission and Canada's commitment to global conservation goals. With one of the largest landmasses and Indigenous populations in the world, IPCAs in Canada have the potential to make immense contributions to environmental and cultural conservation rooted in an intrinsic relationship to the land. Despite this biocultural diversity, as of 2022, less than 1% of Canada's landmass is declared as Indigenous-led protected areas. However, more than 50 Indigenous communities across the country have currently received funding to establish IPCAs or to undertake early planning and engagement that could position Canada as a global leader in Indigenous-led conservation. As the Government of Canada aims to designate 25% of the territory as protected space by 2025 and 30% by 2030, embedding Indigenous rights, knowledge, and values in the national conservation strategy will be essential to simultaneously honoring the commitments to reconciliation and meeting the ambitious targets stipulated in the Kunming–Montreal Global Biodiversity Framework.

**Key words:** biodiversity, community-based management, Indigenous-led conservation, climate change mitigation, nature-based solutions, reconciliation

## 1. Introduction

Worldwide, there is mounting recognition of the significant role Indigenous-led conservation can play in the protection of nature and the climate. On December 2022, the United Nations Biodiversity Conference (COP15) ended in Montreal, Canada, with a landmark agreement, the “Kunming–Montreal Global Biodiversity Framework” (GBF) to guide global action on nature through to 2030 (Convention on Biological Diversity 2023). The GBF includes 23 action-oriented global targets to halt and reverse nature loss and recognizes the need to safeguard the rights of Indigenous Peoples as well as their contributions as stewards of nature (Supplement 1). Over 1.6 billion people worldwide rely on

forests for their livelihoods, and Indigenous Peoples are the custodians of at least 36% of the world's large, intact forests (Garnett et al. 2018). Evidence shows that when local people are empowered to manage forests they are better protected and managed with positive impacts on global biodiversity and socio-economic benefits for the communities (Dawson et al. 2021; FAO 2022).

The Government of Canada made ambitious announcements at the COP15, committing US\$600 million to support Indigenous-led conservation by Indigenous Peoples across the country with the goal of expanding protected areas by 1 million km<sup>2</sup> over the next seven years (Government of Canada 2022a, 2022b). With 9% of the world's forests and

30% of the world's boreal forest, Canadian forest landscapes are a global natural and cultural legacy (Wells et al. 2013). As of 2022, more than 1.8 million people in Canada, almost 5% of the total population, identify as Aboriginal people, and almost 70% of them live in or near forested lands (Statistics Canada 2023). There are also more than 50 languages spoken by different Indigenous groups whose cultures and economies are strongly interconnected with the land (Norris 2006). Indigenous Peoples have been part of the land for millennia, and this relationship is critical for their health, livelihood, and well-being. Land means different things to non-Indigenous and Indigenous Peoples. Indigenous Peoples view health as a multidimensional balance of emotional, mental, spiritual, and physical health, all of which are interconnected with the relationship to the land. Yet, Indigenous Peoples have been historically excluded from conservation decisions, and their traditional ecological knowledge and holistic view of the land are still not incorporated into land use decision-making (Sandlos 2014).

In Canada, the focal points of environment and conservation have been changing over the last two decades, with greater recognition and commitments to reconciliation and respect for Indigenous rights most recently exemplified through the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Truth and Reconciliation Commission (TRC), as well as in efforts to meet international biodiversity conservation targets (Convention on Biological Diversity 2023; Stevens 2010; Zurba et al. 2019). In addition, Canada is committed to addressing climate change and recognizes that conserving, protecting, and restoring nature are the best nature-based solutions to mitigate its impacts, and that collaboration with Indigenous Peoples is essential in this endeavour (Townsend et al. 2020). As the Government of Canada aims to designate 25% of the territory as protected space by 2025 and 30% by 2030 (Government of Canada 2022a), expectations are high, and challenges remain as to how to build new models of conservation that integrate Indigenous consent and leadership in this global effort.

With the need to move away from traditional conservation approaches, the concepts of Indigenous protected and conserved areas (IPCAs) and Indigenous and community conserved areas have emerged recently in Canada and around the world (Herrmann et al. 2012; Corrigan and Hay-Edie 2013; Stevens 2014; Stevens et al. 2016; Etchart 2017). As a result, federal, provincial, and territorial governments have initiated close collaboration with Indigenous governments to develop some forms of co-management to reclaim lost access, traditional land use, and values of existing protected areas, as well as to create new protected and conserved areas that more directly benefit Indigenous individuals and communities (Keenleyside et al. 2012; Zurba et al. 2019). Despite the progress and the beginning of a mutual understanding, a truly decolonized approach is still a long way away because many efforts remain to be made to develop an inclusive decision-making process and holistic conservation policies that respect the rights and titles of Indigenous Peoples (Artelle et al. 2021; Mullen 2022).

This paper aims to discuss the recent paradigm shift towards Indigenous-led conservation and guiding principles to

acknowledge and advance the crucial role of Indigenous Peoples in new conservation programs and policies. The principles presented here are driven by an ongoing collaboration between Dene Tha' First Nation, represented by co-authors Munson Matt and Didzena Fred of the Dene Tha' First Nation Land Department, the Canadian Forest Service, and the University of Alberta in the broader context of the Árramāt project. The Árramāt project led by the University of Alberta aims to build the capacity of Indigenous organizations to document, curate, share, and use their knowledge about the interconnections between biodiversity conservation and health and well-being. The purpose of this collaboration is multifaceted and echoes the Two-Eyed Seeing approach (Bartlett et al. 2012), which combines the strengths of Indigenous knowledge and ways of knowing with the Western scientific approach to advance Indigenous-led conservation initiatives. Accordingly, we propose an opinion-style paper with the guidance of subject matter experts' advice from academia and the government, as well as Indigenous leaders having firsthand experience in conservation within their own communities and as part of their curriculum. First, we provide a brief history of Indigenous Peoples in conservation, followed by an overview of the origins, role, and distribution of Indigenous-led conservation efforts. Next, we present the concept of IPCAs in Canada and analyze their opportunities, gaps, and challenges. To conclude and find a path toward meaningful and inclusive conservation efforts in Canada, we suggest priority actions and guiding principles to implement community- and Indigenous-led conservation initiatives. Since most Indigenous territories in Canada are located inland, the study is oriented towards terrestrial conservation areas rather than maritime or coastal areas. However, we believe that the challenges and solutions discussed here could be beneficial to all types of Indigenous-led conservation efforts, regardless of their geographic location.

## 2. Methodology and data

This article aims to follow in the footsteps of previous collaborative work to decolonize conservation models by providing a combination of Western science and Indigenous perspectives (Moore 2020; Mulrennan and Bussi res 2020; Artelle et al. 2021; M' sit No'kmaq et al. 2021; Youdelis et al. 2021). This paper stems from the work of Dene Tha' First Nation, who are currently developing an IPCA in the region of Bistcho Lake located in Treaty 8 in northern Alberta, "Creating an Indigenous Protected and Conserved Area at Bistcho Lake" (Dene Tha' First Nation 2021). The protection and long-term management of the Bistcho Lake region aim to create social and ecological resilience while providing a refuge for future generations of people and wildlife. Founded by the Guardians Program, the project also aims to combine existing environmental monitoring programs with Indigenous-led resource management using traditional knowledge and western science together.

Our study benefits from thoughtful lessons and knowledge from Danika Littlechild. Danika is an Indigenous scholar from Neyaskweyahk, Ermineskin Cree Nation in Maskwacis, Treaty No. 6 territory (Alberta). Prior to joining the Depart-

ment of Law and Legal Studies at Carleton University, Danika practised law in Canada for almost two decades, advising Indigenous Peoples across Canada and internationally in the areas of conservation, environment, health, and governance. Danika was the co-chair of the Indigenous Circle of Experts under the Pathway to Canada Target 1, intended to contribute to the realization of Canada's commitments under the United Nations Convention on Biological Diversity. Danika is one of the principal investigators of the Árramāt project, along with Brenda Parlee.

The Indigenous perspective on the paper is also enriched by the collaboration of Sharlene Alook and Alexandra Thomson. Sharlene is from Kisipikamahk, Bigstone Cree Nation, Treaty No. 8 territory (Alberta), and a master's student in Indigenous-led conservation and sustainability at the University of Alberta. Her work focuses on Indigenous knowledge, place names and mapping for the Bigstone Cree Nation. Alexandra is a Nakoda woman from Cega'kin (Carry the Kettle) First Nation, Treaty No. 4 territory (Alberta). Alexandra is currently the director of the Youth Programs for Indigenous Clean Energy Network, and she strives to apply her education in combination with Indigenous ways of knowing to solve issues that impact Indigenous communities as they relate to conservation, energy, infrastructure, sustainability, and socioeconomics.

National and international data on protected areas were gathered from peer-reviewed papers and public websites. For the international dataset, we used the World Database on Protected Areas (WDPA; [ProtectedPlanet 2022](#)), which is the most up-to-date and complete source of data on protected areas and other effective area-based conservation measures (OECMs), updated monthly with submissions from governments, non-governmental organizations, landowners, and communities. For Canada, we used the Canadian Protected and Conserved Areas Database, which contains the most up-to-date spatial and attribute data on marine and terrestrial protected areas and OECMs in Canada ([Environment and Climate Change Canada 2022](#)). It is compiled and managed by Environment and Climate Change Canada, in collaboration with federal, provincial, and territorial jurisdictions.

### 3. A brief history of conservation and Indigenous Peoples: from colonization to collaboration

The conservation movement, in Canada and globally, has been shaped by settler colonialism ([Claperton 2013](#)). Protected areas, including parks and preserves, have been the most important tool of nature conservation since the late 19th century ([Höhler et al. 2012](#)). In 1872, Yellowstone National Park, in the United States, was the first area to be designated a national park anywhere in the world. Since then, the idea of "confining nature to a park" has been transferred to a wide and diverse range of political, social, and ecological settings ([Höhler et al. 2012](#)). Protected areas have conventionally been centered on the protection of the natural environment and the privilege of non-Indigenous Peoples to access the aesthetic benefits of nature as well as

the recreational opportunities of engaging with untouched "Nature" promised by the concept of wilderness ([Colchester 2004](#); [Heichler and Baumeister 2021](#)). The American model of nature conservation based on Indigenous exclusion and land expropriation was then rapidly exported to many parts of the planet ([Colchester 2004](#); [Claperton 2013](#); [Dominguez and Luoma 2020](#)). The history of Banff National Park, created in 1885 as the first National Park in Canada, and its current position as a world-tourism destination, are symbolic of this history of exclusion and discrimination ([Binnema and Niemi 2006](#); [Parks Canada 2022](#); [Fig. 1](#)).

This separation of Indigenous Peoples from their natural environments, as well as the erasure of Indigenous cultures and ways of living adapted to these places and replaced by western culture (e.g., renaming of mountains and rivers after colonial figures), was a crucial component of colonization ([Adams and Mulligan 2012](#); [Gray and Rück 2019](#)). At the same time conservation efforts were made, treaties were violated, discrimination and racism increased, and cultural assimilation was common practice ([Claperton 2013](#)). Canada's conservation system, as a result, typically only recognizes federal, provincial, and territorially legislated protected areas, and Indigenous contributions and leadership have largely gone unacknowledged ([Sandlos 2014](#)).

Over the past 20 years, however, the process of decolonization in the establishment and management of protected and conserved areas has begun to emerge ([Stevens 2014](#); [Moore 2020](#)). Greater efforts to promote Indigenous participation in conservation planning and decision-making began in the 2000s at the same time as Aichi targets were being developed to promote biodiversity conservation and increase protected areas globally ([Convention on Biological Diversity 2020a](#)). For example, Aichi Target 1 states: "by 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably" and Target 11 states that "by 2020, at least 17% of terrestrial areas and inland water, and 10% of coastal and marine areas..." would be protected. Although Target 11 of the Aichi Targets formally initiated the work on IPCAs in Canada, there are other Targets that support this work ([Zurba et al. 2019](#); [Convention on Biological Diversity 2020a, 2020b](#)). For example, Targets 14 and 18 state that supporting ecosystems includes social outcomes that are part of the ecosystem, such as health and well-being, and accounting for the needs of Indigenous knowledge and leadership in conservation. [Convention on Biological Diversity 2020a](#)). Despite ongoing conservation efforts, none of the Aichi Targets have been fully achieved in Canada and around the world, for a variety of reasons, including unavailability of data, insufficient funding, and misguided governance and policies ([Xu et al. 2021](#)). In Canada, the methodology to map and identify key areas providing ecosystem services to inform conservation planning at the national scale was lacking until very recently ([Mitchell et al. 2021](#)). Furthermore, implementing these goals in collaboration with Indigenous Peoples has been a lengthy and challenging process given the lack of an appropriate framework governing the identification and planning of protected areas as well as the lack of formal recognition of Indigenous



**Fig. 1.** Stoney at Cascade Park, Banff Indian Days, Alberta, 1924 (CU1154385) by McCowan, Dan. Courtesy of Glenbow Library and Archives Collection, Libraries and Cultural Resources Digital Collections, University of Calgary. The Stoney Nakoda, whose traditional land expanded to the valleys of the Rocky Mountains, were barred from what would become Banff National Park. In the early 1900s, the Banff Indian Days provided an opportunity for local Indigenous Peoples to reassert their physical and cultural links with the region and thus their identity (Masson 2015).



stewardship for conservation in Canadian policy (Coristine et al. 2018; Convention on Biological Diversity 2020b).

#### 4. The emergence of IPCAs: concept, opportunities, and challenges

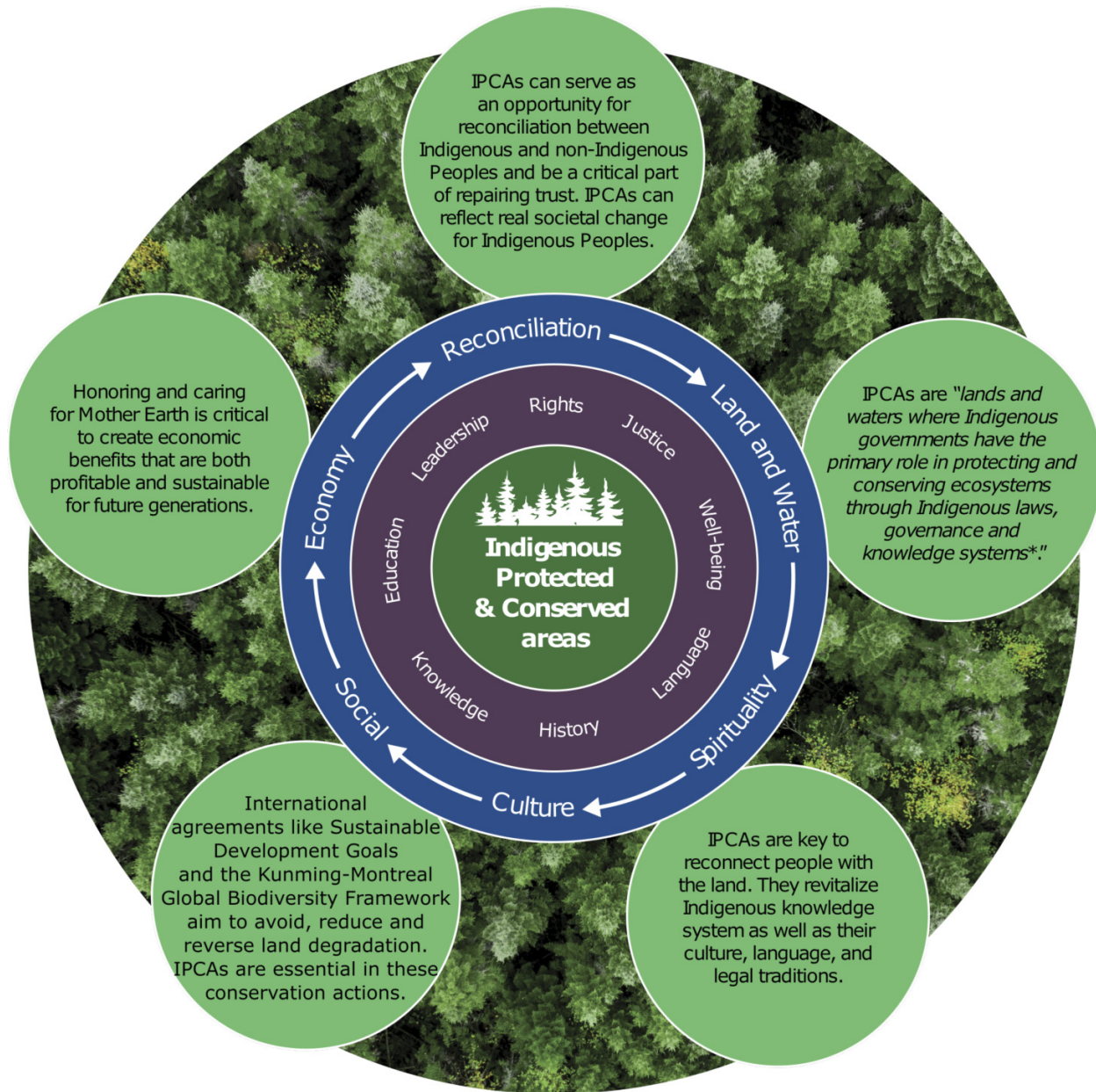
Since 2007, the UNDRIP (Article 29) states that “Indigenous Peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for Indigenous Peoples for such conservation and protection, without discrimination” (United Nations 2008). This shift from prior approaches that ignored Indigenous Peoples was therefore a major step in awaking Indigenous leadership to advance Indigenous-led conservation, especially in Canada (Marshall No’kmaq et al. 2021).

In Canada, Indigenous-led conservation has gained momentum recently, driven by the growing leadership of Indigenous communities and Indigenous scholars, the TRC, and Canada’s commitment to the CBD Biodiversity Goals. In 2017, the Indigenous Circle of Experts (ICE) for The Pathway to Target 1 was established in four regions across Canada and in-

cluded contributions from Indigenous government representatives and Elders and from a range of land use practitioners (Indigenous Circle of Experts 2018). The ICE was created to define and promote IPCAs in an effort to recognize Indigenous knowledge systems as a binding framework in which to make conservation decisions for land and water (Fig.2). IPCAs are defined as “lands and waters where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and knowledge systems” (Indigenous Circle of Experts 2018). IPCAs also aim to fill multiple gaps that are parallel to conservation goals such as respect and restoration of Indigenous language and the practice of ceremony for cultural purposes; the need to recognize and address decolonization as well as the wrongs of the past and present in terms of parks management and protected areas (Moola and Roth 2019; Moore 2020); recognize the interrelationships between the people, water, and land; and create collaboration, learning, and sharing across the Indigenous and Western cultures (Fig. 2; Tran et al. 2020).

IPCAs are also intended to elevate conservation from an Indigenous Peoples’ perspective and to re-establish Indigenous systems and knowledge that were historically not respected and sometimes criminalized (Fig. 2; Indigenous Circle of Ex-

**Fig. 2.** The multifaceted dimensions of an IPCA. \*The text in *italic* is from Indigenous Circle of Experts (2018).



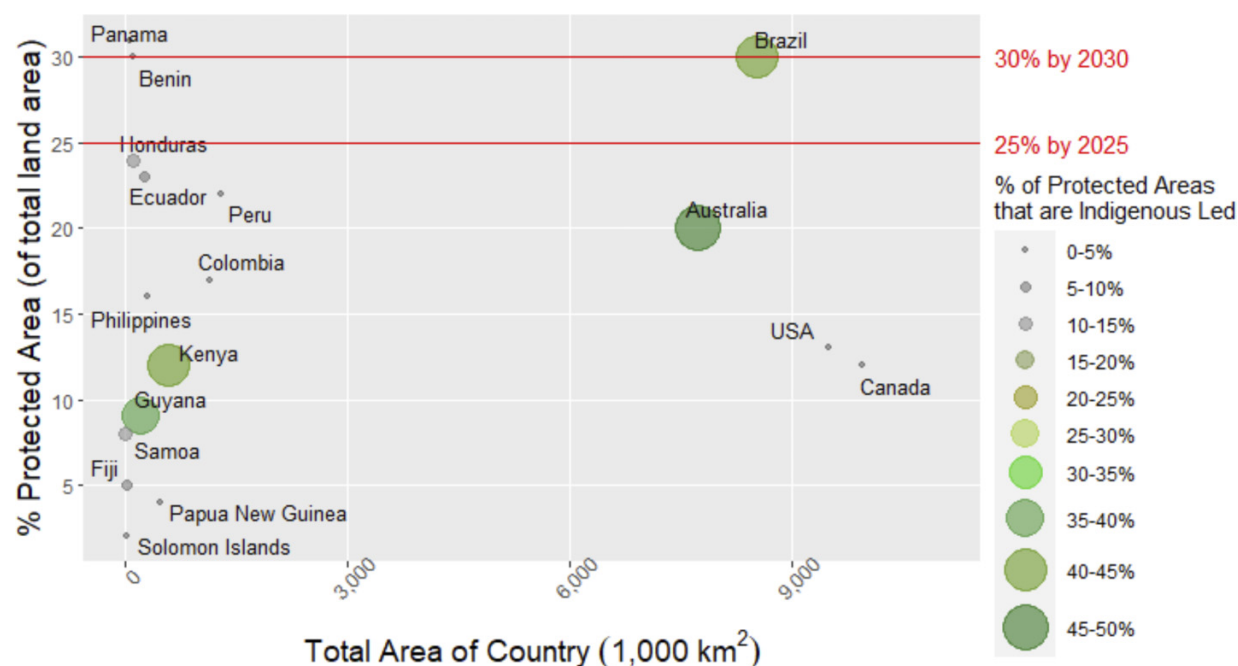
perts 2018). As a result, IPCAs can also serve as an opportunity for reconciliation between Indigenous and settler or non-Indigenous Peoples. Reconciliation, as defined by the TRC, is “an ongoing process of establishing and maintaining respectful relationships” and is a critical part of repairing trust that revitalizes Indigenous culture, law, and legal traditions and results in “demonstrated real societal change” for Indigenous peoples (Government of Canada 2015). Indigenous voices are diverse, and Nations can choose how they define reconciliation, but typically it involves recognizing what has not worked in the past and remediating the past between Indigenous and non-Indigenous Peoples, based on principals of inclusiveness, resurgence, and self-determination (Gaudry and Lorenz 2018; Artelle et al. 2019). The principle of resurgence is central to the advancement of IPCAs, as it generally refers

to Indigenous Peoples re-establishing, restoring, and advocating their knowledge, teachings, languages, practices, histories, and/or other aspects of their way of life and their culture by themselves and for themselves, without the approval or supervision of Western culture or authorities (Simpson 2011; Artelle et al. 2019). Indigenous Peoples, however, are not homogenous, and there is not a “pan-Indigenous” or one-size-fits-all approach to conservation; thus, self-determination needs to respect the full diversity of Indigenous Peoples knowledge and legal traditions (Schmidt and Peterson 2009).

The opportunities for Indigenous-led conservation are significant globally. According to Garnett et al. (2018), Indigenous Peoples have tenure rights or are managing more than 38 million km<sup>2</sup> of land located in 87 different countries. This represents more than 25% of the world’s land mass and in-



**Fig. 3.** Percentage of terrestrial protected areas in land area and percentage of protected areas that are Indigenous-led in various countries as of March 2022 (ProtectedPlanet 2022). The red lines indicate the global targets of designating 25% of the territory as protected space by 2025 and 30% by 2030.



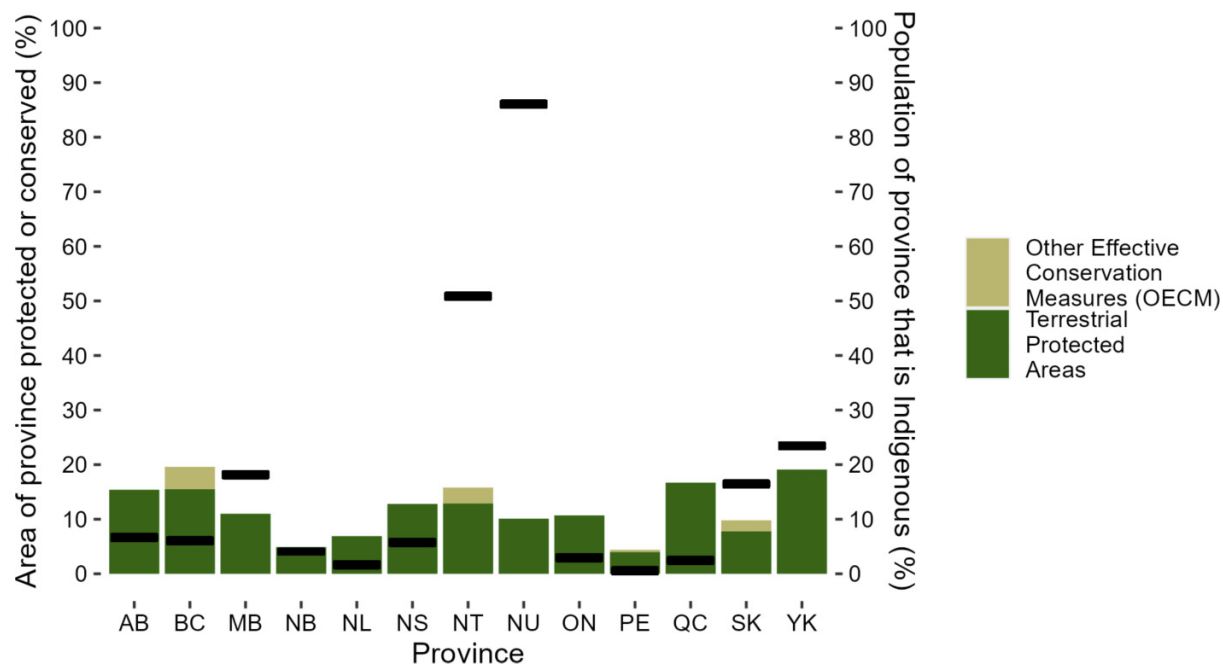
tersects with approximately 40% of all intact landscapes and terrestrial protected areas. Approximately 20% of the Indigenous lands are within protected areas, and these Indigenous lands represent a higher proportion of protected land than other protected land types. Also, 67% of Indigenous lands are classified as natural landscapes compared with 44% of other lands. With a large overlap of Indigenous and protected lands worldwide, Indigenous Peoples can play an essential role in meeting global conservation goals (Garnett et al. 2018).

With one of the largest landmasses and a disproportionate coverage of intact ecosystems, Canada can make a significant contribution to biodiversity commitments (Coristine et al. 2018), as remaining intact areas play an increasingly important role against the effects of climate change and human-made landscape degradation (Watson et al. 2018). In Canada, the potential of Indigenous conservation is particularly important in the North, where state-recognized Indigenous lands overlap largely with intact forest and intact ecological areas, as described in Artelle et al. (2019). Many Indigenous-led conservation projects are now being developed in the south, adjacent to or overlapping with resource extraction areas, like the Bistcho Lake project developed by Dene Tha' First Nation in Northern Alberta. Yet, Canada is lagging behind when compared to other countries (Fig. 3). For example, relative to other larger countries such as the United States (13%), Australia (20.4%), and Brazil (30.3%), Canada has the smallest percentage of terrestrial protected areas (11.9%) of its total land area as reported to the WDPA. Also, Canada is significantly lagging behind Australia and Brazil in terms of the percentage of Indigenous-led protected land relative to the total land area protected. Brazil has reported 42.82% and Australia has reported 47.23%, while Canada has reported less

than 0.48% and the United States has reported 0.03% (Fig. 3; Supplement 2).

Although protected areas are relatively well distributed amongst the provinces and territories, current IPCAs are exclusively located in the province of British Columbia (BC) and the Northwest Territories (NT) (Fig. 4). Since 2018, three terrestrial IPCAs have been formally established and recognized under the *Protected Area Act*, all located in the Northwest Territories, and include: Saoyú-?ehdacho, Thaidene Nene', and Ts'udé Niliné Tueyata for a total of 24,715 km<sup>2</sup> (Government of the Northwest Territories 2022). Other examples of IPCAs include Tla-o-qui-aht Tribal Park and other Indigenous cultural and conservation landscapes in British Columbia. For international reporting, Canada has three Indigenous-governed areas that have been formally reported to the WDPA for the Aichi Target 1. As of May 2022, the three Indigenous-governed areas reported are all terrestrial and include the Wehexlaxodiale (976.8 km<sup>2</sup>) in the Northwest Territories, the Ni'inlii Njik (140.94 km<sup>2</sup>) and the Van Tat K'atr'anahtii (3947.03 km<sup>2</sup>), both located in Yukon, for a total of 5064.77 km<sup>2</sup> (Supplement 2). The discrepancies between national and international reporting suggest that current IPCAs are incorrectly reported. Indeed, reporting the three IPCAs in the Northwest Territories alone will bring the total of Indigenous-led protected areas to 2% of the total of terrestrial protected areas in Canada. Note that this article only reports terrestrial protected areas and therefore does not consider maritime protected areas such as Gwaii Haanas National Park Reserve in British Columbia, which represents a success story (still imperfect) of co-management and Indigenous-led conservation initiatives in Canada (Thomlinson and Crouch 2012).

**Fig. 4.** Terrestrial protected areas, by reporting Canadian jurisdiction as of March 2022. IPCAs are generally reported as part of other effective conservation measures but not exclusively (OECM; data are from [Environment and Climate Change Canada 2022](#)). The right axis shows the proportion of the population that is indigenous for each jurisdiction ([Statistics Canada 2021](#)).

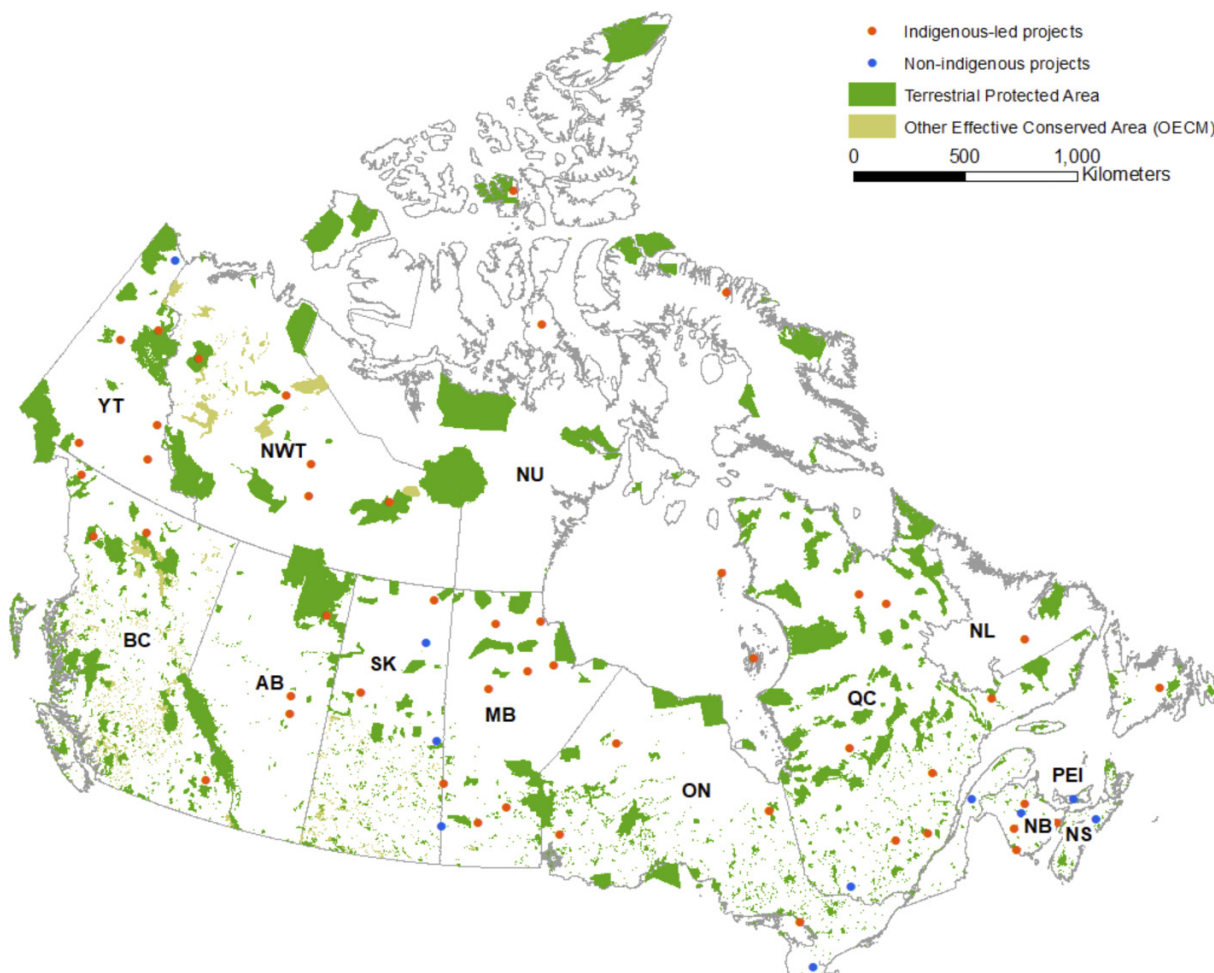


IPCA's still face many challenges, mainly due to the lack of a national legal framework and inconsistencies in designation, reporting, and monitoring. For example, there are no mandatory reporting requirements for Indigenous conservation initiatives, and as such, each country designates and reports based on its own understanding, which results in inconsistent reporting ([Lemieux et al. 2019](#)). Therefore, IPCAs are often not identified and reported as such but rather included among the OECMs, which is the designation for areas that are achieving effective in situ conservation of biodiversity outside of protected areas. In Canada, the federal, provincial, and territorial governments self-report on their conservation progress to the Canadian Council on Ecological Areas (CCEA), where the information is then entered into the CARTS database ([MacKinnon et al. 2015](#)). For example, some provinces and territories report on private land conservation, while others do not, and some report on Indigenous-led conservation, whereas some jurisdictions do not distinguish between Indigenous and non-Indigenous ([Zurba et al. 2019](#)). To date, the jurisdictions reporting to CCEA are not audited for consistency, and standardization is recommended for reporting bodies ([MacKinnon et al. 2015](#); [Lemieux et al. 2019](#)). Some of the Indigenous communities that would report on conserved areas or IPCAs lack resources and/or capacity to carry out the required reporting, and thus support should be provided to not only meet the reporting requirements but also to support self-reporting for self-determination reasons for Indigenous Peoples ([Singleton 2009](#); [Zurba et al. 2019](#)). Also, there could be some issues in terms of how Indigenous Peoples report on conservation initiatives that utilize traditional knowledge, as the western and Indigenous

reporting approaches can differ significantly ([Zurba et al. 2019](#)).

This variation in national and global reporting could be attributed to a lack of certainty in legal land ownership for Indigenous People across Canadian provinces and territories ([Zurba et al. 2019](#)). For example, in most of Canada, there are historic treaties with Indigenous Peoples; however, in most areas of British Columbia, there are no undersigned treaties ([Jones et al. 2010](#)). Likewise, in the Arctic, modern land claim agreements may encourage more Indigenous-led land-use planning and conservation activities ([Lloyd-Smith 2017](#)). Areas with historic treaties may have fewer incentives to enter into collaborative agreements with the provincial or federal government as it may conflict with Ministerial authorities ([Jones et al. 2010](#); [Zurba et al. 2019](#)). However, treaties, when enacted, were intended to be living documents that would evolve over time and support Indigenous Peoples in governing their traditional territories according to cultural values ([Poezler and Coates 2015](#)). The Northwest Territories have created new legislation that supports more collaboration and cooperation for wildlife management at the territorial, regional, and local levels ([Government of Northwest Territories 2022](#)). The Canadian Government may also create incentives to contain Indigenous-led conservation areas within the boundaries of current Indigenous land claims and treaties, as it may be more problematic to share or devolve power in other new land areas ([Wilson et al. 2012](#); [Zurba et al. 2019](#)). However, flexibility for agreements should be made between Indigenous nations, as there may be openness to collaborative conservation efforts and shared leadership.

**Fig. 5.** Indigenous-led and non-indigenous conservation projects currently funded under the Guardians Program to meet the Canada Target 1 Challenge (Government of Canada 2021). More details are available in Supplement 3. The map also shows the existing terrestrial protected areas as well as the other effective conservation measures (OECM) as of March 2022 (data are from Environment and Climate Change Canada 2021). Base map: NRCAN.



## 5. Guiding principles to support community and Indigenous-led conservation efforts

Canada has committed to protecting 25% of its land and freshwater by 2025, on the way to 30% by 2030, to support conservation, climate change mitigation, and human well-being. Meeting this ambitious goal would mean roughly doubling Canada's protected areas and will require significant investment for increased Indigenous-led conservation, including new and innovative conservation approaches and policies (Mitchell et al. 2021; Beazley and Olive 2021). In 2021, the government of Canada announced up to \$100 million over five years in nature conservation projects led by Indigenous communities across the country via the Guardians Pilot program (Government of Canada 2021), promising new pathways for conservation action. As of 2022, more than 50 Indigenous communities across the country have received funding under the Guardians program to either establish IPCAs or undertake early planning and engagement work

that could result in additional IPCAs (Fig. 5; Supplement 3). Although this program aims to provide Indigenous Peoples with greater capacity to exercise responsibility and leadership over their land, we suggest guiding principles to ensure that IPCAs are implemented following Indigenous values and ways of life and deliver "demonstrated real societal change" as embedded in the TRC (Table 1). While these recommendations are based on the experience of Dene Tha' First Nation with the Bistcho Lake project, and the authors of the article, we recognize that there is no "one-size-fits-all" approach to developing and implementing an IPCA, as every Indigenous culture and vision for protecting the land is different.

*"Indigenous culture and way of life vary because the land varies. Therefore, Indigenous perspectives will vary according to their traditional landscape. It is foreign to Indigenous views to believe that an authority existing outside of this intrinsic relationship is best positioned to make decisions that impact land" (AT)*



[illegible]

**Table 1.** (concluded).[illegible]

**Note:** We are very grateful to Sharlene Alook for the translation from English to Cree.

### 5.1. Honoring commitments to reconciliation and land rights

The development of IPCAs represents a significant contribution to the TRC however new models of conservation are needed to move away from the colonial approaches that persist today (Littlechild et al. 2021; Artelle et al. 2019). Despite new funding opportunities, including the one announced at COP15, there is still no legal framework in Canada that explicitly recognizes IPCAs as a form of protected area. This lack of legal recognition, combined with the continued assumption of Crown authority over land, makes the creation and operation of IPCAs complex. There are continuing challenges around Indigenous Peoples asserting their rights to some land, such as not being recognized appropriately or supported by all levels of government. For example, some Tribal Parks are situated on land where the land titles are contentious with the federal or provincial governments.

(Wheeler 2019). Tribal Parks are also sometimes created where Indigenous Peoples have not ceded the rights and responsibilities to manage specific pieces of land through a treaty (Indigenous Circle of Experts 2018). The Government of Canada and provincial governments do not officially recognize Tribal Parks under Target 1; however, they could be considered an effective means to protect land. If a Tribal Park were approved in the future as an IPCA, the current leasers of Tribal Parks would need to make that determination and decide if they would pursue that recognition (Zurba et al. 2019). Therefore, a national conservation strategy including IPCAs should respect the intent and spirit of modern land claim agreements, treaties, other constructive agreements, and any intentional agreements, especially UNDRIP (Table 1). In 2021, the Government of Canada passed The United Nations Declaration on the Rights of Indigenous Peoples Act (formerly Bill C-15), providing a legal framework to guide environmental

and conservation policy. The Act sets an obligation to uphold Indigenous rights and well-being (including Treaty and inherent rights) with “early and regular engagement with Indigenous Peoples based on recognition of Indigenous rights and interests from the start” and states that “Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources” (Table 1). Although Indigenous Peoples leadership is critical to the success of nature-based solutions including conservation, restoration, and climate change mitigation, barriers still exist to recognizing Indigenous land rights and Indigenous worldviews of land as systems of reciprocal relations (Townsend et al. 2020; Reed et al. 2022). International and domestic rights frameworks such as the right to consultation, which entitles affected communities to enter into dialogue with governments or companies, and the right to free, prior, and informed consent (FPIC), which entitles Indigenous communities to give or withhold their consent to proposed developments on their land, are key to ensure a participation in decision-making processes that directly affect their land and livelihoods (Table 1). However, they have often failed to give a proper say to Indigenous Peoples (Townsend and Townsend 2020). Without the required recognition of Indigenous land rights and jurisdiction, conservation actions, and nature-based solutions, they not only risk perpetuating a form of colonialism that perpetuates the exclusion of Indigenous Peoples in the decision-making process (Domínguez and Luoma 2020), but also miss their ultimate mission, which is to reconnect people with the land. Therefore, meaningful engagement with Indigenous Peoples must recognize and honor their right to self-determination as the foundation of the relationship, and in which the decision-making process is based on government-to-government discussions (Mitchell et al. 2019).

## 5.2. Holistic approaches in conservation practices, policy, and governance

Conservation models require transformative changes and new policies to ensure that protected areas are better integrated with Indigenous needs and values (Beazley and Olive 2021). According to Littlechild et al. (2021), “transformational changes” must come first from the different levels of education to “indigenize” teaching and erase colonialism from mainstream thinking. Because IPCAs are in their infancy, there is a unique opportunity to use community and holistic approaches to develop conservation practices and policies adapted to Indigenous values and goals (Raymond et al. 2010; Beazley and Olive 2021). The Indigenous conservation approach is not limited to holding rights to the land but also values the reciprocal connection with the land and the people as a central element of how Indigenous governance, language, culture, and knowledge are connected to the land (Zurba et al. 2016; Coulthard and Simpson 2016; Diver et al. 2019).

*“Indigenous Peoples view the land as a living being and a life giver, and thus have a relationship to the land that is rooted in respect, kinship, and reciprocity” (AT)*

Holistic approaches and reciprocity are, therefore, fundamental concepts to reach the multiple benefits of IPCAs (ecological, socio-economic, and cultural) but also when integrating conservation actions into community development. Community development and land-use management go beyond conservation needs and include other priorities such as energy planning, health, roads and infrastructure planning, food and water resource management, as well as climate change mitigation strategies including fire management (Reed et al. 2021; Hoffman et al. 2022). Moreover, climate change and rapid land use changes result in complex interactions and uncertainties that can compromise conservation actions. Holistic approaches and Indigenous knowledge are therefore central to developing adaptive management practices and climate-informed guidance to improve the multiple values of conservation (Etchart 2017). In fact, Indigenous-based holistic approach to conservation and climate change mitigation can position Indigenous Peoples as key agents of environmental management rather than victims of the impacts of climate change and land use change.

A holistic approach is also key to improving IPCA governance (Artelle et al. 2019). Indigenous systems and knowledge are diverse across landscapes, resulting in governance models unique to each Indigenous culture and community based on geographical area and land-based traditions (Von der Porten 2012). Indigenous Peoples may decide to collaborate with other provincial, federal, or territorial governments, or establish Nation-to-Nation agreements, or, in some cases, an IPCA may be exclusively owned by an Indigenous Nation, like Dasiqox Tribal Park designated and managed by the Tsilhqot’in National Government. Thus, different co-management and joint authority options can be considered in the governance of an IPCA or in determining whether a protected area should be eligible for an IPCA. Most importantly, the role and responsibilities of each party should be clarified from the outset of the project with long-term commitments.

## 5.3. Linking conservation with indigenous well-being and socio-economic development

Indigenous health, livelihoods, and well-being are intrinsically linked to the health of Nature (Hillary 1993), and therefore Indigenous Peoples recognize “that honoring, caring, and nurturing Mother Earth is critical to create economic benefits both profitable and sustainable for future generations” (Assembly of First Nations 2022). Conservation actions, including avoiding, reducing, and reversing land degradation, are inscribed into many international agreements, such as Sustainable Development Goals (SDGs), and can promote new pathways to advance Indigenous socio-economic development and well-being (Sangha et al. 2015; FAO 2022; Mansuy et al. 2022). IPCAs can enable the development of a conservation-based economy to complement the traditional economy, which together can support sustainable regional economies and provide an opportunity to diversify revenue sources and retain Indigenous individuals within their communities. A conservation economy sustains itself



on “principled income” earned from activities that conserve and restore based on a long-term relationship with local lands and resources rather than deplete natural capital (Daily and Ellison 2012). For example, Dene Tha’ First Nation has a particular interest in ecological restoration of man-made disturbances within and surrounding their lands because they want to reduce the impacts of ecosystem degradation and preserve cultural keystone plant and animal species such as caribou, moose, salmon, and beaver that are culturally important as well as for food and water security purposes (Dene Tha’ First Nation 2021). A local economy based on conservation and protection can therefore support the restoration of the natural and social capital of the land (cultural, spiritual, and historical values, including ancestral know-how, language, and archeological sites) which can contribute directly to Indigenous well-being (Yudelis et al. 2021; Mansuy et al. 2020). Another example from Dene Tha’ First Nation is the development of recreation and eco-tourism activities as part of their conservation strategy to support a healthy economy while enabling Indigenous communities to reclaim their role as stewards of the land. While Indigenous tourism growth has outpaced overall Canadian tourism growth (Fiser and Hermus 2019), combining Indigenous eco-tourism with conservation can contribute to inform a model of Indigenous tourism practices and values (Holmes et al. 2016).

#### 5.4. Building capacity, knowledge, and expertise for the present and the future

Developing an IPCA is complex and requires extensive human and financial resources given the multiple phases required (from funding and consultation to implementation and monitoring), the different governance structures, and the different priorities and capacities of the communities. As the Government of Canada aims to invest further in Indigenous-led conservation (Government of Canada 2022a, 2022b), it is important to ensure long-term funding to build local expertise and capacity throughout the life cycle of the IPCA, from the design phase to the implementation and monitoring phases. Also, some Indigenous communities may have geographical and cultural connections to the same pieces of land, and thus care needs to be taken to ensure that multiple Indigenous governments have the opportunity to reconcile land management and uses between Nations. Therefore, building capacity, co-learning, and networking between communities and other stakeholders or nongovernmental organizations is critical to facilitating the development and implementation of IPCAs. For example, in the case of the Bistcho Lake project, Dene Tha’ First Nation acknowledges that the collaboration with the Canadian Parks and Wilderness Society (CPAWS) was fundamental in developing criteria, datasets, and tools to describe traditional knowledge of the land (Fig. 6).

The role of Indigenous-led coordinating bodies such as the Indigenous Circle of Experts, Indigenous Leadership Initiative or Conservation Through Reconciliation Partnership is key to catalyzing current and future IPCAs alongside federal,

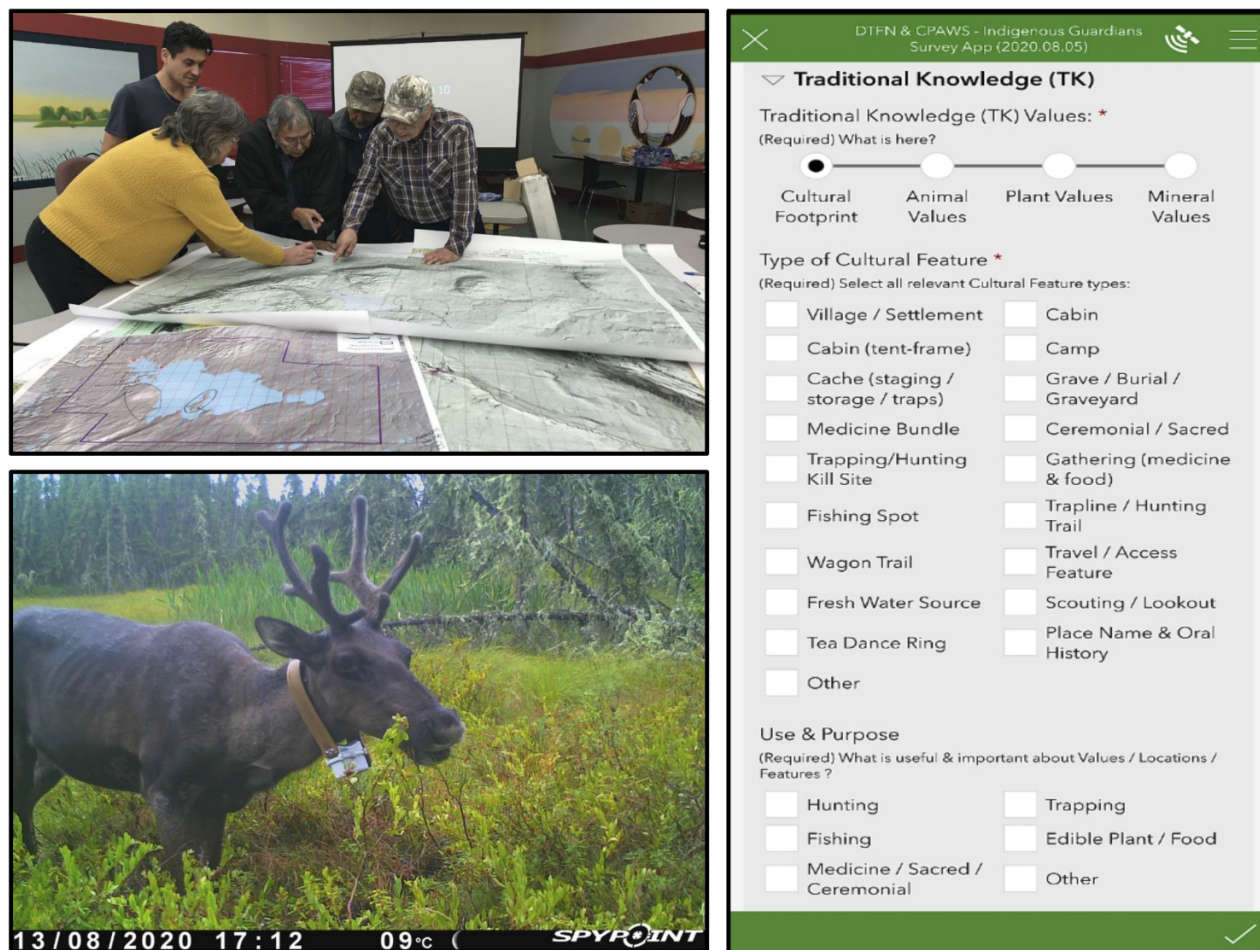
provincial, and territorial partners. These organizations are helpful in securing greater recognition and long-term funding for IPCAs and mobilizing resources, like planning and development tools and best practices, that can be shared across the country to create consistency and support the work of IPCAs. Also, regional and local Indigenous-led bodies could be created to continue the work of ICE into the future and enhance local knowledge and participation; conduct a thorough review of national IPCA initiatives; involve youth leaders; and engage with other local partners to ensure the success of IPCAs. At the community level, an asset-based community development approach can be of particular interest to evaluate and mobilize existing assets and resources within the community to support conservation activities (Stoltenberg Bruursema 2015). Also, the concept of “sister” communities has already been demonstrated in the bioenergy sector as an effective approach to learning from more experienced communities and sharing knowledge (including challenges and success stories) and expertise to avoid bottlenecks and find solutions (Buss et al. 2021). Also, aligning conservation with cultural revitalization and education is key to empowering Indigenous-led conservation (Littlechild et al. 2021), as many communities and youth are still grappling with cultural disconnect. Intergenerational community engagement is also needed as a key factor in ensuring capacity building and knowledge sharing across generations in environmental stewardship (White et al. 2017). IPCAs therefore provide an opportunity for Indigenous Nations to pass on their knowledge and laws to present and future generations (Yudelis et al. 2021).

On the other hand, Western conservationists and ecologists have yet to learn how to collaborate and work effectively with Indigenous knowledge holders (Adams et al. 2014; Kadykalo et al. 2021). Therefore, cross-cultural approaches are needed to ensure that Indigenous Peoples are understood and engaged early in the process and can contribute meaningfully, but also that Western researchers are trained to understand and integrate the human and social dimensions of conservation, which are relatively new to the discipline (Bennett et al. 2017). In this sense, reciprocity is also key to bridging Western science and Indigenous knowledge to develop mutual understanding in conservation planning and to improve decision-making and communication with multiple stakeholders, including Elders, youth, land managers, NGOs, and federal and provincial/territorial authorities (Fig. 6). Indeed, the creation of synergies and bridges between different knowledge systems is essential not only to contribute to the multiple objectives of IPCAs but also to develop adaptive and participatory governance (Tengö et al. 2014).

## Conclusion

Conservation has been closely linked to colonialism historically and is still largely so today (Zaitchik 2018). While the opportunities for Indigenous-led conservation in Canada and around the world are significant, decolonial models of conservation and transformational changes are needed to fully achieve their multiple goals. The evidence highlighted in this

**Fig. 6.** Examples of bridging western science and traditional knowledge from the Bistcho Lake IPCA project led by Dene Tha' First Nation. (a) Elders discussing over maps; (b) photo of collared caribou from a camera trap set up on Dene Tha' First Nations territory to monitor caribou population and movement; and (c) screenshot of the Indigenous Guardians Survey App developed by Dene Tha' First Nation and CPAWS to localize and classify traditional knowledge into a geodatabase. Photos are courtesy of Dene Tha' First Nation (Dene Tha' First Nation 2021).



paper shows that Canada is responding to the new paradigm with promising actions to fund and increase Indigenous leadership in its conservation agenda. Canada has committed to the most ambitious conservation initiative of conserving 30% of its terrestrial and marine areas by 2030, and they have announced in 2022 at COP15 a commitment to prioritize Indigenous-led conservation to protect nature. Canada has stated that meeting accelerated conservation targets will require all levels of government, including the involvement of Indigenous communities. Indigenous Peoples across Canada have participated in information gathering sessions through the Indigenous Circle of Experts to voice their needs and priorities and have blazed a new path forward in adopting Indigenous-led conservation. This path forward would simultaneously address the need to conserve land on a massive scale in a relatively short period of time and support reconciliation with Indigenous Peoples while at the same time improving ecological and socio-economic outcomes. With more than 50 Indigenous-led initiatives underway across the country, Canada is therefore in a unique position to

become a leader in Indigenous-led conservation worldwide, but expanded capacity and resources will be needed to meet the ambitious targets stipulated in the Kunming-Montreal GBF.

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## Data availability

All relevant data are available within the paper.

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The authors declare there no competing interests.

## Supplementary material

Supplementary data are available with the article at <https://doi.org/10.1139/facets-2022-0118>

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